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OAKLAND UNIVERSITY



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OAKLAND UNIVERSITY
1991-92 UNDERGRADUATE CATALOG

June 1991 Volume XXXI

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All data in this catalog reflect information as it was available at the publication date. Oakland University reserves the right to revise all announcements contained in this publication at its discretion and to make reasonable changes in requirements to improve or upgrade academic and non-academic programs.

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Oakland University is a legally autonomous state institution of higher learning. Legislation creating Oakland University as an independent institution, separate from Michigan State University, was established under Act No. 35, Public Acts of 1970. The university is governed by an eight-member board of trustees appointed by the governor with the advice and consent of the Michigan Senate.

As an equal opportunity and affirmative action institution, Oakland University is committed to compliance with federal and state laws prohibiting discrimination, including Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973. It is the policy of Oakland University that there shall be no discrimination on the basis of race, sex, color, religion, national origin or ancestry, age, marital status, handicap, veteran status or other prohibited factors in employment, admissions, educational programs or activities. Inquiries or complaints should be addressed to: Director, Office of Equal Opportunity, 148 North Foundation Hall, Oakland University, Rochester, Michigan 48309-4401.

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Academic Advising Index

Students seeking information about specific majors may consult the advising offices of the College or any of the schools, or individual departments. Students who are undecided may consult advisers in Academic Services, or in the Arts and Sciences Advising Office, or in the advising offices of the schools.

Academic Services and General Studies
121 North Foundation Hall
370-3227

General Studies
Undecided—No Major Preference

College of Arts and Sciences
219 Varner Hall
370-4567

African and Afro-American Studies
Anthropology
Applied Statistics
Art History
Biochemistry
Biology
Chemistry
Chinese Language/Civilization
Communication Arts
East Asian Studies (China or Japan)
Economics
Engineering Chemistry
Engineering Physics
English
Environmental Health
French
German
History
Journalism
Latin American Language/Civilization
Latin American Studies
Linguistics
Mathematics
Medical Physics
Music
Philosophy
Physics
Political Science
Psychology
Public Administration and Policy
Slavic Studies
Sociology
South Asian Studies (India)
Spanish
Undecided—Fine Arts, Letters, Science/Math or Social Science

Academic Advising Index continued

School of Business Administration
433 Varner Hall
370-3285

Accounting
Economics
Finance
General Management
Human Resources Management
International Management
Management Information Systems
Marketing
Quantitative Methods

School of Education and Human Services
472 O'Dowd Hall
370-4182 (Education)
370-3066 (HRD)

Early Childhood Education (HRD)
Elementary
Human Resource Development
Training and Development (HRD)
Youth and Adult Services (HRD)
Undecided—Education

School of Engineering and Computer Science
159a Dodge Hall
370-2201

Computer Engineering
Computer Science
Electrical Engineering
Engineering Chemistry
Engineering Physics
Mechanical Engineering
Systems Engineering
Undecided—Engineering/Computer Science

School of Health Sciences
159 Vandenberg Hall
370-4195

Cytotechnology
Exercise Science
Histology
Industrial Health and Safety
Medical Laboratory Sciences
Medical Technology
Nuclear Medicine
Physical Therapy
Undecided—Health Sciences

School of Nursing
449 O'Dowd Hall
370-4073

Nursing
Undecided—Nursing

For More Information

Area code: (313)
Admissions: 370-3360 (undergraduate)/370-3166 (graduate)
Information: 370-2100
Loans and student employment: 370-3370 (Financial Aid Office)
Scholarships and grants: 370-3360 (new students)/370-3370 (returning students)/370-3166 (graduate students)
Student affairs: 370-3352 (Student Life Office)
Student housing: 370-3570 (Residence Halls Office)

Academic Calendar

Fall 1991

Registration	Tue	August 27
Labor Day holiday	Mon	September 2
Classes begin	7:30 a.m., Tue	September 3
Fall commencement	Sun	September 22
Thanksgiving recess begins	10 p.m., Wed	November 27
Classes resume	7:30 a.m., Mon	December 2
Classes end	10 p.m., Tue	December 10
Study period	Wed	December 11
Exams begin	7 a.m., Thu	December 12
Exams end	10 p.m., Wed	December 18

Winter 1992

Registration	Thu	January 2
Classes begin	7:30 a.m., Mon	January 6
Winter recess begins	10 p.m., Sat	February 22
Classes resume	7:30 a.m., Mon	March 2
Classes end	Noon, Sat	April 18
Study period	Sunday	April 19
Exams begin	7 a.m., Mon	April 20
Exams end	Noon, Sat	April 25

Spring 1992

Registration	Tue	April 28
Classes begin	6 p.m., Tue	April 28
Memorial Day holiday	Mon	May 25
Spring commencement	Sat	June 6
Classes end	10 p.m., Wed	June 17
Final exams	Thu, Fri	June 18, 19

Summer 1992

Registration	Tue	June 23
Classes begin	7:30 a.m., Wed	June 24
Independence Day recess	10 p.m., Thu	July 2
Classes resume	7:30 a.m., Mon	July 6
Classes end	10 p.m., Wed	August 12
Final exams	Thu, Fri	August 13, 14

INTRODUCTION

Oakland University is a comprehensive, state-assisted institution of approximately 12,000 students that offers a diverse set of academic programs, from baccalaureate to doctoral levels. In all its activities, Oakland University strives to exemplify educational leadership. Anchored by a strong liberal arts program, the university is organized into the College of Arts and Sciences, schools of Business Administration, Engineering and Computer Science, Health Sciences, Human and Educational Services, Nursing, and a program of Continuing Education and the Office of Graduate Study. All academic programs of the university are accredited by the North Central Association of Colleges and Schools.

The university's faculty, which now numbers more than 400, has a distinguished record of research and scholarship. Faculty members have won some of the most prestigious awards made by government agencies and private foundations. External funding support for academic, student, and university projects now totals more than $6 million. Studies in biological and physical sciences and robotics attract national and international attention to Oakland University, and its highly recognized Eye Research Institute is the only major eye research center in the United States not associated with a medical school. This institution takes pride in the many scholarly books and articles written by its faculty and in their contributions to pedagogy and the creative arts. Wherever possible, students are involved in research projects; the results of research and scholarship are integrated into related courses of instruction. An unusually high proportion of Oakland University alumni have gone on to earn doctoral degrees or other distinction in their fields.

Resources available to support scholarly activities of students and faculty include both library and computing facilities. The central university library is Kresge Library which has additional specialized collections and services in performing arts and education. Computing facilities include eight comprehensive minicomputer systems and several hundred microcomputers, linked by a fiber optic network.

Complementing its academic programs, Oakland University collaborates actively with business and industry to foster economic development in southeastern Michigan and provides major public service offerings with emphasis on the professional performing arts. Meadow Brook Theatre, a professional theatre, is located in Wilson Hall. Meadow Brook Music Festival is the summer home of the Detroit Symphony Orchestra. Meadow Brook Hall, former home of the university's benefactors, now serves as a conference and cultural center; Meadow Brook Art Gallery houses the university's permanent collection of African art and presents a variety of special exhibits annually.

Oakland University was created in 1957 when the late Alfred G. and Matilda R. Wilson donated their 1,500-acre estate and $2 million to Michigan State University to begin a new college in Oakland County. Named Michigan State University-Oakland, the new campus enrolled its first students in 1959. In 1963, its name was changed to Oakland University, and in 1970 the Michigan Legislature recognized the maturity and stature of the university by granting it autonomy. The governor appointed Oakland University's first board of trustees in 1970.

From its beginnings, the university has emphasized academic quality, concentrating on providing its students with a broad liberal education by a faculty of dedicated scholar-teachers. Located between the cities of Pontiac and Rochester, Oakland University is easily accessible to millions of Detroit metropolitan area residents. The natural beauty of the campus, much of it still wooded and undeveloped, is enhanced by comprehensive recreational facilities and modern buildings that house the university's many academic and public service programs as well as some 1,500 residential students. Adjacent to the campus is the Oakland Technology Park, a research park where private-sector companies work hand-in-hand with higher education.

Role and Mission

The following role and mission statement for the university was adopted by the Oakland University Board of Trustees on July 21, 1982. It emphasizes four essential ingredients for the direction of the university: excellent and relevant instruction; high quality basic and applied research and scholarship; responsive and effective public and community service; and a comprehensive schedule of student development activities.

As a state-supported institution of higher education, Oakland University has a three-fold mission. It offers instructional programs of high quality that lead to degrees at the baccalaureate, master's and doctoral levels as well as programs in continuing education; it advances knowledge and promotes the arts through research, scholarship, and creative activity; and it renders significant public service. In all its activities, the university strives to exemplify educational leadership.

Instruction

Oakland University provides rigorous educational programs. A strong core of liberal arts is the basis on which undergraduates develop the skills, knowledge and attitudes essential for successful living and active, concerned citizenship. A variety of majors and specialized curricula prepare students for post-baccalaureate education, professional schools, or careers directly after graduation. Each program provides a variety of courses and curricular experiences to ensure an enriched life along with superior career preparation or enhancement.

The university offers master's programs that meet demonstrable needs of Michigan residents and that maintain excellence. Doctoral programs are offered which are innovative and serve needs that are not adequately met elsewhere in the state.

Offerings in continuing education provide Michigan residents with high quality course work for professional development and personal enrichment.

Oakland University is selective in its admission standards and seeks both traditional and nontraditional students, ensuring equal opportunity to all who can profit from its offerings. While serving principally Michigan residents, it welcomes qualified applicants from other states and countries. A special effort is made to locate and admit disadvantaged students with strong potential for academic success and to provide the support conducive to the realization of that potential. The faculty and staff cooperate with nearby community colleges to ensure that their students who seek to transfer to Oakland University are well prepared for work at a senior college. In recruiting and admitting students, enrollments are not permitted to exceed numbers consistent with preserving the high quality of instruction.

The university strives to remain current and relevant through an adequate program of continuing faculty development and the exploration of innovative schedules, methods, and curricular design in keeping with the various needs of its diverse students, many of whom commute, work or are older than the traditional college-age student.

Oakland University offers, and will continue to offer, only those programs for which adequate resources and well-prepared faculty are available and for which a demonstrable need expressed through the attraction of qualified students exists.

Research and scholarship

Oakland University assumes an obligation to advance knowledge through the research and scholarship of its faculty and students. The university's research and scholarship mission takes expression in a variety of forms ranging from basic studies on the nature of things to applied research directed at particular problems to contributions to literature and the arts. Within its means the university provides internal financial support for research and scholarship. Simultaneously, it pursues with vigor external sources of support. Research institutes, financed primarily by outside grants, make an important contribution to this mission.

In addition to their intrinsic value, research and scholarship reinforce the instructional mission of the university. Wherever possible, students are involved in research projects, and the results of research and scholarship are integrated into related courses of instruction.

In carrying out its research and scholarship mission the university seeks especially to be responsive to the needs of Michigan, particularly of the populous southeastern sector. Application of research and scholarship to problems and concerns of the state's business and industry and to its scientific, educational, governmental and health and human-service agencies serves also to reinforce the public service role of the university.

Public service

Oakland University serves its constituents through a philosophy and program of public service that are consistent with its instructional and research missions. It cooperates with businesses, governmental units, community groups, and other organizations on research, technical development and problem-solving enterprises in an attempt to apply the expertise of the university to the issues of society in general or the region in particular so as to further enhance the quality of life in the service areas of the university. It attempts to maintain the degree of flexibility necessary to respond with innovative instruction, research, and other service to rapidly changing needs. It makes its facilities available for a multitude of activities of agencies and community groups whose purposes are compatible with the mission of the university. It provides access to its programs and campus, insofar as is consistent with the role and scope of the institution, for the recreational and physical enrichment of area citizens. Cultural enrichment is provided for the community through the Meadow Brook enterprises, on- and off-campus presentations by faculty and students, and other campus events. The university aims to provide a model of socially responsible decision making and ethical institutional behavior, recognizing that institutional strength derives from an effective interaction with the institution's diverse external environs.

Student development

In direct support of its academic mission, Oakland University provides basic services and experiences which integrate cognitive learning with the personal growth of the individual student in the emotional, social, physical, cultural, ethical and interpersonal domains. In so doing, the university seeks to facilitate the development of those personal skills which will contribute to informed decision making and productive citizenship. This objective is accomplished through a variety of student enterprises including campus organizations, athletics and other sponsored activities and events.

Key to its achievement is the provision of a governance system in which students play a meaningful role in the institutional decision-making processes.

The university takes particular cognizance of its considerable enrollment of older and nontraditional students and provides advising, counseling and other services of special value to such students in effecting career changes and developing additional personal competencies.

Through the maintenance of complementary academic and extracurricular environments, Oakland University assists students in the realization that life is a continuum of growth, change and adaptation and provides them with the skills essential to the achievement of their fullest potential.

GENERAL INFORMATION

Admission

Admission to freshman standing

Candidates for admission to undergraduate degree programs should have completed high school-level college preparatory work or otherwise demonstrated sufficient academic preparation to begin college work. Normally, high school courses should include as a minimum four years of English, three years of mathematics, three years of natural sciences, three years of social sciences and two years of a foreign language. Students planning majors in the sciences, mathematics, engineering or business are expected to present at least four years of preparation in math, including algebra, geometry and trigonometry. Consideration for admission is based upon an applicant's academic background, including high school academic achievement, educational goals and potential for success at Oakland University. Students applying as freshmen must submit scores from the American College Test (ACT).

Normally, Oakland University will admit students with cumulative grade point averages in academic subjects of 3.20 or above. Applicants with cumulative grade point averages below 3.20 but above 2.50 may be admitted after consideration of the quality of their academic preparation and their ACT scores. In some cases, a personal interview may be requested.

Specific academic programs may impose special requirements for admission. Thus, admission to the School of Business Administration is restricted to students presenting a 2.80 cumulative grade point average in academic courses and at least four years of college preparatory mathematics courses.

Entering freshmen planning to major in engineering or computer science also should have taken at least four years of high school mathematics courses (including trigonometry), courses in chemistry and physics, and a solid background in English composition. Drafting and machine shop courses are useful, but not necessary. Normally, a 3.00 (B average) is required for admission to the School of Engineering and Computer Science.

Admission to pre-physical therapy standing requires a cumulative grade point average of 3.00 in a college preparatory program which includes courses in biology, chemistry and mathematics. A 3.0 must be earned in each of these courses.

Admission to pre-elementary education status in the School of Education and Human Services requires a high school cumulative grade point average of 2.80 or higher.

Students wishing to enter the pre-nursing program should have completed at least two (preferably three) years of high school mathematics, one year of college preparatory biology and one year of chemistry, each with a grade of 2.8, in addition to presenting a cumulative grade point average of at least 2.80.

Students who are eligible for admission to the university, but not to one of the above programs, may enter the university as undecided students but should note that only a relatively small number of students are able to qualify for admission to these programs after they have enrolled at the university.

Applications for undergraduate admission are available from high school counselors or from the Office of Admissions (205 Wilson Hall, 370-3360). They should be submitted as early in the senior year as possible.

Admission of students while still in high school

Specially qualified high school students may be permitted to enroll in classes on a part-time non-matriculated basis. Students who wish to pursue course work at Oakland University that is not available at their high school must present a letter of endorsement signed by their high school principal and counselor. An application for undergraduate admission and a copy of the student's current transcript must accompany the principal's endorsement. Admission as a high school student is valid for one semester or session only. Students wishing to take subsequent courses must receive the principal's endorsement for each term they plan to enroll.

Transfer students

Students who wish to transfer to Oakland University should consult the *Transfer student information* section for information on admission and requirements.

Admission of students whose formal education has been interrupted

Admission of individuals whose formal education has been interrupted for three or more years, and who would not normally meet other admission criteria, may be based on one or more of the following: sustained employment record, recommendations from employers, educators and other professionals and standardized test results. An interview with an Oakland University admissions adviser is required for such applicants to be considered for admission.

Admission for students who are not American citizens

Foreign students should write to the director of admissions at least one year before they wish to be admitted. Candidates will be sent instructions and an application form to be completed and returned at once. Students transferring credits from foreign institutions may be requested to provide documentation of the content and scope of courses they have taken at foreign institutions. When the application is approved, candidates will receive a certificate of admission and form I-20A-B. These are to be used to apply for the appropriate visa. Prior to the students' official registration, proof of adequate medical insurance plus a signed authorization for emergency medical treatment must be on file in the university's Graham Health Center.

Students who are not citizens or permanent residents of the United States and are transferring from other institutions also must obtain an I-20A-B from Oakland University. Students requesting such transfers should consult with the foreign student adviser at their previous school and with the Department of Special Advising (370-3266) about required transfer and immigration procedures.

Admission to guest status

Students enrolled at accredited Michigan colleges and universities may apply for guest admission by filing the Michigan Uniform Undergraduate Guest Application form, which is available from the registrar's office at their home institution. This form should be submitted to the Office of Admissions well before the beginning of each semester or session students plan to attend as guests. Students attending Michigan colleges or universities are not required to submit transcripts.

Students attending accredited colleges and universities outside of Michigan may apply for guest admission by filing Oakland University's guest application form well before the beginning of each semester or session that they plan to attend. These applications may be obtained from the Office of Admissions and must be accompanied by a transcript of grades from the student's home institution.

Admission to post-baccalaureate status

Post-baccalaureate (PB) status indicates that students hold a bachelor's or higher degree and wish to enter college for the purpose of pursuing undergraduate classes. Under PB status, admission is as a special non-degree candidate and previous academic work will not be evaluated by Oakland University's registrar. Tuition and fees for PB status will be assessed at undergraduate upper division rates.

Admission to non-matriculating status

Non-matriculating status may be provided to students with permission of the director of admissions. Students admitted with non-matriculating status are limited to earning 12 credits in that status and must secure regular admission to the university in order to be eligible to register thereafter. To be considered for regular admission, students need to submit a second application for admission to the Office of Admissions and Scholarships, with the required fee, and

forward transcripts from all past colleges, universities or high schools attended. Students who are accepted will receive a letter of admission. Non-matriculating students will receive full academic credit for courses in which they are enrolled. Undergraduate students may register for undergraduate courses at extension sites on a non-matriculating basis if space is available.

To obtain this status, students must complete the undergraduate admissions application and pay an application fee.

Admission to second degree status

Second degree status indicates that students currently hold a bachelor's degree but wish to earn a second undergraduate degree with a different major. Tuition and fees for second degree status will be assessed at undergraduate upper division rates (see *Additional undergraduate degrees and majors*).

Reapplication for admission and readmission

Failure to provide complete application credentials prior to registration or failure to enroll for classes and pay tuition and fees invalidates an application for admission. Reactivation of such files must be requested in writing. This notification must be received by the closing date for applications for the semester students wish to enroll. An additional application fee is not required, if students reactivate within one semester of the original term of entry. However, a new application and fee are required of students who delay reapplication beyond one semester, or whose only registration at Oakland University was cancelled for nonpayment of fees.

Readmission applies to students who previously enrolled at Oakland University and whose attendance was interrupted (see *Readmission* section).

Advanced placement

Credit toward graduation is granted to students who present evidence of satisfactory completion in high school of examinations through the Advanced Placement Program of the College Entrance Examination Board. Oakland University grants credit for grades "5" or "4" in advanced placement examinations, and in most cases, also for grades of "3." A statement of policy regarding credits given for particular examinations is available from the Registration Office (100 O'Dowd Hall, 370-3450).

College-level Examination Program (CLEP)

Credit toward graduation can be granted to students who demonstrate competence in various areas tested in the College-level Examination Program (CLEP) administered by the College Entrance Examination Board. (Students who wish to use CLEP tests as admission credentials should have their scores forwarded to Oakland University's director of admissions.) CLEP examinations are of two types, general and subject.

General examinations are offered in English composition, history/social sciences, humanities, mathematics and natural sciences. Oakland University will grant 6 credits for each *general* examination passed with a score of at least 550, according to the following stipulations: students must have accumulated less than 32 credits at the time of the examination and have not previously received college credit in the field of the examination.

Subject examinations are offered in a variety of specific subject areas. Oakland University may, at the discretion of the academic unit responsible for the subject, grant either three or six credits for *subject* examinations passed with a score of at least 55, according to the following stipulations: non-transfer students must have accumulated fewer than 64 credits at the time of the examination, while transfer students must have earned fewer than 32 Oakland University credits; students must not have previously taken more advanced work in the field of the examination; and no credit will be granted for examinations which cover material comparable to Oakland University courses which do not carry credit toward graduation.

A pamphlet listing the transferability and equivalency of CLEP tests to Oakland University courses and programs is available from the Department of Academic Services and General Studies in 121 North Foundation Hall (370-3226).

Special opportunities for students

Oakland University offers students several unique opportunities for study both on and off campus. These opportunities are described here, and academic advisers and faculty members are able to assist students interested in pursuing any of them.

National Student Exchange

Because Oakland University is a member of the National Student Exchange (NSE), students may choose from more than 60 state-supported schools from Hawaii to Maine for an exchange of up to one academic year. The exchange program not only facilitates procedural matters but allows students to pay in-state tuition rates. Participation offers an opportunity to learn about other parts of the country and other kinds of academic settings, take advantage of cultural and academic programs unique to a certain region or institution, and meet other NSE students.

Institutions Oakland University students have been placed at include the University of Alabama, Bowling Green State University, Utah State University, the University of Montana, the University of Oregon, Oregon State University, Rutgers University, the University of Alaska, the University of Massachusetts-Amherst, the University of Maine, the University of Minnesota, the University of Wyoming, the University of Delaware and others.

To participate, students must be enrolled full time (12 semester credit hours) at Oakland University at the time of application and placement, and have a minimum cumulative grade point average of 2.50. Generally, all credits earned at the host institution will transfer to Oakland. However, students should meet with their academic advisers in advance to determine which courses will satisfy specific Oakland University requirements in general education and their major. For further information on NSE, contact the Department of Special Advising (370-3266).

Research opportunities

Advanced students may be invited to join faculty research projects in various capacities. Because Oakland University is chiefly an undergraduate institution, such opportunities, often reserved for graduate students elsewhere, are available for undergraduate majors. Student researchers may find themselves contributing to the development of new knowledge in a field, and sharing in the publication of results of research projects. Undergraduates interested in joining faculty research projects may consult their advisers or individual faculty members concerning projects in their areas of interest.

Study Abroad

Under the sponsorship of the Center for International Programs, Oakland University students may avail themselves of five different study abroad programs. The Vienna Study Abroad Program, established in 1987, is sponsored by the Midwest Consortium for Study Abroad (MCSA). The program allows students to study for one semester in Vienna, taking courses taught in English by American and Viennese faculty. The program in Nagoya, Japan, established in 1977, features two semesters of study at Nanzan University, and is based on an exchange of students. The program at the University of Orleans in France, established in 1988, is also a two-semester exchange program. The British Studies at Oxford program, established in 1976, operates only in the summer, offering two separate three-week sessions. The program in Maibara, Shiga Province, Japan, established in 1989, provides a year of study in Japan (of the 30 state-sponsored scholarships at least one each year is designated for an Oakland University student). All programs provide credits toward baccalaureate degrees. Additional information about these programs should be directed to the Center for International Programs, 430 Wilson Hall (370-2154).

Tuition and Fees

The Oakland University Board of Trustees reserves the right to change any and all fees and rates of charge when circumstances make such a change necessary. Tuition and fees quoted in this catalog are from the 1990-91 academic year. The *Schedule of Classes* for each semester or session carries a listing of current charges.

All fees are assessed at registration and are payable in U.S. dollars. Non-payment of fees may result in cancellation of registration. Checks returned by the bank also will place students in a non-payment status.

Tuition and fees for upper-division undergraduate students also apply for post-baccalaureate students.

Course fees

All course fees and special fees must be paid in full before registration will be considered final.

Michigan residents who register as lower-division undergraduates will be assessed $65.25 per credit. Upper-division undergraduates will be assessed $74.75 per credit. Graduate students will be assessed $122 per credit. All students who have not maintained Michigan residency for 6 consecutive months immediately prior to enrollment will be assessed tuition at out-of-state rates: $192.50 per credit for lower-division undergraduate students, $210 per credit for upper-division undergraduate students and $270 per credit for graduate students.

Registration fee

All students who register will be assessed an $83 registration fee each term, of which $40 is non-refundable.

Student activities fee

Students who register for on-campus credits will be charged an activities fee according to the following schedule:

Undergraduate—10 or more credits	$9.75
Undergraduate—9 or fewer credits	$7.25
Graduate—8 or more credits	$2.50
Graduate—7 or fewer credits	$2

Special course fees

Special fees are charged for applied music instruction and the following special courses:

EED 455 and SED 455	$35
CIL 597	$50
Applied music	
Individual instruction	$85/2 credits
Group instruction	$25
Computer lab fee	$25

(See the current *Schedule of Classes* for list of applicable computer intensive courses. The computer lab fee is waived for students paying the computer technology fee.)

Computer technology fee

Upper division undergraduate students and graduate students in computer intensive majors are charged a computer technology fee. See the current *Schedule of Classes* for a complete listing of applicable majors. The fee is charged according to the following schedule:

Upper Division Undergraduate—9 or more credits	$80
Upper Division Undergraduate—8 or fewer credits	$50
Graduate—7 or more credits	$80
Graduate—6 or fewer credits	$50

Course competency by examination fee

Students who register for degree credit by course competency examination will be assessed $27 per credit.

Late registration fee

Students registering during the late registration period or paying initial fees after payment deadlines must pay an additional non-refundable late registration fee of $35. Students who take courses exclusively within a program scheduled to register after the beginning of classes will not

be required to pay this fee if they register during the special registration session scheduled for such groups. Tuition checks returned by the bank will be considered as non-payment and may result in cancellation of registration or assessment of the late registration fee.

Late add fee

Registered students who add classes after the end of the second week of classes (first week for spring and summer sessions) must pay a non-refundable fee of $10 per class in addition to the cost of the credits added. Classes may not be added after the end of the third week of a semester (seventh day for spring and summer sessions and half-semester courses).

Late payment penalty

Late payment of outstanding balances due to tuition, fees and/or housing will result in assessment of a late payment fee of $5 per billing. Balances due paid by checks that are returned by the bank are considered non-payment and also will result in assessment of this fee.

Application fee

A $25 fee must accompany all applications for admission to degree programs for a particular term. If an applicant decides to reapply for a later term, a new application and additional fee must be submitted.

Enrollment deposit

Students admitted for the fall semester must pay a non-refundable $50 deposit by May 15 (preceding their fall enrollment). Students admitted after May 15 for the next fall semester must pay this deposit within three weeks of admission. This deposit will be applied to the student's account and will offset future fee assessments.

Graduation service fee

Before or during their last semester or session, degree candidates must file an application-for-degree card with the Cashier's Office and pay a non-refundable fee of $30 (see *Undergraduate degree requirements*) by the deadline established in the *Schedule of Classes* for that semester or session.

Orientation and advising fee

A $60 orientation and advising fee for freshmen ($35 for transfer students) is charged to cover the expense of orientation and the ongoing advising process. These fees are non-refundable.

Fees for residential services

The residence halls are financially self-supporting. Housing fees reflect the actual cost of operation and are established by the Oakland University Board of Trustees. These rates are: $3,257 for the 19-meal plan ($3,246 for room and board and $11 hall government fee), $3,122 for the 14-meal plan ($3,111 for room and board and $11 hall government fee) and $3,027 for the 9-meal plan ($3,016 for room and board and $11 hall government fee). Single rooms may be rented, as available, for an additional $480.

If students sign a housing contract before or during fall semester, that contract is binding for both fall and winter semesters. If the contract is signed during winter semester, or spring or summer sessions, it is binding for that particular period only. The housing fee may be paid in full at registration or paid in installments as specified in the *Schedule of Classes*, with the first payment due at registration.

If students withdraw from Oakland University, room and board fees are refunded on a pro-rated basis net of an early withdrawal assessment of $45. Formal notice of withdrawal must be given to the residence halls office.

Refund of fees

Students who withdraw from Oakland University and drop courses that reduce their total credit load are eligible to receive a partial refund of fees subject to a schedule printed in each *Schedule of Classes* upon application to the appropriate office. Failure to drop or withdraw formally will result in forfeiture of any refund.

Undergraduate students withdrawing from Oakland University should apply to the Academic Standing, Readmissions and Withdrawals Office (370-3264). Graduate students withdrawing from Oakland should apply to the Office of Graduate Studies (370-3168). Reductions in a student's credit load that would result in a refund are processed by the Registration Office (370-3450). The date that notification is received in the proper office determines the applicable refund. A specific schedule of refunds, with qualifying dates, is published each semester and session in the *Schedule of Classes*.

Information regarding the method of calculating refunds for financial aid recipients can be found in the current "Financial Aid Programs Pamphlet," which is available to financial aid recipients upon request.

Refund checks will be mailed approximately four weeks after an application has been made to the appropriate office.

Out-of-state tuition regulations

Students enrolling at Oakland University shall be classified as in-state or out-of-state students for purposes of assessing tuition charges. It is the student's responsibility to register each semester or session under the proper in-state or out-of-state classification. For the purpose of these regulations, an in-state student shall be defined as one of the following:

1. A person who has a lawful Michigan domicile and has lived in Michigan six months immediately preceding his or her enrollment, where "enrollment" means the earlier of either the day fees are due and payable or the first class meeting; or
2. A person who was domiciled and resided in Michigan for a consecutive period of at least five years, who subsequently left the state for a period no longer than one year, and has returned and established a Michigan domicile and resides in the state.

A student who was originally classified as an out-of-state student may be reclassified as an in-state student only if he or she has been a bona fide domiciliary of Michigan for at least six consecutive months. A student shall not be considered a bona fide domiciliary of Michigan unless he or she has continuous physical presence in Michigan and intends to make Michigan a permanent home, not only while in attendance as a student at the university, but indefinitely thereafter.

An alien who has been lawfully admitted for permanent residence in the United States shall be treated for classification purposes as if he or she were a citizen of the United States. An alien who is present in the United States on a student visa shall not be eligible for classification as an in-state student, regardless of length of stay in Michigan, except that this disqualification shall not be automatic in the case of a person on a lawful student visa whose parent(s) are simultaneously resident in the state on a visa other than a student visa. In this latter instance and in the case of an alien lawfully present in the United States on any other non-immigrant visa, the determination of classification shall be made on a case-by-case basis by the university president or his designee after the six-month durational requirement has been met, taking into consideration the appropriate enumerated factors in the following paragraph.

Any student who has acquired a bona fide domicile in Michigan subsequent to being classified as an out-of-state student may apply for reclassification to in-state status by obtaining an Application for Reclassification from the Provost's office, 520 O'Dowd Hall. The student shall complete the application and list in detail the reason(s) he or she is a bona fide domiciliary of Michigan, and attach documentary data in support thereof, and return the application to the Provost's office 30 days prior to the beginning of classes of the semester or session for which the reclassification shall be effective. The following facts and circumstances, although not necessarily conclusive, have probative value in support of a claim for reclassification after the six-month durational requirement has been met:

1. Continuous presence in Michigan when not enrolled as a student.
2. Reliance upon Michigan sources for financial support.
3. Domicile in Michigan of family, guardian, or other relatives or persons legally responsible for the student.
4. Maintenance of significant connections within Michigan while temporarily absent from the state and a continued intent to retain Michigan as a domicile.
5. Ownership of a home.
6. Long-term military commitments in Michigan.
7. Acceptance of offer of permanent employment in Michigan.
8. In the case of aliens on temporary non-student visas, length of stay in Michigan and sources of economic support.
9. Other factors indicating an intent to make Michigan the student's permanent domicile will be considered by the university in reclassifying a student.

The following circumstances, standing alone, shall not constitute sufficient evidence of domicile to effect reclassification of a student under these regulations:

1. Voting or registration for voting.
2. Employment in any position normally filled by a student.
3. The lease of living quarters.
4. A statement of intention to acquire a domicile in Michigan.
5. Domicile in Michigan of student's spouse.
6. Automobile registration.
7. Other public records such as birth and marriage records.

Any student desiring to challenge his or her classification under the foregoing regulations of the Oakland University Board of Trustees shall have the right to appeal the determination. Petitions of Appeal and inquiries regarding these out-of-state tuition regulations should be addressed to: Chairman, Out-of-State Tuition Committee, 520 O'Dowd Hall, Oakland University, Rochester, Michigan 48309-4401.

Financial Aid and Scholarships

Oakland University offers two programs of financial assistance to students: scholarships based on achievement and financial aid based on need. Scholarship opportunities that are based on achievement are not contingent upon financial need, and it is possible for students to qualify for assistance through both programs.

Financial aid

The purpose of the financial aid program at Oakland University is to help pay the educational costs of qualified students who do not have sufficient funds to attend school. The program is operated under the assumption that the primary responsibility for financing a college education rests with students and their families. Aid offered by the university supplements, but does not replace, funds provided by students and their families.

In order to assist eligible students in financing their education, the university participates in or administers the following programs: the Pell Grant program, the Supplemental Educational Opportunity Grant program, the Perkins Loan program, the College Work Study program, the Oakland University student employment program, the Oakland University grant program, the Michigan Competitive Scholarship program, the Michigan Educational Opportunity Grant program, the Michigan Adult Part-time Grant program, the Michigan Work Study program, the Stafford Loan program, and the PLUS/SLS loan programs.

Financial aid application procedures

A Financial Aid Form (FAF) should be completed and sent to the College Scholarship Service for processing as soon as possible after February 1. The appropriate FAF item that will result

in a Pell Grant Student Aid Report (SAR) being produced must be completed. When processing is completed, the SAR will be mailed directly to the applicant. Upon receipt, the SAR should be immediately provided to the Financial Aid Office. Applicants must also file with the Financial Aid Office an Oakland University Application for Financial Aid and a copy of their family's most recent Federal Income Tax Form 1040. Additional details concerning the financial aid application process are listed on the Oakland University Application for Financial Aid available from the Financial Aid Office, 161 North Foundation Hall (370-3370).

Financial aid academic requirements

Oakland University is committed to providing fair and equal access to resources based upon financial need to meet educational costs for students. In order to receive federal, state and institutional financial aid at Oakland University, the academic progress standards outlined in this statement must be met. These progress standards are applicable to the following programs: Pell Grants, Supplemental Educational Opportunity Grants, College Work Study, Perkins Loans, Stafford Loans, PLUS/SLS Loans, Michigan Competitive Scholarships, Michigan Educational Opportunity Grants, Michigan Adult Part-Time Grants, Michigan Work Study, Oakland University Grants and Oakland University Institutional Scholarships.

The Financial Aid Office monitors the academic progress of continuing students at least once each year after winter semester. The complete academic record at Oakland University is used to determine whether students satisfy the progress requirements even if financial aid was not awarded for the entire period.

Standards that determine academic progress

Undergraduate students pursuing a first bachelor's degree must:

1. Maintain a cumulative grade point average (GPA) of 2.00. (Students who entered the university prior to fall semester 1984 must maintain a cumulative academic progress indicator (API) of 2.00); and
2. Make progress toward their degree according to the table below. This standard allows full-time students up to 10 semesters to complete a degree; part-time students may use 20 semesters. In order to complete a degree within the limit, students must complete a minimum number of credits each academic year (fall and winter semesters).

After this number of academic years	1	2	3	4	5	6	7	8	9	10
Full-time students must have completed cumulative credits of:	20	42	66	94	124					
Part-time* students must have completed cumulative credits of:	10	20	31	42	54	66	80	94	109	124

**For this purpose, part-time enrollment is 6 to 11 credits. The Financial Aid Office will monitor the academic progress of students whose enrollments vary between full- and part-time by adjusting the scale accordingly.*

The above numbers identify **minimum credits to complete,** not recommended enrollment. Full-time status requires a student to be enrolled for at least 12 credits per semester; part-time status requires at least 6 credits per semester. Following the minimum standard for satisfactory academic progress will **not** allow a student to advance to the next grade level each academic year.

For transfer students, the starting point on the above scale is determined by the number of credits Oakland University accepts in transfer.

Second undergraduate degree and post-baccalaureate students who enroll full time must complete at least 24 credits per year; those who enroll part time must complete at least 12 credits per year. These students must maintain a cumulative GPA/API of at least 2.00.

Graduate students who enroll full time must complete at least 16 credits per year; those who enroll part time must complete at least 8 credits per year. The Office of Graduate Study determines and monitors progress and GPA requirements for graduate students.

A student becoming ineligible for aid because of failure to make satisfactory progress must complete enough credits at his/her own expense to make up any deficiency. The student may then reapply for financial aid.

If unusual circumstances prevent a student from making satisfactory academic progress, an appeal may be filed with the Academic Progress Review Committee. The committee will review the student's academic history, evaluate the reasons for requesting the exception, and consult with the student's academic adviser before making a decision to grant or deny a request.

If the Academic Progress Review Committee denies a request for exception, an appeal may then be made to the Dean of Students. The dean may consult the committee, advisers, counselors and other persons at the university whose advice would assist in determining the most equitable decision. The decision of the Dean of Students is final.

Short-term loans

Short-term no-interest loans of up to $100 are available for personal and emergency needs, but not for payment of regular university fees for tuition, room and board, or any other anticipated expense. These loans are made possible by gifts to Oakland University from the following individuals and groups:

Century Brick Loan Fund
Civitan Loan Fund
H. H. Corson Loan Fund
Kenneth B. Covert Jr. Memorial Loan Fund
Pat Dandurand Memorial Loan Fund
Greater Pontiac Centennial Student Loan Fund
W. Everett Grinnell Loan Fund
John Maoshing Han Loan Fund
C. Allen Harlan Loan Fund
George N. Higgins Loan Fund
Insurance Women of Detroit, Inc., Loan Fund
Lathrup Village Woman's Club Fund
Barbara Joan Liddell Memorial Loan Fund
John A. MacDonald Loan Fund
James Mangrum Loan Fund
Kenneth A. Meade Memorial Loan Fund
Oakland County Engineering Society Loan Fund
Oakland University Alumni Loan Fund
Eric Pelzner Memorial Loan Fund
Piety Hill Chapter of the Daughters of the American Revolution of Birmingham Loan Fund
Mark Platt Memorial Loan Fund
Pontiac Kiwanis Club Loan Fund
David R. Robson Memorial Loan Fund
Li Russ Student Loan Fund
Joan Selby Memorial Loan Fund
Paul Solonika Loan Fund
William Spickler Memorial Loan Fund
Student Activities Coordinating Council Loan Fund
Henry Tiedemen Loan Fund
Warren Tope Memorial Loan Fund
Michael Werenski Memorial Loan Fund
Walter K. Willman Loan Fund
Women's Literary Club of Pontiac Loan Fund

Scholarships

The wide range of scholarship opportunities at Oakland University indicates the scope of the university's commitment to academic excellence, student leadership and achievement. Scholarships are awarded on the basis of accomplishment and are not contingent upon financial need. Many awards are made in early spring for the next academic year and are only available to those students entering in the fall semester. Most scholarships are renewable if recipients meet the criteria outlined at the time the scholarship was originally awarded. Renewal is not automatic, however, as scholarship recipients must apply to the Financial Aid Office for renewal of their awards prior to March 1.

Following is a list of the scholarships awarded to new incoming students by the Office of Admissions:

Oakland University Presidential Scholarship: Awarded each year to four high school students recognizing outstanding academic achievement and citizenship. Applicants must have a minimum 3.50 high school G.P.A. and be interviewed by a university representative. The scholarships are $6000 per academic year and may be renewed for a total of eight semesters.

Alumni Memorial Scholarship: Recognizes high academic achievement. Applicants should have a minimum of 3.75 high school GPA and a composite score of 27 or above on the ACT examination. A written essay and personal interview are also required. Scholarships are $2,000 per academic year and may be renewed for a maximum of eight semesters as long as a 3.25 GPA is maintained.

Boys and Girls Club of Royal Oak Scholarship: Awarded to a student recommended by the director of the Boys and Girls Club of Royal Oak. The scholarship is $800 per academic year and is renewable for a maximum of eight semesters.

Community College Scholarship: Recognizes academic achievement of students transferring from accredited community colleges or junior colleges in Michigan. Applicants should have a minimum GPA of 3.50 for all college credit earned and at least 55 semester hours of transferable work. Scholarships are $1,500 per academic year and may be renewed for an additional year (fall and winter semesters). Students must maintain a 3.00 GPA.

Endowed Scholarship: Recognizes outstanding entering fall freshmen who can contribute to the development of an ethnic and racially diverse student body. Resident students may receive $2,500 the first year, renewable for $1,000 yearly. Commuter students may receive a $1,500 one-time award.

Engineering Scholarship: Awarded to entering engineering students and based on a minimum 3.50 high school GPA and scores on a standardized test. Scholarships are $600 per academic year and may be renewed for a total of eight semesters as long as the recipient maintains a 3.00 GPA and continues to major in engineering.

Isaac Jones Memorial Scholarship: Awarded to an academically promising student from Pontiac. The scholarship is $800 per academic year and may be renewed for a total of eight semesters.

Kurtis Kendall Memorial Scholarship: Recognizes achievement in the sciences for men and women entering Oakland University with goals of research in medical areas. Applicants should have a minimum of 3.40 high school GPA. Scholarships are $1,500 per academic year and may be renewed for a total of eight semesters as long as the recipient maintains a 3.25 GPA and continues to major in the sciences.

Mary Fogarty Anibal and Eleanor Anibal Burgum Memorial Scholarship: Recognizes superior academic performance of entering high school students. Applicants must have a minimum 3.50 high school GPA. Scholarships are $2,500 per academic year and may be renewed for a total of eight semesters as long as the recipient maintains a cumulative 3.25 GPA and resides in the residence halls.

Music Scholarship: Awarded to freshmen or community college transfer students with exceptional music performance ability. Applicants must audition with the Department of Music, Theatre and Dance. Scholarships are $250 or $500 per academic year and may be renewed for a total of eight semesters for students who enter as freshmen or four semesters for students who enter as transfers. Additional awards are available to students selected as members of performing ensembles. Renewal is upon recommendation of the Department of Music, Theatre and Dance.

Oakland University Competitive Scholarship: Awarded to freshmen based on high school grades and scores on the Oakland University Competitive Scholarship Exam. Scholarships are up to $1,500 per academic year and may be renewed for a total of eight semesters as long as a 3.00 GPA is maintained.

Oakland University Foundation Scholarship: Awarded each year to two high school students of exceptional ability and achievement to permit their residence at the university while pursuing full-time study. Applicants must have a minimum 3.50 high school GPA. Scholarships are $2,500 per academic year for a total of eight semesters. A cumulative GPA of at least 3.25 is required.

Robert C. Howes Scholarship: Awarded every four years beginning with the fall 1988 semester to an entering Honors College student. Applicants must have a minimum 3.50 grade point average, a composite score of 25 or above on the ACT examination, and be recommended by the Honors College director and council. The scholarship covers full tuition per academic year and is renewable upon recommendation of the Honors College Council.

Student Life Scholarship: Awarded to students who have shown leadership potential, either in high school or community college. Students must have a minimum 3.00 GPA and be active in cocurricular or extracurricular activities. Scholarships are for partial room and board in the amount of $1,000 per academic year and may be renewed for a total of eight semesters for students who enter as freshmen or four semesters for students who enter as transfers.

Oakland University also offers scholarships to students with special skills or abilities. Normally, applications are not required as recipients are identified by their talent or skill in a particular area. These scholarships are as follows:

Athletic Scholarship: Awarded to men and women athletes with ability in one of the intercollegiate sports offered at Oakland. Scholarship amounts vary and are renewable for a maximum of eight semesters.

Gittlen Award for Achievement: Awarded annually to two seniors who have been active in the theatre. Recipients are chosen by the Department of Music, Theatre and Dance. The award amount varies.

John F. Engerson Vocal Music Award: Awarded annually to a music student majoring in voice. The recipient is chosen by competitive audition. The award amount varies.

Joseph Weintraub Memorial Scholarship: Awarded annually to a student studying piano. The recipient is selected by competitive audition. The award amount varies.

Marshall Page Atkinson Endowed Memorial Scholarship: Awarded each year to a student of outstanding promise in the area of professional performance as selected by the Department of Music, Theatre and Dance.

Robert W. and Elaine M. Swanson Endowed Scholarship: Awarded each year to a student of outstanding promise in the area of professional performance as selected by the Department of Music, Theatre and Dance.

Service Award: Awarded primarily to entering students who intend to major in music, theatre or dance. Recipients are selected by competitive audition late in the winter semester. Award amounts vary and are renewable.

In addition to the Alumni Memorial Scholarship described above, the alumni of Oakland University support a number of different scholarships through their contributions. These include the following:

Arts and Sciences Alumni Affiliate Scholarship: Up to two scholarships of $750 awarded annually to qualified junior or senior students majoring in the arts and sciences. Applications are available in February from the Arts and Sciences Advising Office and the Alumni Office.

Geraldene Felton Award for Leadership (Nursing Alumni Affiliate): Awarded each year to a senior nursing student who has demonstrated his/her leadership abilities. One $600 award is offered annually. Applications are available in February from the Nursing Advising Office and the Alumni Office.

Frances C. Amos School of Business Administration Alumni Affiliate Scholarship: Up to two scholarships of $750 awarded annually to qualified students with major standing in the School of Business Administration. Applications are available in February from the SBA Advising Office and the Alumni Office.

Black Alumni Affiliate Award for Student Achievement: Up to three scholarships of $500 awarded annually to qualified students of at least sophomore standing. Applications are available in February from the Academic Services and General Studies Advising Office and the Alumni Office.

Thomas A. Yatooma Memorial Scholarship (School of Engineering and Computer Science Alumni Affiliate): Up to four scholarships of $1,000 awarded annually to engineering or computer science majors. Applications are available in February from the Engineering and Computer Science Advising Office and the Alumni Office.

A variety of other scholarships are also available to students. These scholarships recognize overall academic achievement, achievement within a major or other specified criteria.

American Association of University Women (Farmington Branch) Scholarship: Awarded to mature students with family responsibilities whose undergraduate education has been interrupted. Applications are available in February from the Financial Aid Office. Generally, two scholarships are offered annually and the award amount varies.

Campus Activity Award: Ten awards of $1,000 are given annually to students either elected or appointed to positions within the University Student Congress and the WOUX radio station. Up to seven additional awards are given for individualized leadership projects through the Dean of Students Office. Students must meet financial aid Satisfactory Academic Progress standards, be enrolled full time (at least 12 credits), and be elected or appointed to the position(s) having the awards attached to them. Information concerning these awards is available from the Student Life and CIPO offices.

Carmine Rocco Linsalata Memorial Scholarship: Two awards of $300-$500 to students who are majoring in or intend to major in a foreign language. One scholarship is granted to an entering student, the other to an Oakland University student with a minimum of 28 credits. Scholarship recipients are selected by the faculty of the Department of Modern Languages and Literatures. The scholarships are a memorial to the late Carmine Rocco Linsalata, professor of Spanish and Italian at Oakland from 1966 to 1980.

Chrysler-Plymouth Dealers Association of Greater Detroit Endowed Scholarship: Awarded annually to an employee or a child or grandchild of an employee of one of the dealerships.

Commuter Involvement Award: Awarded to students who have been involved in campus activities and student organizations. The award recognizes those who have made contributions to improving the quality of campus life. Students may be nominated to receive the award or they may file an application. The awards are given for one academic year. The awards are for $250 per semester or $500 per academic year. Recipients must reapply each year. Applications are available from the CIPO office.

Doris J. Dressler Scholarship: A scholarship of $1,000 awarded annually to an English or humanities major (junior year or beyond) demonstrating academic promise and financial need. The recipient is selected by English and humanities faculty.

Greater Detroit Dodge Dealers Association Endowed Scholarship: Awarded annually to an employee or a child or grandchild of an employee of one of the dealerships.

Don R. Iodice Grant-in-Aid for Foreign Study: Available to foreign language majors enrolling in a language program abroad for at least four weeks. (This award is only for those students who will return to Oakland University for a minimum of two full semesters.)

Honors College Scholarship: Awarded based on performance on a competitive examination and an interview with the Honors College Council. Recipients are selected by the council. Awards range from $250 to $1,000.

History Department Scholarship: Two annual scholarships awarded to qualified students majoring in history. The George T. Matthews Scholarship in History provides one-half tuition for two semesters. The Oakland University Foundation Matthews Scholarship in History carries a stipend of $1,250.

James Morrison Thompson Chemistry Scholarship: Awarded to an eligible chemistry major for one year. Students selected must have completed their sophomore year with a minimum 3.00 GPA overall and a minimum 3.50 GPA in chemistry and mathematics courses.

Macomb Town Hall Scholarship: Awarded to upperclass undergraduate students from Macomb County in recognition of academic excellence. Scholarships are in the amount of $1,000 and are awarded for one year. Recipients are selected by the Macomb Town Hall Scholarship Committee.

Milo J. Cross Memorial Scholarship: Awarded annually to a student in recognition of academic excellence. Preference is given to the children, grandchildren or spouses of employees of the former Pontiac State Bank. The award amount varies.

Mr. and Mrs. Roger Kyes Scholarship: Awarded for one year to an undergraduate student majoring in English who has demonstrated academic excellence. The recipient is selected by the faculty of the Department of English.

Oakland County Medical Society Women's Auxiliary Scholarship: Awarded on the basis of merit to three eligible nursing students. Scholarship recipients are selected by the faculty of the School of Nursing.

Oakland University Foundation George T. Matthews Scholarship in the Humanities: A scholarship of $1,250 awarded annually to a junior or senior majoring in the humanities. The recipient is chosen by the dean of the College of Arts and Sciences.

Philosophy Department Scholarship: A scholarship of $1,200 awarded annually to a philosophy major demonstrating academic promise. The recipient is chosen by the faculty of the Department of Philosophy.

Robert E. Simmons Tuition Grant: Two one-semester tuition grants for qualified students majoring in German.

Stephan Sharf Endowed Scholarship: Awarded annually to an employee of Chrysler Corporation or a son or daughter of an employee of Chrysler Corporation.

Tekla Strom Ylvisaker Scholarship: Three scholarships awarded annually to nursing students demonstrating academic promise. One scholarship is awarded to a sophomore, one to a junior and one to a senior. Recipients are selected by the faculty of the School of Nursing.

United Auto Workers Region 1B Golf Classic Scholarship: One scholarship of $1,000 is awarded to an eligible student who shows promise of fulfilling a socially worthwhile career and contributing to the advancement of the quality of life for people in our society. Nominations for this award are sought from Oakland University faculty. A second scholarship of $2,000 is awarded to an eligible student who is the son or daughter of a UAW member or to a UAW member meeting the same criteria. Applications for this scholarship are available in February from the Financial Aid Office. Recipients are selected by the UAW Golf Classic Scholarship Committee.

Upperclass Scholarship for Achievement: Scholarships of $500 awarded to continuing Oakland University students based on scholastic performance. Applicants must have a 3.50 GPA at the end of the previous winter semester and have earned at least 32 credits at the university during the previous academic year. Recipients must be enrolled for 16 credits in both the fall and winter semesters. Applications are available in February from the Financial Aid Office.

William Morris Scholarship: Awarded to upperclass undergraduate students in recognition of academic excellence. Scholarships are in the amount of $1,000 and are awarded for one year. Recipients are selected by the William Morris Scholarship Committee.

Women of Oakland University Critical Difference Scholarship: Awarded annually to a single head of household who has had his/her education interrupted for at least one year. Applicants must have earned at least 16 credits at the university level with a cumulative GPA of at least 2.00. The scholarship is for $500 and applications are available from the Financial Aid Office beginning in January.

All scholarships listed as renewable are contingent upon recipients advancing a grade level toward graduation each year. Funds for Oakland University's scholarship programs are derived from the general budget, gifts from individuals, groups and corporations, and the fund-raising efforts of the Oakland University Scholarship Committee of Macomb County. The special scholarship funds are:

Mr. and Mrs. Benjamin Anibal Scholarship Fund
Campbell-Ewald Scholarship Fund
Raymond Cullen Jr. Memorial Scholarship Fund
George H. Gardner Scholarship Fund
C. Allen Harlan Scholarship Fund
Herbert M. Heidenreich Scholarship Fund
Ormond E. Hunt Scholarship Fund
Harry A. MacDonald Memorial Scholarship Fund
Mildred Byars Matthews Memorial Scholarship Fund
Oakland University Women's Club Scholarship Fund
Village Women's Club of Birmingham Scholarship Fund
Ruth E. Wagner Scholarship Fund
A. Glen Wilson Scholarship Fund
Matilda R. Wilson Memorial Honor Scholarship Fund
Thomas E. Wilson Scholarship Fund

Student Affairs

The division of Student Affairs provides a variety of services and programs that complement and enhance students' educational experiences. A brief description of the major areas of the division follows.

Orientation and Placement Testing

Orientation

All students new to Oakland University are expected to attend an orientation session before their first registration. During orientation, students are advised on course selection, informed about important policies and procedures, given information on services and activities available, and introduced to the academic environment. At the conclusion of orientation, students select their first-term courses. Before orientation, students are asked to attend a placement testing session (see Placement Testing).

Orientations are also held for special groups such as the parents of new freshman students.

A non-refundable initial fee of $60 for freshmen and $35 for transfer students is charged to all new students, whether or not they attend orientation. This fee covers not only orientation but all of the testing, advising, counseling and other services available to Oakland students.

Placement testing

The Office of Orientation offers placement tests which are required for enrollment in some courses. Taking placement tests assists new students in selecting courses that are neither too easy nor too difficult. Tests are offered in the areas of chemistry, mathematics, modern languages, physics and rhetoric. A biology test is also available for nursing majors only.

Freshman students are encouraged to take a battery of placement tests before orientation to assist in advisement. Transfer students may choose to take placement tests in areas where they have no previous course work.

The Office of Orientation offers evening placement tests weekly throughout the year on an appointment basis. Respective departments also offer testing on an individual basis, usually by appointment. For more information, contact the Office of Orientation, 371 West Vandenberg Hall (370-3260).

Dean of students

The dean of students serves as an advocate for the development of programs and services to meet the developmental needs of students. As such, the dean of students monitors the university environment, assists with student life policy development and provides personal assistance to individual students and groups of students. In addition, the dean of students' office administers the campus academic and non-academic judicial systems, the residence halls office, CIPO, campus vending, and works in cooperation with the student government to initiate a variety of social, recreational and educational programs and activities.

Campus Information, Programs and Organizations (CIPO)

Many students desire to achieve personal goals while pursuing extracurricular educational experiences. Approximately 100 student organizations exist at Oakland University, including academic clubs, religious and political organizations, Greek organizations and a variety of special interest groups. Student organization activities include leadership workshops, retreats, social events, skill development programs and academically related functions. Students who cannot locate a club that serves their particular interest are encouraged to form a new group through Campus Information, Programs and Organizations (49 Oakland Center, 370-2020).

Services for commuting students are coordinated through CIPO. CIPO sponsors a variety of programs and services, including typewriters, Macintosh computers, ride pools, lockers, off-campus housing resources and transportation information. In addition, CIPO's service window staff provides postage stamps, tickets for some campus and community events, photo processing, cross-country ski rental and a notary service.

The CIPO programming team provides noontime and evening programs. Consultation is also available to students for the planning and marketing of social, educational and cultural events. CIPO assists in the coordination and planning of major campus events, including Septemberfest, Blood Drive, Winter Carnival, Black Awareness Month and Women's Week.

University Student Congress is an elected, campus-wide governmental body that serves students' needs. In addition to its administrative duties, University Student Congress provides funding for the Student Activities Board, which allocates money to recognized student organizations, and for the Student Program Board, a student committee responsible for programming films, lectures, concerts and other recreational activities.

Students may participate in the following musical ensembles: Collegium Musicum, Gospel Choir, Afram Jazz Ensemble, Oakland Chorale, Concert Band, Meadow Brook Estate, University Chorus, Pontiac-Oakland Symphony, Vocal Jazz Ensemble and the Keyboard Ensemble. Students can also participate in theatre productions and the Oakland Dance Theatre. These ensembles may be taken for academic credit or as an extracurricular activity.

Oakland Center

The Oakland Center is the hub of campus activity. Provided in this facility are food service offerings, the Oakland University Bookcenter, indoor recreational activities, student lounges, meeting rooms and exhibit areas.

Residence hall facilities

Oakland University provides on-campus residence halls that relate to and enhance students' academic experiences. A communal living experience with one's peers has been likened to a "laboratory for living" and contributes to the personal growth of students. Students are encouraged to live on campus to take maximum advantage of the activities and resources of the university community.

The university maintains six residence halls that offer great variety in program offerings, accommodations and size. They are attractively grouped on spacious wooded grounds overlooking picturesque Beer Lake and are within convenient walking distance of classroom buildings. Anibal House is the location of our "wellness community." This option is available to students pending space availability on a request basis. Fitzgerald is an L-shaped building with 24 rooms in each wing; the wings are joined by a student lounge. Hill and Van Wagoner houses are six-story units that each contain 100 rooms, a lobby, a lounge and a recreation room. Vandenberg Hall is a seven-story, twin-towered structure. It contains 284 rooms, student lounges, multiple-use areas, study and seminar rooms, and recreation areas. Vandenberg will also be the location for our new "Scholars' Tower" program which will be introduced in fall semester, 1991. Hamlin Hall houses 676 students. A nine-story hall, it has a main lounge, a lounge on each floor, classrooms, several multipurpose areas, and a computer room.

Rooms are furnished with desks and lamps, bookshelves, wastebaskets, bulletin boards, single beds, dressers, closets and Venetian blinds. Residents must provide their own blankets, linens, throw rugs and draperies. Lamps, electric blankets, clocks, radios, television sets and record players are allowed subject to safety regulations, limitations of space and consideration of others. Telephones are provided in each suite or room, and ticket-operated washers and dryers are available. Maintenance service is provided by the university in common areas. Residents assume responsibility for cleaning their own rooms.

Food service for residents is managed by Marriott, Inc., a professional catering service. The dining room in Vandenberg Hall offers cafeteria-style dining for residents and their guests. Special dinners, often featuring ethnic foods, are planned regularly.

To be eligible for university housing, students must be enrolled for at least 8 credits, except with the permission of the director of residence halls. All full-time unmarried students who have earned fewer than 59 credits and who do not commute from a residence occupied solely by a single family related to the student at time of registration must live in the residence halls. Requests for exceptions to this policy will be reviewed by an administrative committee. Exceptions granted to students under age 18 must be accompanied by a written endorsement of exception from the student's parent or legal guardian.

To apply for residence, students should request university housing through the Office of Admissions. Upon their acceptance at Oakland University and the submission of a housing contract, students' reservations will be processed by the Residence Halls Office. Notification of assignment will be given approximately two weeks prior to the beginning of each semester. Returning students may renew their housing contracts through the Residence Halls Office.

Room and board is not provided between semesters or during official recesses listed in the university calendar.

Placement and career services

The Department of Placement and Career Services (275 West Vandenberg Hall, 370-3250) assists students and alumni in identifying career-related full-time, part-time and seasonal (summer, etc.) employment opportunities. An extensive library is maintained for the display and dissemination of both printed and videotaped employer information, plus career guidance materials, job search information and career publications and periodicals.

The department library also includes the application materials for such tests as the Graduate Record Examinations (GRE), Law School Admission Test (LSAT), Medical College Admission Test (MCAT) and Graduate Management Admission Test (GMAT).

Placement and Career Services is comprised of Placement, Cooperative Education and the Oakland University Student Internship Program. The latter two components provide opportunities for students to gain professional-level work experience prior to graduation.

Placement

The Placement Office (275 West Vandenberg Hall, 370-3250) provides direct access to job opportunities through on-campus interviews, job referral activities, posted job notices and a bi-weekly job vacancy bulletin. Individual placement counseling and career information are available to both students and alumni, including walk-in counseling during designated hours.

Placement also offers a variety of job fairs and career information/networking programs. Special seminars assist students in developing job search skills. In addition, information is publicized about internship/fellowship opportunities generated outside the university.

Cooperative education

Cooperative education (275 West Vandenberg Hall, 370-3253) is an academic program that combines work experience with classroom education. Co-op exposes students to real work environments in their chosen fields. This helps them to decide, while still in college, whether or not they have made the right career choice. It also allows them to graduate from college with valuable experience in addition to their college education, and introduces them to professionals in their prospective fields. Often students receive job offers from their co-op employers upon graduation. In addition, all co-op jobs are paid positions. This compensation can significantly help in financing a student's education.

There are two forms of co-op. In alternating co-op, students work full time for a four-month period (fall or winter semester or spring and summer sessions) and then return to the classroom for the next four months while other students take over their job. Students then alternate periods of work and study. In parallel co-op, students work part time (about 20 hours per week) and simultaneously carry about half the normal course load.

Cooperative education programs are available for majors in the College of Arts and Sciences, School of Business Administration and the School of Engineering and Computer Science as well as for selected majors in the School of Health Sciences and the School of Education and Human Services. (For details of each, see the descriptions of programs offered by the college and schools.)

Oakland University Student Internship Program

Matching the employment needs of Oakland County with the interests of students, the Oakland University Student Internship Program (275 West Vandenberg Hall, 370-3213) is designed to be a shared-learning, paid work experience. Full-time Oakland University students (junior, senior or graduate) in good academic standing are eligible and encouraged to participate in this

program. The program has proven to be a valuable stepping stone for many college students entering the competitive job market. Internships are available for majors in all academic areas.

Participants must be willing to work 20 hours per week during fall and winter semesters and 32 hours per week in spring and summer sessions. This entails a commitment of six months to one year.

Special advising

The Department of Special Advising (134 North Foundation Hall, 370-3266) provides a variety of services to students with special needs or entitlements (foreign students and exchange visitors, students with disabilities and eligible veterans).

The department assists foreign students and exchange visitors with necessary Immigration and Naturalization Service procedures and, in the case of exchange visitors, with U.S. Information Agency procedures. It assists students with disabilities, including those with temporary disabilities, with registration for classes and individual needs and concerns. In addition, the department certifies eligible veterans, dependents and reservists for education benefits.

The department also provides testing services — including ACT, CFP, GMAT, GRE, LSAT, MCAT, PPST and Miller Analogies Test — and coordinates the university's participation in the National Student Exchange program.

Other Services

Academic Skills Center

The Academic Skills Center in 203 Wilson Hall (370-4215) offers *free* peer tutoring in writing, mathematics, reading comprehension, study skills, and courses across the curriculum to all students enrolled at Oakland University. Walk-in tutoring and tutoring by appointment are available. These may be individual or group sessions.

The center also offers Supplemental Instruction (SI) for specific courses. This program provides organized study sessions two or three times a week to students enrolled in specific classes. SI sessions focus on course-specific study skills that help students review notes, understand and apply key concepts, and prepare for tests. Attendance at these sessions is voluntary.

In addition to tutoring, the center's Resource Laboratory provides study skills handouts, video and audio taped materials, and computer-aided instruction to supplement general education courses. The center's staff conducts PPST preparation seminars and coordinates the Brown Bag Study Skills Seminars presented by members of the OU community.

The center staff also works with students placed in the Dismissal Option Status program and with other students in academic difficulty by providing an academic support program that includes advising referrals, mentoring, and monitoring of academic progress.

The center is open from 8 a.m. to 5 p.m. Monday through Friday. Evening hours and tutoring schedules are announced at the beginning of each semester.

Child care

The School of Education and Human Services operates the Matthew Lowry Early Childhood Center for students, faculty and staff with child care needs. Located at Adams and Butler roads at the southeast corner of the campus, the center houses three programs: preprimary, preschool and toddler (370-4100).

The preprimary program is a kindergarten program which offers three options for the full school year: a half-day kindergarten program, an all-day kindergarten program, and a half-day kindergarten for developmentally young students.

The toddler program is for children 18 months to 3 years old; the preschool program serves children from 3 to 5 years old. These programs offer flexible hours which attempt to meet the needs of parents. The curriculum is designed to stimulate the developmental growth of children.

The Early Childhood Center operates weekdays from 7:30 a.m. to 5:30 p.m. Space in all programs is limited. Parents are encouraged to register their children during early registration

for university terms, though space may be available during regular registration. The center is not open during the summer session. Parents are assessed an hourly rate that varies for students, faculty and staff. (See the *Schedule of Classes* each term for details.)

Health services

Oakland University students, faculty, staff and alumni (and their spouses) may receive medical services at the Graham Health Center, Monday through Friday, from 8 a.m. to 5 p.m. (370-2341). Services include physician coverage of most acute and chronic medical problems, laboratory facilities and an emergency room equipped to handle minor trauma and to give initial treatment to more serious emergencies. Allergy injections are given while a physician is on the premises (the patient must have a doctor's written instructions and vaccine that may be stored at the health center). Information is available on weight control, nutrition, smoking cessation, exercise and many other topics.

Counseling Center

Students with problems concerning themselves, relationships with others, family difficulties or other personal issues, such as those involved with adjusting to college life, may seek help at the university's Counseling Center (Graham Health Center, 370-3465). Though Oakland University faculty and staff can provide referrals, students may contact the center directly. All counseling is strictly confidential.

The Counseling Center is staffed with clinical and counseling psychologists who provide specialized counseling, consultation and psychotherapy to Oakland University students. Use of the center is voluntary and is available by appointment at a minimal charge (many insurance policies reimburse the center's services).

The center also offers marriage counseling, child therapy, family therapy, psychological testing, substance abuse services, and vocational counseling. The vocational counseling program involves a series of intensive interviews and tests with focus on personal issues in career development. The psychological testing services are aimed at assessing developmental growth as well as the nature of personal problems. Services of the center are also available to the public at a higher fee. Fees are based on family income.

Department of Special Programs

The Department of Special Programs (375 West Vandenberg Hall, 370-3262) provides academic counseling and support services for students admitted to the university through the Academic Opportunity Program (AOP).

The department administers the Summer Institute, which is an 8-week residential program of college courses, academic support seminars, tutorial assistance, cultural programs, and recreational activities to maximize students' chances for a successful college experience. After completing the Summer Institute, AOP students are provided with a comprehensive network of university services including academic advising, personal and peer counseling, and tutorial assistance in a friendly, supportive atmosphere.

The department is staffed by administrators, professional counselors, peer counselors, and tutors, who work closely with AOP students throughout their years at Oakland University.

Upward Bound

Upward Bound is a co-educational high school program designed to generate the skills and motivation necessary for success in education beyond high school. It is designed for youth from low-income families (as defined by U.S. Department of Education guidelines) who have academic potential but lack adequate secondary school preparation. The program includes a six-week summer residential component and a twice-monthly academic year component. High school students are eligible to apply if they have entered ninth grade but have not entered twelfth grade, and if their high school enrollment is in Oakland University's target area (Pontiac, Ferndale, Oak Park). A part of the Office of University/School Relations, Upward Bound is located in 264 South Foundation Hall (370-4455).

Office of Graduate Study

Dean: *George Dahlgren*

Office of the Dean: *Sheryl Lynn Clark, assistant to the dean*

Course offerings and programs of study at the graduate level constitute a major Oakland University enterprise. Most schools and departments offer some form of graduate work leading to advanced degrees.

All of the graduate programs have their philosophical underpinning in the university's role and mission statement. Through them, the intellectual and educational needs of students are served in relation to specific careers; cultural heritage is preserved and extended; and new knowledge is produced that is directed toward the extension of frontiers and the solution of problems and issues that confront society as a whole. Programmatic balance is sought to assist in the achievement of these varied outcomes. Students are assumed to be full partners in the process of program implementation. Through this partnership, the goals and purposes of graduate education are fulfilled.

Details of the programs and regulations that govern graduate work appear in the *Oakland University Graduate Catalog.* Copies of the catalog are available from the University Bookcenter. Prospective students should also consult the school or department in which they wish to study.

Graduate degree programs

Doctor of Philosophy: biomedical sciences (biology of aging, health and environmental chemistry, medical physics), reading, systems engineering

Education Specialist: school administration

Master of Arts: counseling, English, history, linguistics, mathematics, sociology

Master of Business Administration

Master of Music

Master of Physical Therapy

Master of Public Administration

Master of Science: applied statistics, biology, chemistry, computer science and engineering, electrical and computer engineering, exercise science, industrial applied mathematics, mechanical engineering, physics and systems engineering

Master of Science in Nursing

Master of Arts in Teaching: curriculum, instruction and leadership, early childhood education, English, reading and language arts, special education

Graduate certificate programs

Statistical methods
Microcomputer applications in education

ACADEMIC POLICIES AND PROCEDURES

Student Responsibility

Students are expected to learn all general requirements of the university as well as those of the program of their chosen field of study. Students are responsible for meeting all requirements and regulations for the degrees they seek.

Facilities and staffing limitations require that certain professional programs place limits on the number of students admitted to major standing. Where such limits exist, the principal admission criterion is academic performance in course work prerequisite to application for major standing. Additional information concerning application for major standing in programs with enrollment limits is contained in the individual program descriptions elsewhere in this catalog.

Academic Advising

The university provides academic advising for students from professional advisers in the College of Arts and Sciences and each school, as well as from faculty advisers in academic majors. For assistance in understanding program admission requirements and enrollment limitations as well as university and degree requirements, students should consult with professional advisers and/or faculty advisers. While students receive initial advising assistance in orientation, they are encouraged to seek individual assistance as early in their programs as possible, and to see their advisers regularly thereafter. Most advisers see students for individual appointments arranged at their mutual convenience, except during busy early registration periods when only limited assistance can be provided. In some programs, students must file a written program plan. Advisers can help students complete such plans as well as verify that all degree requirements are being met in a timely fashion. Students may locate their advisers by consulting the list of school and departmental advising offices in the Advising Index at the front of the catalog and published in the *Schedule of Classes* each term.

The Department of Academic Services and General Studies (121 North Foundation Hall, 370-3227) provides academic information and assistance to undergraduates who have not yet declared a major, usually freshmen and sophomores. Students can receive help in course selection and declaration of a major, as well as career exploration. The department's Career Resource Center contains many services and resources for freshmen and sophomore students who wish to explore careers, including career counseling, computerized career guidance systems (SIGI and DISCOVER II), Michigan occupational information, catalogs of other two- and four-year undergraduate institutions and a variety of written handouts. The Department of Academic Services and General Studies also advises students who elect the Bachelor of General Studies program. The program is described in detail elsewhere in this catalog.

Course and Credit System

The credit-hour value of each course (the number in parentheses following the course title) is specified in semester hours. One semester hour is equivalent to a total of 200 minutes of scheduled instruction plus the estimated time required in outside preparation each week. Most Oakland University courses are 4 credits. A full academic load is 16 to 18 credits per semester. With their adviser's permission, students who have completed 12 or more credits at Oakland University may register for as many as 21 credits if their cumulative grade point average is at least 2.60. All other students may take more than 18 credits only as a result of a successful Petition of Exception.

Regulations governing courses

1. A course sequence joined by a hyphen (e.g., FRH 114-115) must be taken in the order indicated. The first course in such a sequence is a prerequisite to that following.
2. Course numbers separated by commas (e.g., HST 114, 115) indicate related courses that may be taken in any order. However, departmental or program requirements may sometimes govern the order.
3. Course numbers 000-049 are designated for skill development courses specially designed to aid incoming students with significant deficiencies in their academic background in preparing for courses numbered 100 and above. Credits earned in these courses may not be used to satisfy minimal graduation requirements in any academic program. These courses are included in the students' grade point averages. Course numbers 050-099 are for courses specially designed to enrich academic skills. No more than 16 credits in courses numbered 050-099 may count toward graduation requirements. Courses numbered 100-299 are introductory undergraduate courses primarily for freshmen and sophomores. Courses numbered 300-499 are designed for juniors and seniors. Courses numbered 500 and above are primarily for graduate students. Qualified undergraduates may enroll in a class numbered 500-599 provided they have obtained written permission to do so from the department or school offering the class. Only graduate students are eligible for courses numbered 600 and above.
4. The university reserves the right to cancel any course in which there is insufficient registration.
5. Prerequisite courses must be completed prior to enrollment in courses for which a prerequisite is listed. Corequisite courses must be taken simultaneously. It is the students' responsibility to complete all prerequisites before registering for a course with such requirements and to register for corequisites as indicated in the catalog. Departments may waive prerequisites in accordance with university policy.
6. Some courses are cross-listed between departments. In such cases, the course description is listed only in one department. The listing in the other department notes that the course is identical with the course in the primary department. When registering, students should select the listing under which they wish to receive credit.

Course competency

Students may receive credit toward graduation designated as competency credit (graded S/U) on their transcripts for Oakland University courses, subject to the following provisions:

1. That they register for the course at registration with written permission of the departmental chairperson, dean or program director of the academic unit responsible for the course.
2. That they pass an appropriate competency examination not more than six weeks after the term begins. Competency credit will not be permitted for a course when a student has received credit for more advanced courses in the same area. The repeat course rule applies to the repeating of competency examinations (see below).
3. That they pay the appropriate fees as indicated elsewhere in this catalog (see *Course competency by examination fee*) or as published in the *Schedule of Classes*.

Students may apply up to 60 credits based on non-classroom experience (course competency, Advanced Placement and/or CLEP credits) toward a degree program.

Adjusting courses (Drop-and-add)

If students decide not to complete a course, the course may be dropped without academic penalty through the ninth week in 14-week courses and the fifth week in seven-week courses. Courses dropped for which students wish to claim either fee cancellation or refund of fees must be processed through a drop-and-add form obtained from and submitted to the Registration Office, 100 O'Dowd Hall (see also *Refund of fees*). Failure to drop a course through the Registration Office on or before the official withdrawal date may result in the recording of a 0.0 grade on a student's record.

Students previously registered for the term and wishing to add a course should do so as early as possible in the semester or session. Courses may not be added following the 20th calendar day after the first day of classes (seventh calendar day in spring and summer sessions and for 2-credit, half-semester courses). Deadlines for dropping or adding classes are published in the *Schedule of Classes* each term.

Auditing courses

A formal audit option is available for students who wish to participate in a course on a non-graded basis. With written permission of the instructor, students may register to audit a course during the late registration period for each semester or session. Forms for auditing classes are available in the Registration Office, Office of Admissions, Office of Graduate Study and Academic Services and General Studies Office.

Audit registrations are governed by the following rules:

1. Regular tuition and fees apply to all courses.
2. The registrar will assign the final mark of Z to all formal audits.
3. Changes of registration from credit to audit or from audit to credit will not be permitted once the no-grade add/drop period has ended for a given semester or session.
4. Students who wish to audit courses must have been admitted to the university by the Office of Admissions.
5. Students whose entire registration for a semester or session consists of formal audits must register during late registration. Late registration fees will be waived for such students.

Repeating courses

Students may repeat a course to change a grade or, in some cases, to earn additional credit. For the purpose of changing a grade, students may repeat a course up to two times (total of three attempts). At the time of registration for a course taken previously, students must file a Repeat Course Form. Filing this form is the students' responsibility and will ensure that proper adjustments to grade point average and cumulative degree credits are made. Students who repeat a course should make every effort to complete the course successfully, since the last numerical grade assigned in the course (either a passing grade or a no-credit grade) will be used in computing the grade point average and total credits awarded. Detailed information on when forms should be filed and how academic records change when courses are repeated appears in each term's *Schedule of Classes*.

Certain courses in which the material covered varies each semester may be repeated for additional credit. Such courses are so designated in their individual descriptions elsewhere in the catalog. When students are earning additional credit, the Repeat Course Form should not be filed.

Degree Requirements

Undergraduate degree requirements are of two kinds: general degree requirements determined by the university to be binding on all baccalaureate programs, and specific degree requirements established by the various academic units that offer degree-level programs of instruction. Students may choose to meet graduation requirements as presented in the catalog extant at the time of graduation or in any catalog in effect since their matriculation at Oakland University, providing that the catalog is not more than six years old at the time of graduation. They may use one catalog for both general degree requirements (including the general education program) and those of the major, or meet general university requirements from one catalog and those of the major from another.

An academic unit may require that students changing majors into its program from another major, or from undecided status, follow major requirements and college or school distribution requirements (if applicable) from a catalog no earlier than the one in effect at the time of admission to the new major. (A change from pre-major to major standing in the same field does not constitute a change of major.) Students who change majors should read the section of the catalog covering the new program and consult an adviser to learn which catalog(s) they may

use for requirements for the major. They, like all other Oakland University students, may still follow general education requirements from a second catalog, either earlier or later than the one used for the major.

The catalog chosen for the student's major will also be used to determine degree requirements for any minor or concentration the student may be pursuing unless a written plan of study has been approved by the department or school offering that program. Some academic units require that students file an approved plan of study for a concentration or minor in order to complete program requirements; those that do so stipulate this requirement in the appropriate section of this catalog. Forms for planning and approval of a minor or concentration are available from the Department of Academic Services and General Studies (121 North Foundation Hall). If the academic unit establishes no such requirement, students are still entitled to negotiate a minor or concentration in writing with the program coordinator. Written plans are particularly encouraged for those students using transfer courses to satisfy some portion of the program. A plan of study may be based on any catalog in effect at time of filing, but not one predating the student's enrollment at Oakland University. Changes to an approved plan require prior written authorization from the concentration or minor coordinator.

Students may establish credit in a course to meet degree requirements by earning a passing grade in the course, by passing a competency examination or by receiving transfer credit from another institution. In certain circumstances, a requirement may be formally waived through a successful Petition of Exception (see *Petition of exception*, below).

All data in this catalog reflects information as it was available on the publication date. Oakland University reserves the right to revise all announcements contained in this publication and at its discretion to make reasonable changes in requirements to improve or upgrade academic and nonacademic programs.

Undergraduate degree requirements

Oakland University has established general undergraduate degree requirements applicable to all candidates for all undergraduate degrees. In order to earn a baccalaureate at Oakland University, a student must satisfy the following criteria:

1. General education: The general education program is designed to provide a common and coherent educational experience for all Oakland University undergraduates. It is based on the belief that educated persons should possess not only knowledge in a particular field of specialization but also an understanding of the world around them, an appreciation of the legacy of the past and some vision of the future. Exposure to a variety of disciplines will enable students to acquire a breadth of knowledge, develop analytical skills and examine fundamental questions of human experience.

   All students must complete 32 credits in general education, including at least one course (3 or more credits) from the list of approved courses offered in each of the following eight field categories: arts; literature; language; western civilization; international studies; social science; mathematics, logic and computer science; and natural science and technology. (See course listings below.) Students transferring credit to the university should consult the *Transfer student information* section. (In the case of LIN 215/CSE 215, a 6-credit course meeting both language and mathematics, logic and computer science field categories, some students may need to take an additional course to meet the 32-credit general education requirement.)

   The policy stipulated above is considered a minimum credit requirement that academic units may increase for their own students. Students pursuing degrees in the College of Arts and Sciences should refer to the college distribution requirements section for additional requirements. Students in the School of Engineering and Computer Science should see that section for specific requirements.
2. Writing proficiency: Students must demonstrate proficiency in writing at, or within a reasonable time after, entrance to Oakland University. Entering students transferring 32 or fewer credits must demonstrate writing proficiency before they accumulate 48 credits

in order to register or receive credit for upper-level courses (those numbered 300 or above). Entering students transferring 33 or more credits must demonstrate proficiency before they complete 16 credits at Oakland University in order to register for upper-level courses. Proficiency may be demonstrated in several ways:

a. By completing RHT 101 with a grade of 2.0 or better.
b. By transferring two college-level English composition courses (at least 6 credits). Students who have completed such courses with grades of 2.0 or better may submit their transcripts to the registrar for evaluation. Transfer students who have at least 3 credits in one English composition course may register for RHT 101. Those with fewer than 3 credits must take the placement examination.
c. By petitioning the Proficiency Committee of the Department of Rhetoric, Communications and Journalism with samples of their writing, including three papers that have been completed to meet class requirements at Oakland University. One of these papers must indicate an ability to use some standard system of annotation. In addition to the writing samples, students must include supporting letters from two Oakland University faculty members.
d. By demonstrating superior writing skills in a student-initiated proficiency examination administered by the Department of Rhetoric, Communications and Journalism. This examination is offered throughout the academic year; students should contact the department (370-4120) or Department of Academic Services and General Studies (370-3227) for a current testing schedule. Students may not repeat the proficiency examination.

3. Specific requirements: Students must fulfill all specific undergraduate degree requirements appropriate to their chosen majors as stipulated by the various colleges, schools or other academic units empowered to present candidates for the undergraduate degree(s) over which they have authority. Minors and concentrations are optional, although some programs require written approval for minors and concentrations. Forms for planning and approval of a minor or concentration are available from the Department of Academic Services and General Studies (121 North Foundation Hall, 370-3227).
4. Procedural requirement: Before or during the semester or session in which they expect to complete all academic requirements, degree candidates must file an application-for-degree form at the Cashier's Office with a non-refundable fee. The filing deadline for each semester or session is indicated in the *Schedule of Classes* for that term. Failure to apply will result in deferred graduation. Application forms are available at the Academic Records Office, 102 O'Dowd Hall (370-3452).
5. Residence requirement: Students must successfully complete at least 32 credits at Oakland University. They must also take the last 8 (4 for Bachelor of General Studies designation) credits needed to complete the requirements for a baccalaureate at Oakland University.
6. Grade point average: Students must have a cumulative grade point average (GPA) of at least 2.00 in courses taken at Oakland University. In certain programs, additional GPA requirements must be met.
7. Credit rules: Students must have successfully completed at least 32 credits in courses at the 300 level or above. Students transferring credits to Oakland University should consult the *Transfer student information* section.

GENERAL EDUCATION REQUIREMENTS:

Each candidate for an Oakland University baccalaureate is required to complete satisfactorily at least one approved course from each of the following field categories; students using this catalog to meet general education requirements may also use any course subsequently approved by the General Education Committee as satisfying requirements in a particular category and published in a later catalog. If a course listed below should be removed from lists of approved courses in later catalogs, it may still be used to meet a general education requirement by students following the 1991-92 catalog.

a. Arts: Courses in the arts category are designed to provide an understanding of how people express through the arts their experience of the world. The arts are the visual and auditory material of culture. Courses in this field will help students approach, understand and appreciate the aesthetic dimensions of human experience.

AH 100	Introduction to Western Art I
AH 101	Introduction to Western Art II
CIN 150	Introduction to Film
DAN 173	Dance History and Appreciation
MUS 100	Introduction to Music
MUS 250	World Music Survey I
MUS 320	Survey of Music History and Literature
THA 100	Introduction to Theatre
THA 201	Theatre History

b. Literature: The study of literature enables the student to move beyond individual experience by participating in the intellectual, emotional and spiritual experiences of others. The study of the ways literary works fuse form and content cultivates sensitivity to language and enhances awareness of our humanity.

ENG 100	Masterpieces of World Literature
ENG 105	Shakespeare
ENG 111	Modern Literature
ENG 224	American Literature
ENG 241	British Literature
ENG 303	Fiction
ENG 306	Drama
ENG 312	Classical Mythology
LIT 100	Introduction to Asian Literature
LIT 181	European Literature I
LIT 182	European Literature II

c. Language: Language both reflects and shapes human culture. The systematic study of a foreign language or of language systems will help students become aware that people think, behave and perceive reality in ways related to the languages they speak. Students may meet this requirement *either* by completing any of the courses listed below *or* by completing a 4-credit foreign language course numbered 115 or higher (or its equivalent).

ALS 176	The Humanity of Language
CHE 114	Introduction to Chinese
FRH 114	Introduction to French
AH 100	Introduction to Western Art I
GRM 114	Introduction to German
HIU 114	Introduction to Hindi and Urdu
IT 114	Introduction to Italian
JPN 114	Introduction to Japanese
LIN 207/ SCN 207	Semantics
LIN 215/ CSE 215	Natural and Artificial Languages*
RUS 114	Introduction to Russian
SPN 114	Introduction to Spanish

*In the case of LIN 215/CSE 215, a 6-credit course meeting both language and mathematics, logic and computer science field categories, some students may need to take an additional course to meet the 32-credit general education requirement.

d. Western civilization: Courses in this category examine significant political, social, economic and intellectual developments of Western cultures from a historical perspective. Students will develop skills of critical inquiry into historical events and investigate the foundations of Western thought.

HST 101	Introduction to European History Before 1715
HST 102	Introduction to European History Since 1715
HST 114	Introduction to American History Before 1876
HST 115	Introduction to American History Since 1876
HST 210	Science and Technology in Western Culture
HST 292	History of the African-American People
PHL 101	Introduction to Philosophy
PHL 103	Introduction to Ethics
PHL 204	History of Western Philosophy: Classical Greek Philosophy
PHL 205	History of Western Philosophy: Hellenistic and Medieval Philosophy
PHL 206	History of Western Philosophy: Early Modern Philosophy
PS 377	Communism

e. International studies: The examination of a culture other than their own will help students understand and value the traditions and experiences of other people. It also provides them with fresh perspectives on their own assumptions and traditions.

IS 210	Introduction to China
IS 220	Introduction to Japan
IS 230	Introduction to Africa
IS 240	Introduction to India
IS 250	Introduction to Latin America
IS 260	Introduction to Russia and Eastern Europe
IS 270	Introduction to the Middle East

f. Social science: Courses in this category will introduce students to major concepts in a field of social science and its methods of scientific inquiry. The social sciences examine the influences of social and cultural factors on individual or group behavior and values.

AN 101	Human and Cultural Evolution
AN 102	Culture and Human Nature
AN 300	Culture, Society and Technology
AN 307	Culture and Society through Film
ECN 150	Basic Economics
ECN 200	Principles of Macroeconomics
ECN 210	Principles of Economics
PS 100	Introduction to American Politics
PS 115	United States Foreign Policy
PS 131	Foreign Political Systems
PSY 100	Foundations of Contemporary Psychology
PSY 130	Psychology and Society
SOC 100	Introduction to Sociology
SOC 206	Self and Society

g. Mathematics, logic and computer science: Courses in this category examine systematic ways of approaching, processing and analyzing data and ideas from different disciplines. While divergent in approach, these courses will help students become more familiar with means of quantification and symbolic systems.

CSE 125	Introduction to Computer Use
CSE 130	Introduction to Computer Programming

LIN 215/	
CSE 215	Natural and Artificial Languages*
MTH 121	Linear Programming, Elementary Functions
MTH 122	Calculus for the Social Sciences
MTH 154	Calculus I
MTH 185	Exploration into Undergraduate Topics
PHL 102	Introduction to Logic
PHL 202	Introduction to Symbolic Logic
STA 225	Introduction to Statistical Concepts and Reasoning
STA 226	Applied Statistics

*In the case of LIN 215/CSE 215, a 6-credit course meeting both language and mathematics, logic and computer science field categories, some students may need to take an additional course to meet the 32-credit general education requirement.

h. Natural science and technology: Courses in this category will introduce students to major concepts in a field of natural science or modern technology and to the methods of scientific inquiry. Students will also gain understanding of the impact and implications of natural science and technology in the modern world.

BIO 104	Human Biology
BIO 110	Life on Earth
BIO 190	Biology
BIO 200	Biology
BIO 300	Biology and Society
CHM 104	Introduction to Chemical Principles
CHM 144	General Chemistry
(or 164)	
CHM 300	Chemistry, Society and Health
ENV 308	Introduction to Environmental Studies
HS 201	Health in Personal and Occupational Environments — Ideas, Concepts, Issues and Applications
PHY 101	General Physics I
(or 151)	
PHY 104	Astronomy: The Solar System
PHY 105	Astronomy: Stars and Galaxies
PHY 106	Earth Science
PHY 107	Oceans and Atmosphere
PHY 125	The Physics of Music
PHY 127	Human Aspects of Physical Science

Additional undergraduate degrees and majors

Under certain conditions, a student may earn either an additional baccalaureate or a single baccalaureate degree with multiple majors.

For students who have not yet received any baccalaureate degree

In order to pursue two or more Oakland University baccalaureates simultaneously, students who have not earned a baccalaureate degree must:

1. Meet all specified requirements for each degree program.
2. Complete at least 32 credits at Oakland University beyond those required for the degree requiring the most credits. Of these, at least 16 credits must be at the 300 level or above.

These degrees must either have separate designations (for example, Bachelor of Arts and Bachelor of Science) or be earned in separate academic divisions (for example, the College of Arts and Sciences and the School of Engineering and Computer Science).

Students who meet the requirements for more than one major program but who do not meet the above conditions may receive a single degree with more than one major recorded on their transcripts.

For students already holding a baccalaureate degree

Students already holding a baccalaureate who wish to earn an additional baccalaureate from Oakland University must:

1. Receive written approval from the college or school concerned (and, where appropriate, from the department) as part of the admission process to the new program.
2. Complete at least 32 additional credits at Oakland University.
3. Meet the university-wide general education and writing proficiency requirements, and all other specific requirements for the new degree as stipulated by the college, school or other academic unit in which the student is a candidate.

In the case of students holding a baccalaureate from Oakland University, the new degree must have a separate designation or be awarded by a different academic division, as described above.

Alternately, students, including those ineligible to complete a second degree, may enroll as post-baccalaureate students and obtain verification from a major department that they have met all requirements for an additional major.

Students already holding a baccalaureate degree may earn teacher certification in elementary education by being admitted to this program at Oakland University with second undergraduate degree status. For a description of the program, see the Department of Curriculum, Instruction and Leadership, School of Education and Human Services.

Petition of exception

Any student may request a waiver or modification of specific academic requirements. Students may obtain a Petition of Exception form from the office of the dean. The completed form should be signed by a faculty adviser in the student's major department or school. Petitions for modification of the normal requirements of a major in order to suit individual programs should be directed to the chairperson of the major department or school.

Petitions for modification of general undergraduate degree requirements should be returned to the office of the dean of the student's college or school for referral to the appropriate committee on instruction. The student, the registrar and the student's academic adviser or major department will receive a copy of the petition containing the action taken. Petitions of Exception relating to graduation requirements must be filed no later than the second week of the semester or session of intended graduation.

Transfer Student Information

Transfer admission

Transfer students may enter Oakland University at the beginning of any semester or session and should contact the Admissions Office (205 Wilson Hall, 370-3360) regarding the application deadline date for the term when they wish to enter. Applicants who were admissible to Oakland University from high school and have maintained good academic standing and a minimum of a 2.50 cumulative GPA at their previous college or university may be considered for admission. Applicants who were not admissible based on their previous high school record must complete a minimum of 26 semester hours of transferable credit with a minimum of a 2.50 cumulative GPA before they may be considered for admission.

To be considered for admission, students should submit an application and admission fee, and should submit to Oakland University official transcripts of all previous college-level work.

Students considering transferring to Oakland University may arrange to meet with an academic adviser who will assist them in course selection and in planning to meet program requirements by calling the Department of Academic Services (370-3227).

Transfer practices

When students enter Oakland University, all course work previously completed at regionally accredited post-secondary institutions with a C or equivalent grade is evaluated. Transferred courses may be used to satisfy credit and major requirements. Courses necessary to complete degree requirements are offered by the university, and it is anticipated that transfer students who have been admitted will complete program requirements at Oakland University. Credits are granted to courses taken at other regionally accredited post-secondary institutions in accordance with the transfer policies of this university, and in accordance with the principles described below. Transfer credit will not be granted for course work completed at another institution during any period when the student was suspended from Oakland University for academic misconduct.

Transfer practices for community college students

Oakland University's baccalaureate programs are designed to accommodate students from many community colleges. The university has prepared course equivalency guides for most local community colleges which indicate courses fulfilling specific Oakland University requirements. Transfer students from community colleges are eligible for the same financial aid programs and other services available to students who enter Oakland University directly from high school.

Transfer practices for students from four-year institutions

Oakland University also accepts students from four-year institutions. Transfer credits are accepted in accordance with the transfer policies of this university and in accordance with the principles described below. Some exceptions to this policy include certain physical education courses and religion courses offered by religiously affiliated post-secondary institutions.

Transfer credit evaluation

Preliminary evaluations of transfer credits are available at orientation. Official evaluations are completed during the first semester of attendance. If students have questions concerning courses at other institutions that may meet Oakland University's general education requirements, they should consult their academic adviser or the Academic Records Office (102 O'Dowd Hall, 370-3452).

Individual academic units may impose particular limitations on transfer equivalency. Students are advised to read appropriate sections of this catalog to learn the policies of schools in which they may be degree candidates.

Students transferring credits from foreign institutions may be requested to provide documentation of the content and scope of courses they have taken at foreign institutions.

Once transfer credits have been granted at Oakland University, a subsequent change of program or major may result in a change in the number of transfer credits accepted.

Transfer principles

Limit of 62 credits from community colleges

Once undergraduate students have successfully completed 62 semester hours at any accredited institution(s), including Oakland University, no additional credits may be transferred from a two-year school to the university.

Upon a student's initial entry to the university (or upon readmission after a lapse of six years or more), additional courses taken at a two-year institution may be accepted to satisfy *requirements* even though no additional degree *credits* are granted beyond the specified 62-credit limit. In all other cases, however, no additional courses or credits may be transferred from any two-year institution to satisfy any degree requirement. (This includes satisfying a prerequisite for a required course.)

Principles concerning the MACRAO agreement

Oakland University participates in the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) Articulation Agreement. Transfer students from participating Michigan public community colleges whose transcripts bear the "MACRAO Agreement Satisfied" stamp are considered to have met the university's general education requirements with

one exception: courses in English composition that have been taken previously will be applied to Oakland University's writing proficiency requirement; therefore, students enrolling under terms of the MACRAO agreement must complete eight additional credits of general education. Students must meet with an academic adviser to make the best use of the MACRAO agreement.

General education requirements for transfer students

Transfer students may fulfill the general education requirement with courses from their former institutions that have been approved for this purpose by the university; in such cases, a 3-semester-hour transfer course may serve as the required course in a particular field category, but students must still present a total of 32 credits and all eight categories must be represented.

Arts and sciences distribution requirements for transfer students

Transfer students pursuing any major in the College of Arts and Sciences should refer to the Policies and Procedures section in the college portion of the catalog for distribution requirements which must be met in addition to general education requirements.

College-level examination program (CLEP) credits

Transfer students who wish to apply CLEP credits towards degree work at Oakland University should consult the *College-level Examination Program (CLEP)* section of the catalog.

Grading System

1. The basic undergraduate grading system at Oakland University is a 32-point system of numerical grades, with passing grades ranging from 1.0 through 4.0, by tenths, and a no-credit grade of 0.0. Non-numerical grades are W, I, P, S, U, R and Z. All courses are graded numerically unless otherwise noted.
2. The first two weeks of a semester (one week in spring and summer sessions) are a no-record period for dropping and adding full-semester courses. The no-record period for 2-credit, half-semester courses is the first week of instruction.
3. The meanings of non-numeric grades are as follows:
   a. W (Withdrawal) is assigned by the registrar if a student withdraws officially from a course between the end of the no-grade period and the ninth week of 14-week courses (the fifth week of 7-week courses).
   b. The I (Incomplete) grade is temporary and may be given only by student request and instructor consent and only after the cut-off date for use of the W grade. It is used in the case of severe hardship beyond the control of a student that prevents completion of course requirements. Course work to remove an I grade must be completed during the first eight weeks of the next semester (fall or winter) for which the student registers unless a student-initiated extension is approved by the instructor and the dean of the college or appropriate. If course requirements are not completed within one year and no semester has been registered for, the I grade shall be changed to a grade of 0.0. A student who wishes to receive an Incomplete (I) grade in a course must present a Student Request for Incomplete Grade form to the instructor by the day of the scheduled final examination. This form, which indicates the instructor's willingness or unwillingness to grant the I and the schedule he or she sets for completing the term's work, is available in department offices and the Registration Office.
   c. The P (Progress) grade is temporary and may be given only in a course that, by design, cannot be completed in one semester or session. Prior approval must be obtained from the dean of the appropriate school or college to assign P grades in a particular course. The P grade is only given for course work that is satisfactory in every respect. P grades must be removed within two calendar years from the date of assignment. If this is not done, the P will be changed to a 0.0.

d. The S (Satisfactory) grade implies a grade of 2.0 or better in certain selected courses in which S/U grading is used exclusively; such courses must be approved by the appropriate committee on instruction. Under circumstances presented below, students may elect as an option to take a numerically graded course on an S/U basis.
e. The U (Unsatisfactory) grade is given in selected courses approved for S/U grading and implies a non-passing grade of less than 2.0. It also denotes unsatisfactory work in a numerically graded course elected by a student on an S/U basis.
f. R is a temporary grade assigned by the registrar in the absence of a grade from the instructor.
g. Z is assigned upon registration for an audited course. The student's declaration of intention to audit is required, and it is understood that no credit for the course is intended that term.

4. If none of the above apply, the course is considered to have been successfully completed when the instructor assigns a numerical grade from 1.0 to 4.0. The University Senate has approved publication of the following conversion for some external purposes:
   3.6-4.0 — A
   3.0-3.5 — B
   2.0-2.9 — C
   1.0-1.9 — D
   0.0 — no credit
5. All grades appear on student transcripts. However, only numerical grades are used to determine the grade point average, which is computed to two decimal places.

S/U grading option

Undergraduates who have completed at least 28 credit hours toward graduation may elect to take up to 8 credits of course work at Oakland University on an S/U grading basis, assuming that all prerequisites have been completed and subject to the following conditions.

a. These credits may only be counted as free elective credits. They may not be used to satisfy general education requirements (including college or school distribution requirements), the student's major or minor course requirements or prerequisites, or any courses designated "No S/U" in the *Schedule of Classes*.
b. Any courses that are designated S/U in the catalog or *Schedule of Classes* will not count toward the limit of 8 S/U grading option credits per student. Courses where the S/U grading system is used to grade all students in the course can be used to satisfy any applicable academic requirement.
c. The student must elect the S/U option by the late registration deadline by filing the appropriate form with the Registration Office, 100 O'Dowd Hall.
d. Instructors will not be informed on their enrollment lists as to who are the S/U students, if any. They will simply assign numeric grades (0.0 to 4.0) to all enrolled students. For students who have elected the S/U option, the Registrar's Office will then convert numeric grades from 2.0 to 4.0 to an S and numeric grades from 0.0 to 1.9 to a U. An S or U will appear on the student's grade slip and transcript.
e. Neither the S nor the U grade will be included in the student's grade point average.
f. If an academic unit at Oakland University later requires evidence of a numerical grade instead of an S because of a change of program status, the student may file a petition with the Registration Office to release that grade information to the program requiring the evidence.
g. If a course is repeated, it must be repeated on the same grading basis as the first attempt.

Academic records

Academic records are maintained in the Academic Records Office, 102 O'Dowd Hall (370-3452). Standing reports are mailed to each enrolled student's permanent address of record

at the end of each academic period. Transcripts of academic records may be obtained by completing a transcript request form at the Academic Records Office or by writing Transcript Request, Office of the Registrar, Oakland University, Rochester, Michigan 48309-4401. Requests should include the name under which the student attended, the student's Oakland University student number, the date the student last attended and date of degree (if applicable), the level of last course work and the address to which the transcript is to be sent.

A check or money order of $3 per transcript must accompany the request. Transcripts will not be issued for students who have delinquent indebtedness to the university or who are delinquent in repaying a National Direct Student Loan (NDSL) or Nursing Student Loan (NSL).

Family Educational Rights and Privacy Act

The federal Family Educational Rights and Privacy Act of 1974 pertains to confidential student educational records. This legislation allows students the right to view upon request their own confidential educational records and restricts the use of these records by others.

Oakland University complies with the Family Educational Rights and Privacy Act as indicated in the *Schedule of Classes*, and in the undergraduate and graduate catalogs.

A full statement of students' rights is available in the Office of the Dean of Students (144 Oakland Center, 370-3352). The director of CIPO is the university compliance officer for the Family Educational Rights and Privacy Act. Any questions, grievances, complaints or other related problems may be addressed to the compliance officer (Director of CIPO, 49 Oakland Center, Oakland University, Rochester, Michigan 48309-4401, 370-2020) and/or filed with the U.S. Department of Education.

Other Academic Policies

Policy on ethics in the curriculum

Since the study of moral values is a fundamental part of a liberal education, Oakland University integrates ethical education into its undergraduate programs, with each department or school that offers an undergraduate degree assuming responsibility for considering whether its majors are receiving adequate instruction in the analysis of moral issues relevant to its discipline. Depending on the nature of the discipline, this instruction focuses on one or more of the three dimensions below:

1. Critical evaluation of the reasoning employed on moral issues, with the aim of finding the most rational resolution of the issues;
2. Historical or social-scientific analysis of moral dimensions of society, with the aim of showing how moral values arise and how they influence human behavior;
3. Exploration of moral dimensions of the human condition through literature or the arts, with the aim of appreciating the variety and ambiguity of moral commitment in individual cases.

Curricula introduce students to the general attitudes toward ethical issues prevailing within disciplines and, where applicable, to the kinds of ethical decisions graduates are likely to face in the professions they are preparing to enter.

Honors

Academic honors

At the end of each fall and winter semester, undergraduates who have earned a semester grade point average (GPA) of 3.00 or higher in at least 12 credit hours of numerically graded university work and who have received no 0.0 grades will be recognized for academic achievement. These credits must be earned within the time constraints of the normal semester. Credits or grades for incompletes awarded after the end of the term will not be considered for commendation or honors. Notices of commendation will be sent to undergraduates with GPAs of 3.00 to 3.59. Notices of academic honors will be sent to undergraduates with GPAs of 3.60 to 4.00. Both commendation and academic honors will be recorded on students' academic transcripts.

University honors

The three levels of university honors, cum laude, magna cum laude and summa cum laude, may be awarded with the conferral of a student's earned baccalaureate with the following cumulative grade point average: 3.60-3.74, cum laude; 3.75-3.89, magna cum laude; and 3.90-4.00, summa cum laude.

The awarding of a degree with university honors will be based only on Oakland University credits, and the student must earn at least 62 credits at Oakland University to be eligible for such honors.

Academic conduct policy

All members of the academic community at Oakland University are expected to practice and uphold standards of academic integrity and honesty. Academic integrity means representing oneself and one's work honestly. Misrepresentation is cheating since it means students are claiming credit for ideas or work not actually theirs and are thereby seeking a grade that is not actually earned. Following are some examples of academic dishonesty:

1. Cheating on examinations. This includes using materials such as books and/or notes when not authorized by the instructor, copying from someone else's paper, helping someone else copy work, substituting another's work as one's own, theft of exam copies, or other forms of misconduct on exams.
2. Plagiarizing the work of others. Plagiarism is using someone else's work or ideas without giving that person credit; by doing this students are, in effect, claiming credit for someone else's thinking. Whether students have read or heard the information used, they must document the source of information. When dealing with written sources, a clear distinction should be made between quotations (which reproduce information from the source word-for-word within quotation marks) and paraphrases (which digest the source of information and produce it in the student's own words). Both direct quotations and paraphrases must be documented. Even if students rephrase, condense or select from another person's work, the ideas are still the other person's, and failure to give credit constitutes misrepresentation of the student's actual work and plagiarism of another's ideas. Buying a paper and handing it in as one's own work is plagiarism.
3. Cheating on lab reports by falsifying data or submitting data not based on the student's own work.
4. Falsifying records or providing misinformation regarding one's credentials.
5. Unauthorized collaboration on computer assignments and unauthorized access to and use of computer programs, including modifying computer files created by others and representing that work as one's own.

Unless they specifically indicate otherwise, instructors expect individual, unaided work on homework assignments, exams, lab reports and computer exercises, and documentation of sources when used. If instructors assign a special project other than or in addition to exams, such as a research paper, or original essay or a book review, they intend that work to be completed for that course only. Students must not submit work completed for a course taken in the past or for a concurrent course unless they have explicit permission to do so.

Instructors are expected to maintain the following standards in the context of academic conduct:

1. To inform and instruct students about the procedures and standards of research and documentation required to complete work in a particular course or in the context of a particular discipline.
2. To take practical steps to prevent and detect cheating.
3. To report suspected academic misconduct to the Dean of Students, 144 Oakland Center, for consideration by the Academic Conduct Committee of the University Senate.
4. To present evidence of plagiarism, cheating on exams or lab reports, falsification of records, or other forms of academic conduct before the Academic Conduct Committee.

Students are expected to maintain the following standards in the context of academic conduct:

1. To be aware of and practice the standards of honest scholarship.
2. To follow faculty instructions regarding exams and assignments to avoid inadvertent misrepresentation of work.
3. To be certain that special rules regarding documentation of term papers, examination procedures, use of computer-based information and programs, etc., are clearly understood.
4. To avoid the appearance of cheating.

If students believe that practices by the instructor are conducive to cheating, they may convey this message to the instructor, to the chairperson of the department, or to any member of the student/faculty Academic Conduct Committee (either directly or through the Office of the Dean of Students).

If academic misconduct is determined by the Academic Conduct Committee, the committee assesses penalties ranging from academic disciplinary reprimand, to academic probation, to suspension or expulsion (dismissal) from the university. All conduct records are maintained in the Office of the Dean of Students.

Academic Probation and Dismissal

General information

To stay in good academic standing, students must not allow their cumulative grade point averages (GPA) to drop below 2.00. Some schools and departments establish more selective criteria for satisfactory academic performance within their majors. Students should consult the section of the catalog on their major for specific information.

Undergraduates who make unsatisfactory academic progress toward a degree will be placed on probation in accordance with a university policy that stipulates that students must complete for credit most of the courses for which they register and must do so with a reasonable degree of academic proficiency. Students on probation who fail to meet the minimal standard of progress established by the University Senate will be dismissed from the university.

Undergraduates who are dismissed for unsatisfactory academic progress do not retain the privileges of students in good standing. If dismissed students wish to be readmitted to Oakland University after the compulsory separation period prescribed by the Academic Standing and Honors Committee, they must apply for readmission through the Academic Standing, Readmissions and Withdrawals Office in 154 North Foundation Hall. (If, in the dismissal notice, a student has been informed that readmission will not be considered, the student may not utilize this procedure.)

Questions on Oakland University's probation and dismissal policies should be directed to the Director of Academic Services and General Studies, 121 North Foundation Hall (370-3227).

Principles and practices

The Academic Probation and Dismissal Policy is administered by the Director of Academic Services and General Studies for the University Senate's Academic Standing and Honors Committee. The policy is based on the following principles and practices:

1. The major share of students' educational expenses is provided by the State of Michigan, and it is the responsibility of the university to see that these funds are properly used. If students fail to make satisfactory academic progress toward a degree, dismissal action must be taken by the Academic Standing and Honors Committee.
2. Students are encouraged to make responsible decisions concerning their educational progress. Students who are apparently not benefiting sufficiently from the educational opportunities available at the university are advised to consider other alternatives.
3. Some students new to the university (including transfer students) need a period of adjustment; therefore, no students will be dismissed at the end of their first term at the university. Furthermore, students will not be dismissed without having been placed on probation in the previously enrolled term.

4. Students must have a 2.00 GPA upon graduation. Students with fewer than 80 credits toward graduation and a GPA below 2.00 are normally allowed to continue their studies on probation if it is reasonable to expect that they can sufficiently raise their cumulative GPA. A chart indicating the required minimum GPA for the number of credits earned at Oakland University (including transfer credits) is available from the Academic Standing, Readmissions and Withdrawals Office, 154 North Foundation Hall.
5. Students are notified on their grade reports of their academic standing: code 1 signifies good standing; code 2 signifies probation; code 3 signifies dismissed; and code 4 indicates dismissal option status. (See *Dismissal option status,* below.)
6. The Academic Standing and Honors Committee attempts to assemble and review pertinent information on each student in academic difficulty. Sometimes, however, there is information that would modify a decision if it were available. Consequently, students are advised to appeal their dismissals if they feel there are valid reasons for rescinding dismissal decisions.
7. Students on probation for two consecutive semesters are not eligible for VA (Veterans') benefits.

Probation and dismissal policy

The following probation and dismissal policy applies to all undergraduate, second degree and post-baccalaureate students.

1. Students with a cumulative GPA of 2.00 or above or without an established cumulative GPA are considered to be in good academic standing. (See 4.)
2. Students in good academic standing will be placed on probation at the end of a semester when their cumulative GPA is below 2.00. They will be allowed to remain at Oakland University on probationary status for at least one semester.
3. At the end of a probationary semester, students will be:
   a. returned to good academic standing if their cumulative GPA is 2.00 or higher,
   b. dismissed from the university if their cumulative GPA is below the minimum required GPA based on the total number of Oakland University and transfer credits earned (see the table below), or
   c. continued on probation if a. and b. do not apply. For example, if at the end of a probationary semester, a student has accumulated 46 credits and has a cumulative GPA of 1.77, that student will be allowed to remain at Oakland University on probation.

Oakland University and Transfer Credit Earned	Minimum Required GPA
0-16	1.49
17-32	1.61
33-48	1.73
49-64	1.85
65-80	1.97
81+	2.00

4. In order to establish a cumulative GPA, a student must receive a numerical grade in at least one course at Oakland University, and in the computation of the cumulative GPA, only those courses *at Oakland University* for which a student has received numerical grades are used. If a course has been repeated, the assigned credits for the course are only counted once in the total number of credits attempted and only the most recent numerical grade received is used. The "honor points" for each course are computed by multiplying the numerical grade received by the number of credits assigned to the course. The cumulative GPA is determined by dividing the sum of the honor points for all courses receiving numerical grades by the total number of credits attempted in courses receiving numerical grades at Oakland University.

The appeal process

Students dismissed after a probationary term may appeal the dismissal if they feel there are valid reasons to do so. To appeal, students must complete an official Academic Standing Appeal Form and submit it to the Academic Standing and Honors Committee within 10 calendar days of receipt of the dismissal notice. The forms are available in the Academic Standing, Readmissions and Withdrawals Office, 154 North Foundation Hall (370-3264). If the appeal is approved, the student is placed on dismissal option status, and the dismissal is deferred.

Dismissal option status

Dismissal option status is granted to students whose dismissal appeals are approved, or to students who are readmitted following a previous dismissal for unsatisfactory academic progress. Dismissal option status offers students the opportunity to continue their education on a semester-by-semester basis as long as specific requirements are met. All students on dismissal option status must meet a semester GPA minimum of 2.00 in each enrolled term until good academic standing is resumed. (Good academic standing is achieved when the cumulative GPA is 2.00 or above.) Failure to earn a minimum semester GPA of 2.00 results in reactivation of the dismissal, an action which may not be appealed by the student involved. The Dismissal Option Status program is administered by the Academic Skills Center, 203 Wilson Hall (370-4215).

Academic forgiveness

Students attending Oakland University after an absence of three or more years, who were not in good academic standing prior to their absence, may file a Petition of Forgiveness with the Academic Standing and Honors Committee. The committee may forgive, for academic standing purposes only (probation and dismissal), all or part of the record used to compute probationary and dismissal status. Petitions of Forgiveness may be obtained from the Academic Standing, Readmissions and Withdrawal Office, 154 North Foundation Hall.

Readmission

Readmission is required for all students in the following categories:

1. Students whose attendance has been interrupted for a period of six or more years.
2. Students who are dismissed from the university for insufficient academic progress at the end of their previously enrolled term.

All other undergraduates may return and register for classes without seeking formal readmission.

Students applying for readmission must submit an application to the Academic Standing, Readmissions and Withdrawals Office at least 45 days before the first day of regular registration of the semester or session the undergraduate expects to re-enter. (Failure to apply in this time frame will result in not being allowed to register.)

If successfully readmitted students fail to enroll for the semester or session for which their readmission is granted, that readmission is considered void. If the students wish to enroll for the semester or session immediately following the term for which readmission was granted, they may do so by contacting the Academic Standing, Readmissions and Withdrawals Office in writing, and in doing so, can update their readmission application. However, if such students wish to enroll for for a term *later* than one semester or session following the term for which they were readmitted, they must complete another readmission application and submit it within the 45-day time frame.

Withdrawals

Students dropping all registered credits in a term must follow the withdrawal procedure. Undergraduates withdrawing from the university must do so through the Academic Standing, Readmissions and Withdrawals Office, 154 North Foundation Hall. When students withdraw from the university after the second week of classes (first week in spring and summer sessions) and before the end of the official withdrawal period, W grades will be assigned in all uncompleted courses. Official withdrawal from the university is not permitted after the ninth week of 14-week courses (fifth week of seven-week courses). If students stop attending classes but do not follow the withdrawal procedure, they may receive grades of 0.0.

Undergraduates who plan to return to the university after a six-year interruption should consult the readmission policy above.

UNIVERSITY LIBRARY

Dean: *Suzanne O. Frankie*

Associate dean: *Indra M. David*

Office of the Dean: *Eric Condic, assistant to the dean; Alexis L. Salisz, manager, technical services; Louann Stewart, circulation manager*

Professors: *Suzanne O. Frankie, George L. Gardiner, Janet A. Krompart*

Associate professors: *Indra M. David, Robert G. Gaylor, Mildred H. Merz*

Assistant professors: *William Cramer, Linda L. Hildebrand, Frank Lepkowski, Richard L. Pettengill, Ann M. Pogany, Daniel F. Ring, Kristine S. Condic*

Library Facilities

During 1989, Kresge Library was completely renovated and expanded. These improvements to the library were funded jointly by state appropriation and contributions to the Campaign for Oakland University. This building contains most of the library's collections, including magazines, circulating books, reference works, major library services as well as two computer labs with 70 work stations.

The Instructional Technology Center, located in Varner Hall, provides media services for instructional films and designs and produces programs ranging from slide presentations to audio-visual presentations requiring a television studio. In addition, the Performing Arts Library (also located in Varner) houses a special collection of books, journals, acting editions of plays, musical scores and recordings.

Library Collections

The University Library collection of 1,427,000 items includes 862,000 microforms, 13,900 records and phonotapes, 59,000 periodical volumes and 299,000 circulating and reference books.

Through a $100,000 fund established by Oakland University students in memory of Matilda R. Wilson, the library has an excellent reference collection. The collection includes atlases, bibliographies, dictionaries, encyclopedias, indexes, yearbooks and other reference materials.

The library receives over 2,300 serial subscriptions. Since 1964, the library has been a U.S. Government depository and receives about 60 percent of the depository materials published each year. It also is a depository for Michigan documents. These collections are indexed by the *Monthly Catalog of U.S. Government Publications* and *Michigan Documents*.

The following special collections are included in the library's holdings:

William Springer Collection of Lincolniana and Civil War Materials (1650 monographs)

Hicks Women in Literature Collection (1000 volumes written by or about women in the 17th-20th centuries)

James Folklore Collection (770 folklore monographs, some very rare)

Anglo-Irish Collection (rare monographs, journals, literary works in original typescripts, signed poems and reviews, and original letters to and from literary figures)

Billie Sunday Farnum Collection (papers from Farnum's terms in Congress and other public and political offices and as Michigan auditor general)

University Archives Collection (materials regarding the history, programs and activities of Oakland University); accreditation documents are available to be reviewed in the archives.

Faculty Publications Collection (monographs written by Oakland faculty members)

Library Services

Reference

Librarians are available to answer questions and help students to find information and use library materials.

Library instruction

Teaching faculty and library faculty members collaborate on lectures and demonstrations regarding library usage and research techniques.

Literature search services

Using computer technology, the library's on-line search service provides for customized computer-generated bibliographies of citations in a broad range of subjects. Some data bases are available on CD-ROM for direct patron use.

Interlibrary loans

At the request of library patrons, library staff can arrange to borrow, from other libraries, materials that are unavailable on campus.

OTHER PROGRAMS

On-campus Evening Degree Programs

Students may earn undergraduate degrees at night in 16 major areas: accounting, communication arts, economics, English, finance, general business, general studies, history, human resource development, human resource management, industrial health and safety, journalism, management information systems, marketing, psychology and sociology/anthropology.

In addition, concentrations are available for students attending only in the evening in folklore and popular culture, film aesthetics and history, social justice and corrections, and women's studies. Minors in accounting, communication arts, economics, English, finance, history, human resource development, industrial health and safety, journalism, management, political science, psychology and sociology/anthropology are available to evening students.

Academic advising for evening students will be provided on a walk-in basis Monday through Thursday evenings during fall and winter semesters in the Oakland Center. For information regarding this service, contact the Department of Academic Services and General Studies (121 North Foundation Hall, 370-3227).

Evening Extension Program

Oakland University offers undergraduate courses at various sites in southeast Michigan, including: Dondero, Kimball and Shrine High Schools, Royal Oak; Barnum Rehabilitation and Health Center and Groves High School, Birmingham; Carleton Junior High School, Sterling Heights; and Pontiac Art Center, Pontiac.

Extension courses also are offered to businesses, government agencies, private agencies and civic groups. The courses provide special instruction to the employees or members of these organizations. Most courses can be taught at the organization's facility. Course content is structured to address specific needs or goals identified by the organization.

Extension course cancellation

Oakland University reserves the right to cancel any extension course that does not have sufficient enrollment. All tuition and fees applicable to the cancelled section will be automatically refunded when a course is cancelled.

Continuing Education

Director: *Pamela A. Marin*

Office of the Director: *Gloria Boddy, B.S., Program Director, Legal Assistant and Personal Financial Planning Programs; Nadine E. Jakobowski, B.S., Director of Marketing and Program Director, Health and Medical Programs and Noncredit Computer Courses; Kathryn LeBlanc, M.P.A., Assistant Program Director, Legal Assistant Program, Director, Educational Voyage Series; Katherine Z. Rowley, Program Director, Plastics Technology Program and Business and Industrial Programs; Carmen Thomas, B.S., Program Director, Paraprofessional Accountant, Production and Manufacturing Management and CPA Programs*

Continuing Education noncredit programming includes cooperating with business and industry, governmental units, health care and other organizations in conducting university-level programs to meet professionals' needs. Noncredit offerings are revised continually to meet the expressed needs of nontraditional adult learners, as individuals and as members of organized groups.

Primarily evening non-credit diploma programs and courses are conducted in professional, paraprofessional and vocational subjects, providing on-site or on-campus updates for business, industry and governmental units.

Courses and workshops that provide technical update in such areas as statistical process (quality) control, and computer skills are offered as well as courses in areas of current significance, such as personal financial planning and investment. Also offered are diploma programs, as well as a certificate program in personal financial planning.

Continuing Education administers, on site, credit as well as non-credit corporate training and education programs in statistical methods, quality control and plastics technology. All non-credit programs and courses carry the nationally recognized Continuing Education Unit (CEU). CEUs make it possible to document non-credit work and provide a means to build a permanent record of achievement valuable for evidence of increased capabilities and for job advancement. One CEU equals 10 contact hours of participation in an organized continuing education experience.

Professional staff development programs for business and industry

Continuing Education provides on-site professional staff development programs for business and industry for both credit and non-credit. Offered are programs in applied statistics, co-sponsored with the Department of Mathematics of the College of Arts and Sciences, and production and manufacturing management, cosponsored with the School of Business Administration. Clients served by these programs include Ford Motor Company, General Motors Corporation, Chrysler Corporation, Federal Mogul Corporation and Eaton Corporation, automotive suppliers, as well as small to mid-size businesses.

The Executive Roundtable, cosponsored by Continuing Education and the School of Business Administration, provides a unique opportunity for presidents of small to mid-size companies to meet. Executives meet four times annually in the Meadow Brook Hall library to exchange ideas informally, to hear experts and to discuss case studies.

Diploma, certificate and relicensure programs

Diploma programs, a series of courses related to individual objectives, are offered in plastics technology and as preparation for becoming a legal assistant and a paraprofessional accountant.

The Plastics Technology Diploma Program, co-sponsored with the Society of Plastics Engineers, is designed to update those in technically oriented positions and to provide basic knowledge for individuals who wish to enter the plastics industry.

The Legal Assistant Diploma Program, approved by the American Bar Association, is an 18-month evening program that trains paraprofessionals to perform law-related duties for attorneys in a variety of workplaces. Certain legal assistant courses have been approved for one hour of undergraduate credit in political science. Eight credits of these courses can be applied toward a major in political science. For more information on undergraduate credit, see the political science listings or contact the legal assistant program director in Continuing Education.

The Paraprofessional Accountant Diploma Program is a 15-month program developed in conjunction with business firms to impart skills to paraprofessionals who provide vital support for accountants.

A Certificate Program in Personal Financial Planning, offered in conjunction with the School of Business Administration, augments the professional training of individuals with a broad range of business experience (including Certified Public Accountants who are seeking relicensure hours). The program is designed for individuals who are now or might become involved in advising clients about financial planning, to prepare them to sit for the CFP (Certified Financial Planner) exam.

Qualifying hours for CPA relicensing are periodically offered during special weekend programs in November, May and June.

A new program offered in cooperation with the School of Business Administration, the Production and Manufacturing Management Certificate Program, is designed to improve manufacturing and production systems for the purpose of remaining competitive in today's market.

Renewal of the Humanities

Classic literature and great minds from all disciplines are offered for study in noncredit programs through the new Educational Voyage Series. The series expands the university's mission to members of the community who may not wish to pursue a degree curriculum.

Educational test preparation workshops

Test preparation workshops for the Scholastic Aptitude Test (SAT), American College Test (ACT, Graduate Record Exam (GRE), Graduate Management Admissions Test (GMAT), Law School Admissions Test (LSAT), and Pre-Professional Skills Test (PPST) are offered year-round. The SAT and ACT workshops are designed for college-bound high school students or individuals who decide to enter a college program after an interruption of the traditional high-school-to-college progression. The GRE and GMAT workshops are designed for individuals seeking admission to a post-baccalaureate degree program; the LSAT, for those applying for entry into law school; and the PPST, for those seeking teacher certification at Oakland University.

Conferences

Conferences on topical subjects are offered on a limited basis. Included among the offerings are: the Writer's Conference, which has been conducted each fall for more than 25 years; the Quality and Productivity Improvement Conference, co-sponsored by Continuing Education with automotive industry manufacturers and suppliers; the Prevention of Coronary Heart Disease Symposium, co-sponsored by Continuing Education and the Meadow Brook Health Enhancement Institute.

Athletics

Intercollegiate sports

Oakland University is a member of the National Collegiate Athletic Association (NCAA) Division II. Oakland male student-athletes participate in intercollegiate baseball, basketball, cross country, golf, soccer, swimming and tennis. Oakland female student-athletes participate in basketball, swimming, tennis and volleyball. The university is also affiliated with the Great Lakes Intercollegiate Athletic Conference (GLIAC). Other GLIAC schools include Ferris State University, Grand Valley State University, Hillsdale College, Lake Superior State University, Michigan Technological University, Northwood Institute, Saginaw Valley State University and Wayne State University.

Oakland University is recognized across the country for its outstanding athletic program. Most teams compete successfully at the national level and numerous athletes have been awarded All-American honors.

Intramural activities

The Hollie L. Lepley Sports Center, named in honor of Oakland's first director of athletics, is open seven days a week. Thousands of students participate in the university's well-rounded intramural program yearly. Fall intramural activities include men's and women's and coed softball, men's and women's cross country, men's and women's touch football, men's and women's floor hockey, men's and women's racquetball (individual), men's and women's tennis (individual) and women's and coed basketball. The winter program includes men's, women's and coed volleyball, men's and women's indoor soccer, men's and women's swimming, men's basketball and coed floor hockey. Students, faculty and staff participate on committees for organization, implementation and administration of the intramural program.

The Hollie L. Lepley Sports Center has facilities for basketball, combatives, dance, fencing, golf, handball, paddleball, racquetball, squash, swimming and weight training. Its outdoor areas include the 18-hole Katke-Cousins Golf Course, a golf practice and instruction area, softball and baseball diamonds, tennis courts, a soft-surface 1/4-mile track, soccer fields, touch football fields and acres of terrain for hiking, cross-country running and cross-country skiing.

COLLEGE OF ARTS AND SCIENCES

207 VARNER HALL (313) 370-2140

Dean: *John K. Urice*

Office of the Dean: *David J. Downing, associate dean; Isaac Eliezer, associate dean; Brian F. Murphy, director of the Honors College; Thomas F. Kirchner, administrator for college services; Rosemary Robinson, advising coordinator; Janice Elvekrog, administrative assistant; Marcy Ford, academic adviser.*

Role and Mission of the College

The primary mission of the College of Arts and Sciences is to provide students with a liberal education. A liberal education broadens awareness of the major areas of human knowledge, significantly deepens knowledge in one or more such areas, and lays the foundation for a lifetime of learning by enlarging those powers of mind and spirit needed not only for professional success but also for the enrichment of personal life.

Teaching is a central mission of the college and a major responsibility of its faculty. The college develops and provides graduate and undergraduate courses and programs, including a program of general education, which form the core of the university's curriculum. Across the range of its offerings, the college commits itself to excellence in the preparation of majors, in interdisciplinary studies, in general education and in graduate studies. It is the college's responsibility to educate people to become rational and morally sensitive human beings and citizens and, equally important, to acquire the skills and information that will be required of them in the various professions.

The college offers instruction leading to the Bachelor of Arts, Bachelor of Music, Bachelor of Science, Master of Arts, Master of Music, Master of Science and Doctor of Philosophy degrees. In conjunction with the School of Education and Human Services, it offers instruction leading to certification in a modern language and literature, biology, chemistry, mathematics, music and physics; and to the Master of Arts in Teaching degree.

Admission

Departmental rather than college-wide regulations govern admission to the college's majors. Students should maintain close contact with faculty advisers in the department in which they wish to major and with the college advising office.

Requirements for Bachelor of Arts and Bachelor of Science Degrees

General requirements

Each student must:

1. Complete at least 124 credits; the Bachelor of Music degree and Bachelor of Science degree in environmental health require completion of 128 credits. No more than 8 credits in physical education will count toward a degree in the College of Arts and Sciences.
2. Complete the requirements for a major offered by the College of Arts and Sciences with a cumulative grade point average of at least 2.00.

3. Complete at least 32 of these credits at Oakland University, of which at least 16 credits must be in the student's elected major.
4. Complete at least 32 credits in courses at the 300 level or above.
5. Complete the last 8 credits (to complete baccalaureate requirements) at Oakland University.
6. Earn a cumulative grade point average of at least 2.00 in courses taken at Oakland University and in the major(s) and any elective minor(s).
7. Obtain certification of writing proficiency (see *Undergraduate degree requirements*).
8. Complete the university's general education requirement (see *Undergraduate degree requirements*).
9. Complete the college distribution requirements described below.

College distribution requirements

In addition to satisfying the university-wide general education requirements, students seeking the Bachelor of Arts degree must complete 16 additional credits distributed in four of the six categories listed below. Students seeking the Bachelor of Science degree need complete only 12 additional credits in three of the six areas listed below. These credit requirements may be lower for students with sufficient preparation in a foreign language (see Note 1 below). An approved interdisciplinary course may be used in lieu of one of the six distribution categories (see Note 2 below).

Candidates for the Bachelor of Music degree must complete 4 credits in each of three different distribution areas. With the approval of the Department of Music, Theatre and Dance, however, a student may substitute a non-music course from the university general education arts category for a course in one of the other areas comprising the college distribution requirements.

None of these requirements may be met by independent study courses, internships or teaching methods courses. Unless otherwise noted, courses in the major may be applied toward these requirements; restrictions apply only to students majoring in social science disciplines (see Note 3 below) and transfer students (see *Special provisions for transfer students*, below).

Distribution categories

1. Foreign language: 4 credits in a modern foreign language numbered 115 or higher.
2. Arts and literature: An additional 4 credits from either the university general education field category lists in arts and literature; literature courses at the 300 level or higher in a modern foreign language; or art or art history, cinema, dance, English, music or theatre courses at the 300 level or higher, except for writing courses (AH 300; ENG 310, 380, 382 and 410).
3. Civilization: An additional 4 credits from either history, philosophy or international studies courses listed in the university general education field categories of Western civilization or international studies; or history or philosophy courses at the 300 level or higher.
4. Social sciences: An additional 4 credits in anthropology, economics, political science, psychology or sociology from either the university general education field category list in social science, or courses at the 300 level or higher in any of these disciplines or linguistics courses ALS 334, 335, 373, 374, 375 or 376. (See Note 3 below.)
5. Mathematics: An additional 4 credits in mathematical sciences courses (MTH, APM, STA, MOR but not MTE) numbered 121 or higher.
6. Science: An additional 4 credits in biology, chemistry, environmental health or physics.

Notes

1. Four credits in a modern language course numbered 115 or higher may be used to satisfy two requirements at once: the general education requirement in language and the foreign language distribution category.
2. An approved interdisciplinary course may be used in lieu of one of the six distribution categories. Interdisciplinary courses which have been approved by the College of Arts and Sciences for this purpose will be listed in each semester's *Schedule of Classes*; they currently include AMS 300, ENV 311 and WS 200. Additional information may also be obtained from the College of Arts and Sciences Advising Office.

3. Majors in one of the social science disciplines who want to use social science courses to satisfy part of the distribution requirement must take these courses in a social science discipline different from the major.

Majors

Students must fulfill all requirements of their elected majors as described in the departmental entries. A cumulative grade point average of 2.00 in the major is required for graduation.

Majors offered by the College of Arts and Sciences are listed below. There are no college-wide regulations governing admission to major standing or retention in the majors. Each department controls its own procedures in these areas. Therefore, students are urged to maintain close contact with faculty advisers in the department in which they wish to major and with the College of Arts and Sciences Advising Office. The majors are:

Anthropology (B.A.)
Applied Statistics (B.S.)
Art History (B.A.)
Biology (B.A. or B.S.)
Biochemistry (B.S.)
Chemistry (B.A. or B.S.)
Communication Arts (B.A.)
Economics (B.A.)
English (B.A.)
Environmental Health (B.S.)
History (B.A.)
International Studies (B.A.)
Journalism (B.A.)
Linguistics (B.A.)
Mathematics (B.A. or B.S.)
Modern Languages and Literatures (B.A.)
Music (B.A. or B.Mus.)
Philosophy (B.A.)
Physics (B.A. or B.S.)
Political Science (B.A.)
Psychology (B.A.)
Public Administration (B.S.)
Sociology (B.A.)

Secondary Teacher Education Program (STEP)

In cooperation with the School of Education and Human Services, the College of Arts and Sciences offers an extended program of study leading to secondary teaching certification. The Secondary Teacher Education Program (STEP) is available to majors in biological sciences, chemistry, mathematics, modern languages and literatures, and physics. For information on program and admission requirements and procedures, please consult with advisers in the appropriate department and the School of Education and Human Services.

Other College Programs

Minors for liberal arts degree programs

Minors are not required by the College of Arts and Sciences for baccalaureate programs, but the college offers a number of liberal arts minors that students may pursue in addition to the required major. A cumulative grade point average of 2.00 is required in courses included in the minor. At least 8 of the credits offered for each minor must be taken at Oakland University. Courses that meet both minor requirements and general education or college distribution requirements may be used to meet both of these requirements. The catalog chosen for the student's major will also be used to determine degree requirements for any minor the student may be pursuing unless a written plan of study has been approved by the department or school offering that program. Forms for planning and approval of minors are available from departments or the Academic Services office (121 North Foundation Hall). If a department or program does not require an approved plan of study, a student is still entitled to negotiate in writing a minor or concentration with the program coordinator.

The college offers the following minors*: advertising (see *Rhetoric, Communications and Journalism*), anthropology, art history, biology, chemistry, communication arts (see *Rhetoric, Communications and Journalism*), dance, economics, English, history, international studies, journalism (see *Rhetoric, Communications and Journalism*), linguistics, mathematics, modern languages, music, philosophy, physics, political science, psychology, science (see "Other Academic Options"), sociology, studio art (see *Art and Art History*) and theatre.

Minors from other academic units are also accepted by the college for students graduating with a major from the College of Arts and Sciences. Requirements for these minors are described under departmental entries as indicated. These minors* include: in the School of Business

Administration, accounting, finance, international management, management and quantitative methods; in the School of Education and Human Services, human resource development; and in the School of Engineering and Computer Science, computer science.
**These minors do not count toward an elementary or a secondary teaching credential. For further information on minors without page references, see the departmental chapter of the same name.*

Biochemistry program

This interdepartmental program offers a Bachelor of Science degree with a major in biochemistry. Students may apply for admission to the biochemistry program after completing 16 credits of the core program with a grade point average of 2.50 or better. For details about requirements for the Bachelor of Science degree with a major in biochemistry, see program listings following department entries in this section.

Environmental health program

Designed to integrate applied scientific specialties within the broad field of environmental health, the environmental health curricula prepare students for a variety of professional opportunities in government and the private sector, and for graduate study in such fields as toxic substance management, public health, toxicology, industrial hygiene and environmental planning. For details about requirements for the Bachelor of Science degree with a major in environmental health, see program listings following department entries in this section.

Concentrations

The College of Arts and Sciences offers a number of concentrations that students may pursue in addition to a departmental major. Concentrations are elective and are not required for graduation. No specific grade point average is required for completion of any given concentration. As a general rule, no more than 8 credits of course work used to satisfy one major, minor or concentration may be applied toward another, but exceptions to this rule may be allowed with the written approval of the program coordinators. Courses that meet both concentration requirements and general education or college distribution requirements may be used to satisfy both of these requirements. The catalog chosen for the student's major will also be used to determine degree requirements for any concentration the student may be pursuing. Students should file the university's Minor Authorization Form with the department or school offering that program.

Concentrations are described under "Other Academic Options," following the departmental listings in this catalog: American studies, archaeology, energy studies, environmental studies, film aesthetics and history, folklore and popular culture, gerontology, human and industrial relations, Michigan studies, preprofessional studies in medicine, dentistry and optometry, religious studies, social justice and corrections, social services, urban studies and women's studies. Information about pre-law studies and the liberal arts minor in science can be found following "Other Academic Options" in the Arts and Sciences portion of the catalog.

Secondary teaching minors

Secondary teaching minors are not required by the College of Arts and Sciences for baccalaureate programs, but are required of secondary school teachers seeking certification by the Michigan Department of Education.

A cumulative grade point average of 2.00 is required in courses included in the minor. At least 8 of the credits offered for each minor must be taken at Oakland University. Courses taken to satisfy general education or college distribution requirements may also be used to meet those for the teaching minor. Only programs entitled "Secondary Teaching Minor" will be certified by the Michigan Department of Education. The college offers the following secondary teaching minors, which are described in detail under departmental entries: biology, chemistry, English, history, mathematics, modern languages, music, physics and speech (see Rhetoric, Communications and Journalism).

Center for International Programs

The center offers majors and minors in international studies; it also sponsors study abroad programs for students and the general public. For information about majors see the center's departmental listing. For information about other programs, consult with the center director, Carlo Coppola.

Academic Advising

In order to help students develop and achieve their academic goals, the college offers an advising program staffed by faculty advisers in each academic department and by professional advisers in the Arts and Sciences Advising Office, located in 219 Varner Hall (370-4567). All students are expected to meet with an adviser on a regular basis. Students who need assistance with course selection, registration, major and career choice or have questions about college and degree requirements, academic standing, transfer credit and petitions of exception should meet with an adviser in the Arts and Sciences Advising Office.

Undecided students interested in programs offered by the college should meet with an adviser in the Arts and Sciences Advising Office each semester until they declare a major; once a major in the college has been declared, students should meet initially with a departmental adviser to establish a program plan and periodically thereafter to ensure that they are completing major requirements. Frequent adviser contact will help ensure that the student has current academic information and is making good progress toward a degree.

Seniors are urged to meet with an adviser for a graduation check prior to final registration. It is the responsibility of each student to know and meet graduation requirements and to make every effort to obtain adequate academic advising.

Policies and Procedures

Special provisions for transfer students

The university's general education requirements and the college's distribution requirements call for a distribution of courses among various fields as well as a total number of credits. Students transferring from other institutions may meet a 4-credit field requirement with an appropriate 3-credit transfer course. Such students, however, must take additional courses from any of the field categories to bring the total number of credits completed up to the numbers required for their degree: 32 general education credits plus 16 college distribution credits for the Bachelor of Arts; 32 general education credits plus 12 college distribution credits for the Bachelor of Science.

No more than 8 credits in the major discipline and 8 credits in other courses required for the major may be counted toward these credit totals, however, except by students majoring in linguistics or journalism. For distribution purposes, cross-listed courses count under the department in whose listing the course description is given in full. Students who have completed the MACRAO Agreement must complete the college distribution requirements in addition to the two courses required to complete the university general education requirements. A student who has completed 62 credits semester hours of credit from any accredited institution(s), including Oakland University, may not transfer additional credits from a community or junior college. (See *Transfer student information*.)

Departmental honors

Requirements for awarding departmental honors to students who demonstrate outstanding academic achievement are determined by each department. Please consult the chief academic adviser in each department for the specific details of these requirements.

Multiple majors

Students who elect to major in more than one area in the College of Arts and Sciences must satisfy the specific requirements of each of the majors they choose. Such students are single degree

candidates with more than one major and must satisfy the general and specific requirements applicable to the awarding of one degree, either a Bachelor of Arts or Bachelor of Science. Forms for students requesting an additional major are available in the advising office and should be completed by students wishing to graduate with more than one major.

Under certain conditions, a student may earn more than one degree. Such students are double-degree candidates. For information on the restrictions that apply to the awarding of more than one degree and the requirements that double-degree candidates must satisfy, please see *Additional undergraduate degrees and majors*.

Independent majors

Students interested in academic areas in which no suitable major program is available may petition the college Committee on Instruction for an individually tailored independent major in place of one of the departmental majors listed above. An independent major also may be taken as part of a double-major program in conjunction with a regular departmental major, provided that no course counted toward completion of the departmental major is also counted toward completion of the independent major. Students will be admitted to the independent major only after completing 32 credits but before completing 90 credits. For the specific requirements of an independent major, consult the College of Arts and Sciences Advising Office.

Additional Information

Field experience program

The College of Arts and Sciences offers, by means of departmental courses numbered 399, opportunities for students to earn credit for academic work concurrent with field work experience. Emphasis is on the academic aspect of this program that incorporates student performance in the field. Students are required to make an intellectual analysis of the field experience based on their academic program.

The 399 courses carry 4 credits each, are numerically graded and may not be repeated for additional credit. Students wishing to participate in this program are expected to be at the junior or senior level and must have completed at least 16 credits in the department in whose 399 course they wish to enroll. Individual departments may have specific prerequisites in addition to these. For details, consult one of the departments participating in this program: art and art history, biological sciences, history, modern languages and literatures, philosophy, psychology and sociology and anthropology.

Cooperative education

Students majoring in one of the arts and sciences disciplines have the opportunity to participate in a cooperative education (co-op) program. Co-op offers students the chance to obtain work experience directly related to their chosen careers or fields of study. For example, chemistry majors may work in chemistry laboratories, prelaw students in law offices and journalism and communications majors in various writing jobs. By involving students in an on-the-job experience, co-op helps them make decisions about their future careers. And in addition to augmenting their classroom work, it helps them defray the cost of college.

To participate in the co-op program, students should have junior or senior standing, a 3.00 grade point average and the approval of their faculty adviser. Students must agree to accept employment for at least two semesters and should not expect to work only during the spring and summer terms. Interested students should contact the coordinator of cooperative education in the Department of Placement and Career Services.

Interschool M.B.A. program

For superior undergraduate students in any major in the college, the School of Business Administration offers the Master of Business Administration (M.B.A.) degree. This is a two-

year professional program in management designed for students with non-business undergraduate majors. Undergraduate business or management majors may take a variation of the standard M.B.A. program.

Arts and sciences undergraduates working on a major other than one of the business areas may obtain both the undergraduate degree and M.B.A. in an accelerated program. To be eligible, students should have a grade point average in the top 15 percent of their class. Students should apply to the School of Business Administration for admission to this accelerated program in their junior year (see the *Oakland Unversity Graduate Catalog*).

DEPARTMENT OF ART AND ART HISTORY

307 WILSON HALL (313) 370-3375

Chairperson: *Charlotte V. Stokes*

Professors: *Carl F. Barnes, Jr. (Art History and Archaeology), John L. Beardman (Studio Art), John B. Cameron (Art History), Charlotte V. Stokes (Art History)*

Associate professors: *Janice G. Schimmelman (Art History), Susan E. Wood (Art History)*

Assistant professor: *Bonnie F. Abiko (Art History)*

Lecturers: *Andrea Eis (Studio Art), Monica Molinaro (Studio Art), Paul Webster (Studio Art)*

Chief adviser: *Susan E. Wood*

Art history is an ideal curriculum for students who wish to investigate a broad range of humanistic disciplines. The visual arts are studied in their historical context in terms of the cultural, economic, philosophical, political, religious, social and technological conditions that determine content and form.

The art history program provides both majors and non-majors with a thorough introduction to the visual arts of various cultures throughout history. It is strengthened by visiting lecturers in special fields, group visits to the Detroit Institute of Arts and to other public and private art collections in metropolitan Detroit, and study of special exhibits at Oakland University's Meadow Brook Art Gallery. The art and art history program cooperates with concentrations in American studies, archaeology, international studies, Michigan studies and women's studies.

The department offers a program of study leading to the Bachelor of Arts degree with a major in art history. This program is intended for students who wish directed study in art history and for students who are contemplating a career in one of the fields for which art history is a basis — aesthetics and criticism, archaeology, architecture, college teaching, special library collections, art publishing, fine arts, conservation, historic preservation, museum curatorship and urban design. Minors in art history and studio art are also available.

Requirements for the liberal arts major in art history

A minimum of 40 credits in art history courses, distributed as follows:

1. AH 100 and 101
2. AH 300, which must be taken early in the student's major course work; no more than 20 credits in the art history major may be taken prior to this course.
3. 20 credits from the following (at least one course must be selected from each category except non-Western, from which category two courses must be selected):
   Non-Western: AH 104, 301, 302, 304, 305, 307, 308 and 320
   Ancient/medieval: AH 310, 312, 314, 322 and 326
   Renaissance/baroque: AH 330, 334 and 340
   American/modern: AH 350, 363, 364, 365 and 367
4. 4 elective credits from AH courses
5. One AH course at the 400 level
6. One studio art course (4 credits) as a cognate to the major

Departmental faculty also recommend that art history majors acquire computer and word-processing skills before entering graduate school or seeking employment in the profession.

Departmental faculty recommend that students intending to pursue graduate study complete, in addition to the above requirements, AH 400, one other 400-level course, and at least one year of college-level foreign language.

Departmental honors in art history

Students wishing to be considered for departmental honors may petition for honors or be recommended by a department faculty member. In awarding honors, the faculty takes into consideration grade point average (GPA), citizenship within the department, classroom performance and/or scholarship as evidenced by a significant research paper.

There is no minimum grade point average required for honors, but consideration will normally be given only to students who have completed 20 credits of art history study at Oakland University with a GPA of 3.60 or higher. If a research paper is to be submitted for consideration, it should be submitted at least three weeks prior to the end of the semester in which the student intends to graduate.

Requirements for the liberal arts minor in art history

A minimum of 20 credits in art history courses, to be distributed as follows:

1. AH 100 and 101
2. A total of 8 credits, 4 each from any two of the following categories:
   Ancient/medieval: AH 310, 312, 314, 322, 326
   Renaissance/baroque: AH 330, 334, 340
   American/modern: AH 350, 363, 364, 365, 367
3. 4 elective credits from AH courses

Requirements for the liberal arts minor in studio art

A minimum of 20 credits in studio art courses, to be distributed as follows:

1. SA 100 and one of the following: SA 101, SA 107
2. Three courses at the 200, 300 and 400 level, at least one of which must be at the 300 or 400 level.

Course Offerings

ART HISTORY

AH 100 Introduction to Western Art I (4)
History and analysis of the visual arts of western Europe from prehistoric times through the Medieval period. *Satisfies the university general education requirement in arts.*

AH 101 Introduction to Western Art II (4)
History and analysis of the visual arts of western Europe from the Renaissance to the present. *Satisfies the university general education requirement in arts.*

AH 104 Introduction to Asian Art (4)
Introduction to the monuments of Asian Art, including India, China and Japan.

AH 300 Art History Writing and Critical Thinking (4)
Practice in writing about art from various points of view, basic research and word processing techniques, and analytical reading of art history texts. AH 300 must be taken early in the student's major course work; no more than 20 credits in the art history major may be taken prior to this course.
Prerequisite: RHT 101 or equivalent.

AH 301 Japanese Art (4)
The development of architecture, sculpture and painting in Japan from A.D. 400 to A.D. 1900.
Prerequisite: 4 credits in art history or IS 220 or permission of instructor.

AH 302 Indian Art (4)
The development of architecture, sculpture and painting in India from prehistoric to modern times.
Prerequisite: 4 credits in art history or IS 240 or permission of instructor.

AH 304 Chinese Art (4)
The development of architecture, sculpture and painting in China from the Shang Dynasty, ca. 1550 B.C. until the founding of the Chinese Republic, A.D. 1912.
Prerequisite: 4 credits in art history or IS 210 or permission of instructor.

AH 305 African Art (4)
The arts of the indigenous peoples of West, Central and East Africa. May be offered concurrently at the graduate level as AH 505.
Prerequisite: 4 credits in art history or IS 230 or permission of instructor.

AH 307 Pre-Columbian Art (4)
The arts of the Indians of Mexico, Central America and South America prior to the Spanish Conquest.
Prerequisite: 4 credits in art history or IS 250 or permission of instructor.

AH 308 North American Indian Art (4)
Native American art of the United States and Canada.
Prerequisite: 4 credits in art history or permission of the instructor.

AH 310 Art of the Ancient Near East (4)
The architecture, sculpture and painting of Egypt, Mesopotamia, Iran, Asia Minor and Syria from the Neolithic to the Roman period.
Prerequisite: AH 100.

AH 312 Greek Art (4)
The development of architecture, sculpture and painting in the pre-Hellenic, Aegean civilizations and in Classical Greece from ca. 3000 B.C. until the period of Roman domination in the Mediterranean area, ca. 100 B.C.
Prerequisite: AH 100.

AH 314 Roman Art (4)
The development of architecture, sculpture and painting in Etruria and in the Roman Republic and Empire from ca. 600 B.C. until the relocation of the capital at Constantinople in A.D. 330.
Prerequisite: AH 100.

AH 320 Islamic Art (4)
The development of architecture and painting in Islam from the seventh to the eighteenth century A.D. with reference to the countries of the Fertile Crescent, North Africa, Arab and Moorish Spain, Egypt, Persia, Turkey and Muslim India.

AH 322 Early Medieval, Byzantine, and Romanesque Art (4)
The development of architecture, sculpture and painting in Christian Europe from A.D. 330 through the apex of monasticism, ca. A.D. 1150.
Prerequisite: AH 100.

AH 326 Gothic Art (4)
The development of architecture, sculpture and painting in western Europe from ca. 1150 through the period of the Crusades and medieval urbanism, ca. 1400.
Prerequisite: AH 100.

AH 330 Renaissance Art in Italy (4)
The development of architecture, sculpture and painting in Italy during the Renaissance from 1300 to 1600.
Prerequisite: AH 101.

AH 334 Renaissance Art in Northern Europe (4)
The development of architecture, sculpture and painting in northern Europe from 1400 to 1600.
Prerequisite: AH 101.

AH 340 Baroque Art (4)
The development of architecture, sculpture and painting in western Europe from 1600 to 1700.
Prerequisite: AH 101.

AH 345 German Art (4)
The development of painting, sculpture and architecture in the Germanic countries from the Renaissance to the present.
Prerequisite: AH 100 or AH 101.

AH 348 English Art (4)
The development of architecture, sculpture and painting in Britain from the Renaissance through the nineteenth century.
Prerequisite: AH 101.

AH 350 American Art (4)
The development of architecture, sculpture and painting in the United States from the early colonial period to World War I.
Prerequisite: AH 101.

AH 351 Women in Art (4)
The traditional image of woman in art and the contribution of women artists in Europe and the United States from the Middle Ages until the present. Identical with WS 351.
Prerequisite: AH 101.

AH 352 African-American Art (4)
The arts of African-Americans from the colonial period to the present.
Prerequisite: AH 101.

AH 355 Michigan Architecture (4)
The development of the commercial, domestic, industrial, public and religious architecture of Michigan from the period of early settlement to the present. May be offered concurrently at the graduate level as AH 555.

AH 360 History of Automobile Design (4)
The aesthetic, social and technological aspects of automobile design from the nineteenth century to the present.
Prerequisite: AH 101.

AH 363 Modern Architecture and Urban Design (4)
The development of architecture and urban design in Europe and the United States from the Industrial Revolution to the present.
Prerequisite: AH 101.

AH 364 Nineteenth-Century Art (4)
The development of sculpture, painting and printmaking in the western world from the French Revolution to 1900.
Prerequisite: AH 101.

AH 365 Twentieth-Century Art (4)
The development of sculpture, painting and related media in the western world from 1900 to the present.
Prerequisite: AH 101.

AH 366 History of Photography (4)
The development of still photography as an art and its relationship to other visual arts since 1830.
Prerequisite: AH 101 or SA 266 or permission of instructor.

AH 367 Film and the Visual Arts (4)
The relationship between films and various plastic arts such as still photography, sculpture and painting, as they reflect some twentieth-century artistic movements (op art, surrealism, cubism, expressionism, etc.).
Prerequisite: AH 101 or CIN 150.

AH 370 The Graphic Arts (4)
The graphic arts in Europe and America from 1450 to 1900, including printmaking techniques, collecting and conservation. Students will work with original prints.
Prerequisite: AH 100 and AH 101.

AH 380 Museology and Patronage (4)
The study of modern museums (collections, conservation, organization), historical societies, corporate patronage and private collecting. The course format will include illustrated lectures and field trips.
Prerequisite: 16 credits in art history, of which at least 8 must be at the 300-400 level.

AH 390 Topics in Art History (4)
Specific topics in art history for which no regular course offerings exist. Topic, instructor and prerequisite will be announced before each offering. May be repeated for 4 additional credits.
Prerequisite: Permission of instructor.

AH 391 Readings in Art History (2)
Specific readings projects in art history, art criticism, connoisseurship and conservation. May be repeated in a subsequent semester under a different instructor for a total of 4 credits.
Prerequisite: 16 credits in art history, of which at least 8 must be at the 300-400 level and permission of instructor.

AH 399 Field Experience in Art History (4)
Field experience in art history under faculty supervision. An academic project which incorporates student performance in an occupational setting. May not be repeated for credit or taken by students who have received credit for SA 399.
Prerequisite: 16 credits in art history, of which at least 8 must be at the 300-400 level and permission of instructor.

AH 400 The Bibliography and Methodology of Art History (4)
Advanced research techniques in art history using bibliographies, other references (e.g., sales catalogs), and electronic databases.
Prerequisite: 16 credits of art history, including AH 300 and one other art history course at the 300-400 level.

AH 401 Seminar in Asian Art (4)
Topics in the art of India, China, Japan and Southeast Asia. May be taken for up to 8 credits in two semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 405 Seminar in Tribal Art (4)
Topics in the art of the indigenous peoples of Black Africa, America and Oceania. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 410 Seminar in Ancient Art (4)
Topics in the ancient art of Greece, Rome and the Near East to the fourth century. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 420 Seminar in Medieval Art (4)
Topics in the art of Medieval Europe from the fourth century to the beginning of the Renaissance. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 430 Seminar in Renaissance and Baroque Art (4)
Topics in the art of Europe from the fourteenth to eighteenth centuries. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 450 Seminar in American Art (4)
Topics in American art from the colonial period to World War II. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 460 Seminar in the Art of the Modern Era (4)
Topics in Western art from the French Revolution to the present. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 470 Seminar in Art Media and Techniques (4)
Topics in the traditions and uses of a single medium or technique, such as (but not limited to) printmaking, bronze casting, oil painting, photography and video. May be taken for up to 8 credits in two separate semesters.
Prerequisite: 20 credits of art history and appropriate course in topic area, which will be announced before each offering.

AH 491 Directed Research in Art History (4 or 8)
Directed individual research for advanced art history majors.
Prerequisite: 16 credits of art history, of which at least 8 must be at the 300-400 level and permission of instructor.

STUDIO ART

The departmental program of study leading to the Bachelor of Arts degree with a liberal arts major in studio art has been suspended, and no new candidates for this major will be accepted. The department will continue to offer courses in studio art, as well as the liberal arts minor in studio art. Studio art courses are offered as general electives for all students and as a complement to the art history program.

SA 100 Drawing, Painting and Visual Thinking (4)
Exploration of the possibilities of translating observations into visual structures, including drawings from nature. Emphasis is on process rather than product. Theory and historical background will be given.

SA 101 Introduction to Sculpture (4)
Exploration of the methods and theories used in creating three dimensional structures.

SA 107 Introduction to Drawing (4)
Introduction to the tools and methods of drawing as a means to observe the physical world accurately and to develop visual ideas more clearly. Emphasis is on skill development.

SA 110 Introduction to Watercolor (4)
Exploration of basic drawing, design and color using the medium of watercolor.

SA 200 Basic Studio (4)
Continuation of SA 100, dealing with the processes of creating structures, but with more emphasis on conceptualization.
Prerequisite: A 100-level course in studio art.

SA 201 Intermediate Sculpture (4)
Continuation of SA 101.
Prerequisite: SA 101 or permission of instructor.

SA 207 Intermediate Drawing (4)
Continuation of SA 107. Principles of drawing are carried into other media such as photography, computer graphics and the traditional media of watercolor, gouache, acrylic, oil and various sculpture media. Media and approaches will vary from term to term. May be taken in different semesters for a total of 8 credits.
Prerequisite: A 100-level course in studio art.

SA 209 Painting I (4)
Introduction to painting, its technique, history and expressive possibilities. Includes the making of and experimentation with paint.
Prerequisite: A 100-level course in studio art.

SA 266 Photography I (4)
Introduction to the art of black and white photography, including film processing and darkroom procedures.

SA 270 Modern Media (4)
Creating art using a variety of modern media. May include video, computer art, xerography, manipulated photographs and audio works.
Prerequisite: A 100-level course in studio art.

SA 309 Painting II (4)
Treats the problem-solving possibilities of painting, the expressive potential unique to the individual, and the relationship of these factors to contemporary issues.
Prerequisite: SA 209 or permission of instructor.

SA 350 Historic Painting Techniques (4)
Experimentation with historic techniques such as panel painting, tempera, fresco and oil glazes.
Prerequisite: A 100-level course in studio art.

SA 366 Photography II (4)
Continuation of SA 266.
Prerequisite: SA 266 or permission of instructor.

SA 367 Documenting the Arts (4)
Photographing the plastic arts (painting, sculpture, architecture and exhibitions) and performing arts (theatre, dance and musical performances). Will include some film processing and darkroom procedures.
Prerequisite: SA 266 or permission of instructor.

SA 370 Computer Graphics (4)
Exploration of computer systems to create graphic images by plotting images, photo scanning and manipulation, and free sketching.
Prerequisite: A 100-level course in studio art or a beginning computer course.

SA 390 Topics in Studio Art (4)
Specific topics in studio art for which no regular course offerings exist. Topic, instructor and prerequisite will be announced before each offering. May be repeated in a subsequent semester for a total of 8 credits.
Prerequisite: Permission of instructor.

SA 391 Projects in Studio Art (2)
Specific projects in studio art for which no regular offerings exist. May be repeated in a subsequent semester for a total of 4 credits.
Prerequisite: Permission of instructor.

SA 399 Field Experience in Studio Art (4)
Field experience in studio art under faculty supervision. An academic project which incorporates student performance in an occupational setting. May not be repeated for credit or taken by students who have received credit for AH 399.
Prerequisites: 16 credits in studio art, of which at least 8 must be at the 300 level.

SA 490 Special Problems in Studio Art: Independent Studies (4)
Independent investigation of specific problems in the visual arts including their relationships with other disciplines. May be taken for a maximum of 8 credits.
Prerequisite: Permission of instructor.

DEPARTMENT OF BIOLOGICAL SCIENCES

375 DODGE HALL (313) 370-3550

Chairperson: *Egbert W. Henry*

Professor emeritus: *William C. Forbes*

Professors: *Francis M. Butterworth, George J. Gamboa, Esther M. Goudsmit, Egbert W. Henry, Charles B. Lindemann, Virinder K. Moudgil, Asish C. Nag, John R. Reddan, Nalin J. Unakar*

Associate professors: *Keith A. Berven, G. Rasul Chaudhry, John D. Cowlishaw, Sheldon R. Gordon, R. Douglas Hunter, Paul A. Ketchum*

Assistant professors: *Thaddeus A. Grudzien, Feona M. Hansen-Smith, Satish K. Walia, Jon A. Yates*

Adjunct professors: *Tom Madhavan, Donald A. McCrimmon, M. Dave Poulik, James R. Wells, Robert M. West*

Adjunct assistant professors: *Stan A. Beyler, Naomi Eliezer, Gerard Joswiak*

Consulting professor of biomedical and health sciences: *Julius Rutzky*

Chief adviser: *John D. Cowlishaw*

The Department of Biological Sciences offers programs of study leading to Bachelor of Arts, Bachelor of Science and Master of Science degrees. The undergraduate programs prepare students for graduate study in the life sciences, laboratory work and research in industries concerned with biological materials, professional careers in medicine, dentistry, nursing or other allied health areas, or teaching science in high school. This liberal arts program in biology is particularly suited to the needs of premedical students. For information on graduate study within the department, see the *Oakland University Graduate Catalog.*

The department offers a diversified selection of courses and research programs in biochemistry, botany, cell biology, developmental biology, ecology, evolutionary biology, genetics, microbiology, morphology, physiology, plant physiology and zoology. Students select courses that suit their goals and interests. With permission, they may elect to participate in the research laboratories of individual faculty members, for which they may receive course credit (BIO 490). In the past, many such students have appeared as co-authors on scientific publications as a result of the work in which they participated. Such opportunities are of particular value to students preparing for graduate study or research positions. Since modern biology requires physicochemical insight, training in chemistry, physics and mathematics is also required.

High school students intending to major in biological sciences should refer to the *Admissions* section of the catalog for specific preparation requirements.

Admission to major standing

To be eligible for a degree in biology, students must be admitted to major standing by the Department of Biological Sciences at least three semesters before graduation. This procedure ensures that an appropriate program of study is completed by graduation. Students may be admitted to major standing after filing a satisfactory curriculum plan and completion of one year of introductory biology plus two other BIO courses, one year of general chemistry and mathematics through MTH 141.

Requirements for the liberal arts major in biology, B.A. program

This curriculum is designed for students intending to incorporate a biology major into a broader liberal arts program in pursuit of careers in technical fields or business or post-graduate

study. Students in the B.A. curriculum who wish to apply to medical or dental schools are advised to complete the concentration in preprofessional studies.

A minimum of 40 credits in biology (BIO 190 and above) is required, including at least seven lecture courses. These must include BIO 190, 195, 200 and one course from three of the following areas:

1. Physiology (BIO 207, 321 or 333)
2. Biochemistry (BIO 325)
3. Morphology (BIO 205, 305, 313 or 323)
4. Genetics (BIO 341)
5. Ecology (BIO 301 or 387)

Students must also, in consultation with their biology adviser, select at least one course in organismic biology (botany, BIO 311, 327 or 373; zoology, BIO 303, 317 or 353; or microbiology, BIO 319. Note: BIO 307 does not satisfy the organismic course requirement.) and at least one three- or four-credit 400-level lecture course (BIO 405, 490 and 497 cannot be used to satisfy this requirement). Corresponding lecture and lab courses should normally be taken simultaneously. In addition, 14 credits of chemistry (CHM 144-145, 149, 203 or 234) and 10 credits of physics (two semesters of general physics and lab) and mathematics through MTH 141 plus one of the following — MTH 122, MTH 154, STA 225, STA 226 — are required. One semester of computer programming (CSE 130) is recommended as an elective.

Requirements for the major in biology, B.S. program

This curriculum is designed for students who wish to pursue a career in the sciences, including medicine and health-related fields.

A minimum of 40 credits in biology (BIO 190 and above) is required, including at least seven lecture courses and a minimum of four BIO laboratory courses. These must include BIO 190, 195 and 200, and one course from three of the following areas:

1. Physiology (BIO 207, 321 or 333)
2. Biochemistry (BIO 325)
3. Morphology (BIO 205, 305, 313 or 323)
4. Genetics (BIO 341)
5. Ecology (BIO 301 or 387)

Students must also, in consultation with their biology adviser, select at least one course in organismic biology (botany, BIO 311, 327 or 373; zoology, BIO 303, 317 or 353; or microbiology, BIO 319) and at least one three- or four-credit 400-level lecture course (BIO 405, 490 and 497 cannot be used to satisfy this requirement). Corresponding lecture and lab courses should normally be taken simultaneously. In addition, two years of chemistry (CHM 144-145, 149, 234-235 or 203-204, and 209) and one year of physics (PHY 101-102, 158; or 151-152 and 158 depending on MTH option) are required. Mathematics is required through MTH 141 plus one of the following options: MTH 154 and 155; STA 226 and either STA 322, 323 or 324, or MTH 122 and either STA 225 or 226. One semester of computer programming (CSE 130) is recommended as an elective.

Finally, in addition to the formal course requirements, the student must complete a senior paper based either on research performed under BIO 490, or a literature search of a research-oriented topic taken as BIO 405.

Requirements for departmental honors in biology

Departmental honors may be granted to students who have been nominated by a faculty member on the basis of high academic achievement and excellence in either independent research or teaching assistance.

The specific requirements are:

1. 3.20 grade point average (GPA) minimum overall and 3.50 GPA minimum in BIO courses
2. At least one 400-level BIO lecture course (BIO 405, 455, 490 and 497 do not qualify)
3. Excellence in one of the following two service roles:

a. Assisting in teaching a laboratory course(s) — either for pay or credit
b. Performing independent laboratory study or serving as a laboratory research assistant

Requirements for a modified major in biology (B.S.) with a specialization in anatomy

Adviser: *Asish C. Nag*

Students should elect this specialization in their sophomore year. Biology courses required for the anatomy specialization are: BIO 205, 206, 305, 306, 317, 323, 324, 429, 430, 445, 446 and 460. The selection of all courses should be planned by consultation with the adviser.

Requirements for a modified major in biology (B.S.) with a specialization in microbiology

Adviser: *Paul A. Ketchum*

Students may elect this specialization in their sophomore or junior year. Biology courses required for the microbiology specialization are: BIO 319, 320, 421, 422, 465 and 466. The selection of all courses should be planned in consultation with the adviser.

Secondary Teacher Education Program (STEP): Biological Sciences

The Secondary Teacher Education Program (STEP) at Oakland University is an extended program of study leading to certification. Students in this program must complete the requirements for a B.A. or B.S. degree as indicated above, and concurrently fulfill the requirements listed below:

1. Significant work in the following 8 biological areas, as defined by the department, and chosen in consultation with the biology adviser: Cell biology/biochemistry (BIO 200, 323 or 325); Physiology (BIO 207, 321 or 333); Zoology (BIO 205, 303, 305, 317, 321, 323, 353 or 465); Botany (BIO 311, 313, 327 or 373); Ecology (BIO 301, 303, 387, 375 or 377); Genetics (BIO 341); Microbiology (BIO 307, 319, 421 or 465); and Evolution (BIO 190 or 387). Note: a single course may satisfy more than one area.
2. A minimum of 4 biology laboratory courses.
3. One course in earth science, such as PHY 106 or PHY 107.
4. One course in science, technology and society, such as BIO 300, CHM 300 or AN 300.

A program in STEP must also include a 20-hour secondary teaching minor and a sequence of undergraduate course work in education to include SED 300, FE 345, RDG 538 and SED 427. Extended study including SED 428, SED 455, SE 501 and FE 602 is also required. Further details on program and admission requirements and procedures can be found in the School of Education and Human Services portion of the catalog and by consulting advisers in the Department of Biological Sciences and the School of Education and Human Services advising office (472 O'Dowd Hall, 370-4182).

Requirements for the modified major in biology with a concentration in applied statistics

Adviser: *Keith A. Berven*

This concentration is open to students pursuing either a Bachelor of Arts or a Bachelor of Science degree in biology. Students should elect this concentration in their sophomore year. Required courses are STA 226, 322 and either 323 or 324, as well as BIO 490 (4 credits).

Concentration in preprofessional studies in medicine, dentistry and optometry

Adviser: *Egbert W. Henry*

The Bachelor of Science degree with a major in biology provides students with all the requirements for a concentration in preprofessional studies; however, refer to the *Other Academic*

Options section for suggestions regarding course selection. Students in the Bachelor of Arts degree program will need to complete two semesters of organic chemistry and laboratory in addition to their other science requirements.

Biochemistry program

In cooperation with the Department of Chemistry, the Department of Biology offers a Bachelor of Science degree program with a major in biochemistry.

Requirements for the liberal arts minor in biology

Students in other departments who wish to minor in biology must take a minimum of 20 credits in biology, including BIO 190, 195 and 200. At least 8 credits must be taken in courses numbered 301 or above. Students majoring in other life science areas should read the restrictions on dual use of courses to satisfy both major and minor requirements

Requirements for the secondary teaching minor in biology

A minimum of 20 credits in biology (from BIO 190 and above) is required for the secondary teaching minor in biology.

Course Offerings

The following courses are designed particularly for non-science majors and are not counted toward major or minor requirements.

BIO 104 Human Biology (4)
Introduction to human biology with emphasis on human anatomy and physiology. Topics include cell biology, skeletal, muscular, digestive, cardiovascular, neural, hormonal and reproductive systems. *Satisfies the university general education requirement in natural science and technology.*

BIO 110 Life on Earth (4)
A survey course on the history of nature. The evolutionary emergence of plant and animal life from unicellular to multicellular organisms and eventually to humans is presented through lectures, text readings and films. *Satisfies the university general education requirement in natural science and technology.*

BIO 300 Biology and Society (4)
The major concepts of modern biology which would serve as a foundation for the well-educated non-scientist, including evolutionary biology, molecular and cellular biology, genetic and medical interventions, the biological bases of behavior and social organization, and the effects of biological and chemical pollutants. *Satisfies the university general education requirement in natural science and technology.*

The following courses are designed particularly for the biology major and minor and for other majors in the sciences.

BIO 190 Biology (4)
Introduction to the structure and function of plants and animals; nutrient acquisition, gas exchange, internal transport, excretion, chemical and nervous control, reproduction, behavior, ecology, evolution, and a synopsis of the major phyla.
Offered fall and winter semesters. *Satisfies the university general education requirement in natural science and technology.*

BIO 195 Biology Laboratory (1)
Laboratory and field experience emphasizing scientific method, scientific writing, Mendelian genetics, vertebrate anatomy and animal and plant diversity. To accompany BIO 190 or 200.

BIO 200 Biology (4)
Cell ultrastructure, enzymology, metabolism, genetics, cell division. A year of high school chemistry and/or CHM 140 is strongly recommended. May be taken before BIO 190. Offered fall and winter semesters. *Satisfies the university general education requirement in natural science and technology.*

BIO 205 Human Anatomy (4)
The integration of organs into systems and systems into the organism. Selected aspects of developmental, comparative and microanatomy also will be discussed. Relevant to students in health sciences, biological science and liberal arts studies.
Prerequisite: BIO 200.

BIO 206 Human Anatomy Laboratory (1)
To accompany BIO 205.

BIO 207 Human Physiology (4)
A detailed study of general physiological principles and mechanisms with emphasis on systemic physiology. Normal physiology of individual organ systems will be explored, with stress on the role each plays in the human homeostatic balance.
Prerequisite: BIO 200.

BIO 300 Biology and Society (4)
See description above under nonmajor courses.

BIO 301 Ecology (5)
Basic ecological concepts, energy and materials flow, growth and regulation of populations, community interactions, chemical ecology and environmental biology. Includes laboratory experience. Offered fall semester.
Prerequisite: BIO 190, 195, 200.

BIO 303 Field Biology (4)
An ecological and taxonomic study of the fauna of southeastern Michigan. Aims include competence in use of illustrated handbooks and keys, and skills in collecting, preserving and identifying.
Prerequisite: BIO 190, 195.

BIO 305 Histology (4)
The microscopic anatomy and histochemistry of vertebrate tissues and organs in relation to tissue function.
Prerequisite: BIO 190, 200.

BIO 306 Histology Laboratory (2)
To accompany BIO 305.

BIO 307 Introduction to Medical Microbiology (4)
Introduction to the biology of microorganisms emphasizing the infectious diseases they cause and their control. Bacterial, mycotic, protozoan, viral infections; immunology; epidemiology; pathogenic mechanisms; chemotherapy; microbial genetics; microbial growth; microbial physiology. Required of students in the nursing program. Not open to students who have taken BIO 319.
Prerequisite: BIO 200.

BIO 311 Botany (5)
A course in plant biology including topics on gross and microscopic structure, physiological processes, reproduction and development. Diversity within the plant kingdom and evolutionary history are also discussed. Includes laboratory experience.
Prerequisite: BIO 190, 195, 200.

BIO 313 Plant Morphology (5)
Structure, reproductive mechanisms and evolutionary relationships of the plant groups. Ultrastructure of cells and their walls. Preparation of plant materials for microscopic examination. Cytochemistry and histogenesis of selected specimens. Includes laboratory experience.
Prerequisite: BIO 190, 195, 200.

BIO 317 Vertebrate Zoology (5)
A comparative study: gross and histological anatomy, taxonomy, unique physiological adaptations to habitats, evolution and paleontology. Includes laboratory experience.
Prerequisite: BIO 190, 200.

BIO 319 General Microbiology (4)
Microbial metabolism, growth, genetics, molecular biology, genetic engineering, classification, aseptic techniques, host-parasite relationships, a survey of human bacterial and viral pathogens. The impact of nonpathogenic microbes on natural processes is emphasized. Not open to students who have taken BIO 307.
Prerequisite: BIO 200, CHM 145.

BIO 320 General Microbiology Laboratory (1)
The techniques for growing, isolating, handling and identifying microbes.
To accompany BIO 319.

BIO 321 Physiology (4)
A detailed study of physiological principles: the internal environment, bioenergetics, transport, osmoregulation, respiration, conduction, contraction and circulation.
Prerequisite: BIO 190, 200.

BIO 322 Anatomy and Physiology Laboratory (1)
A detailed study of vertebrate anatomy and physiology. To accompany BIO 321.

BIO 323 Developmental Biology (4)
Topics include: gametogenesis, fertilization, morphogenesis, differentiation, organogenesis, regeneration. Each topic is examined from the morphological to the molecular level.
Prerequisite: BIO 190, 200. Highly recommended: BIO 324.

BIO 324 Developmental Biology Laboratory (1)
A series of observations and experimental exercises on a variety of organisms designed to expose the student to basic patterns of development, embryonic structures and techniques to analyze developmental processes.
Corequisite: BIO 323.

BIO 325 Introductory Biochemistry (4)
Current concepts and research techniques in biochemistry. Topics include: structure and function of biomolecules, cellular organization, generation of metabolic energy and intermediates, and molecular genetics.
Prerequisite: BIO 200 and CHM 145; Highly recommended: CHM 203.

BIO 326 Introductory Biochemistry Laboratory (1)
Enzyme purification and kinetics, qualitative and quantitative analysis of biomolecules. Extraction of DNA from E. coli.
Prerequisite: At least 2 BIO lab courses, BIO 325 or instructor permission; organic chemistry highly recommended.

BIO 327 Dendrology (4)
The study of trees and shrubs; their identification, biology and ecology, the importance of woody plants to people. Includes laboratory experience.
Prerequisite: BIO 190 or 200.

BIO 333 Plant Physiology (4)
Hormonal relationships, inorganic nutrition, water relations, metabolism, photosynthesis and tropisms.
Prerequisite: BIO 190, 200.

BIO 334 Plant Physiology Laboratory (1)
Corequisite: BIO 333.

BIO 341 Genetics (4)
The physical and chemical basis of inheritance. Selected topics in human genetics, microbial genetics, biochemical genetics, molecular biology and cytogenetics.
Prerequisite: BIO 190, 200. BIO 325 recommended.

BIO 345 Experimental Genetics (2)
An innovative approach to learning genetics. The student working on an individual research project not only will learn some basic principles of genetics but also will obtain preliminary experience in biological research.
Corequisite: BIO 341.

BIO 351 Neurobiology (4)
Topics include nerve excitation, synaptic transmission, spinal cord functions, cerebral cortical activity, sleep and consciousness, biochemical and pharmacological properties of nerve cells.
Prerequisite: BIO 190, 200. CHM 145.

BIO 353 Animal Behavior (4)
The genetics, physiology, ecology and evolution of animal behavior. Emphasis is on social behavior, especially the behavior of social insects.
Prerequisite: Sophomore standing.

BIO 354 Animal Behavior Laboratory (1)
A field-oriented course to acquaint students with experimental design, quantitative data retrieval and data analysis. A large part of the course will consist of an independent behavioral field study supervised by the instructor.
Prerequisite: Sophomore standing. Corequisite: BIO 353.

BIO 355 Seminar (1)
Discussion of recent publications in the biological sciences.

BIO 373 Field Botany (4)
A local flora course in identifying vascular plants occurring naturally in Michigan. Emphasis is on flowering plants, although ferns and coniferous species are also treated. Includes field trips to representative natural areas in southeast Michigan.
Prerequisite: BIO 190, 200.

BIO 375 Limnology (2)
An introduction to freshwater biology; lake classification, biogeochemical cycles, lake and stream ecology, seasons, flora and fauna, plankton and benthos, lake origins and evolution. Offered every other winter.
Prerequisite: BIO 190, 200.

BIO 377 Marine Biology (2)
Flora and fauna of the shore and open ocean, ocean seasons, tides, food webs, adaptations, feeding, locomotion, community interactions, fisheries biology and aquaculture. Offered every other winter.
Prerequisite: BIO 190, 200.

BIO 381 Gross Human Anatomy (4)
Combined lectures and laboratories primarily for upper-level health science majors. Study of human body systems with emphasis on the musculoskeletal system; morphological correlate of human physiological functions; dissection of cadaver.
Prerequisite: BIO 321 and permission of instructor.

BIO 387 Evolution and Systematics (4)
Exploration of the processes of evolution and their past and current influence on organisms of today. Topics include origin of variability, natural selection, differentiation of populations, speciation, phylogenetic concepts, evolutionary ecology and sociobiology.
Prerequisite: BIO 190, 200. BIO 341 recommended.

BIO 393 Endocrinology (4)
The interrelationship of various endocrine systems with vertebrate physiology; examination of control processes, the mechanism of hormone action, the role of hormones in cancer, reproduction, differentiation, growth.
Prerequisite: BIO 207 or BIO 321. Offered winter semester alternate years.

BIO 399 Field Experience in Biology (4)
Field experience in biology with faculty supervision which incorporates student performance in an occupational setting.
Prerequisite: 16 credits in biology of which 8 must be at the 300-400 level.

BIO 401 Advanced Human Physiology (4)
Lectures and discussion emphasizing the human organism and the experimental basis for current concepts and techniques. Topics include: reproduction, circulation, respiration, electrophysiology, and cellular mechanisms in physiological processes.
Prerequisite: BIO 207 or 321.

BIO 405 Special Topics (2, 3 or 4)
Prerequisite: Permission of instructor.

BIO 407 Cellular Biochemistry (4)
Advanced discussion of cellular control mechanisms emphasizing recent developments in the biochemistry of proteins and nucleic acids.
Prerequisite: BIO 325, CHM 204 and PHY 102.

BIO 408 Cellular Biochemistry Laboratory (1)
Modern research techniques: chromatography (paper, column, thin layers, etc.), electrophoresis, immunoelectrophoresis, ultracentrifugation and cell fractionation, isolation and density gradient analysis of the nucleic acids, etc. To accompany BIO 407.

BIO 421 Medical Microbiology (4)
Bacterial and viral human pathogens, emphasizing their etiology, physiology, pathogenesis, epidemiology, control and diagnosis.
Prerequisite: BIO 200.

BIO 422 Medical Microbiology Laboratory (2)
Basic skills of handling pathogenic bacteria and their diagnosis.
Prerequisite: BIO 421 or permission of instructor.

BIO 423 Immunology (3)
The human immune system. Topics include antigens, antibodies, immunophysiology, serology, immunochemistry, immunobiology, immunogenetics, hypersensitivity, immunities to infectious agents and disorders of the immune system.
Prerequisite: BIO 207 or BIO 321.

BIO 425 Biophysics (4)
The physical basis of biological phenomena, and the nature of biophysical theories. Biological structure and function are studied in the context of the hierarchical, cybernetic systems theory. Offered winter semester of alternate years.
Prerequisite: BIO 325 or equivalent, MTH 122 or 154, and PHY 101 or 151.

BIO 429 Cytochemistry (3)
A survey of techniques currently used in microscopy to analyze the distribution and quantity of specific chemicals within cells and their organelles. Techniques include: specific staining reactions, enzyme digestion, metabolic inhibition and autoradiography.
Prerequisite: BIO 305 and 306. Corequisite: BIO 430.

BIO 430 Cytochemistry Laboratory (2 or 3)
Individual research projects using cytochemical techniques to study and compare chemical compositions of several types of cells.
Corequisite: BIO 429.

BIO 439 Biochemistry of the Gene (4)
Biochemistry and expression of the eukaryotic gene with emphasis on recent developments in gene cloning, expression of cloned genes, and applications of recombinant DNA technology in biology and medicine.
Prerequisite: BIO 407 or CHM 453.

BIO 440 Biochemistry of the Gene Laboratory (2)
Laboratory exercises and short projects involving nucleic acids and protein synthesis. Specific experiments include isolation and characterization of RNA and DNA, translation of mRNA and enzymology of nucleic acids.
Corequisite: BIO 439.

BIO 441 Microbial Genetics (4)
Microbial genetics, emphasizing the basic aspects of bacteriophage and plasmid genetics applied to biotechnology.
Prerequisite: BIO 341 or BIO 319 or permission of instructor.

BIO 445 Ultrastructure (4)
A consideration of the fine structure of cells and cell products as revealed by electron microscopy and other procedures. Offered winter semester.
Prerequisite: BIO 305 and permission of instructor.

BIO 446 Ultrastructure Laboratory (2)
To accompany BIO 445.

BIO 460 Neuroanatomy (4)
The brain, brain stem, spinal cord and associated structures with respect to their morphology, development, function and the integration of these functions in motor activity. Certain lesions and their clinical significance will be discussed.
Prerequisite: BIO 205 or 381 or permission of instructor.

BIO 461 Neuroanatomy Laboratory (1)
Laboratory experience in neuroanatomy. Identification of basic neuroanatomical structures of the human.
Corequisite: BIO 460.

BIO 463 Cell Biology (4)
Prerequisite: BIO 305 and permission of instructor.

BIO 464 Cell Biology Laboratory (1)
To accompany BIO 463.

BIO 465 Medical Parasitology and Mycology (3)
An introduction to the medically important mycotic, protozoal and helminthic parasites; morphology, biology; life cycles, clinical manifestations, pathogenesis, immunology, epidemiology and control.
Prerequisite: BIO 190, 200. Recommende: BIO 207 or 321.

BIO 466 Medical Parasitology Laboratory (1)
Laboratory methods for identification of the medically important protozoan and helminthic parasites.
Corequisite: BIO 465.

BIO 481 Topics in Physiological Ecology (3)
Physiological responses of individual organisms and populations to their environment, including regulation of the internal environment, reproductive strategies, bioenergetics and chemical ecology.
Prerequisite: One course in physiology or ecology.

BIO 482 Topics in Evolutionary Biology (3)
Advanced topics in evolutionary biology including evolutionary patterns, the nature of selection, adaptation, macroevolution, the application of molecular biology to evolution, and philosophical issues of evolution.
Prerequisite: One course in either ecology, behavior or evolution or permission of instructor.

BIO 483 Topics in Community and Population Biology (3)
Analytic and synthetic approaches to the biology of populations and communities utilizing both plant and animal studies. Topics will include population growth and regulation, competition, predator-prey interactions, community structure and species diversity.
Prerequisite: One course in ecology, evolution or permission of instructor.

BIO 484 Topics in Behavioral Biology (3)
The ecology, evolution, genetics, and physiology of behavior, especially social behavior. Topics will include kin recognition, mate choice, dominance hierarchies, and the mechanisms by which societies are organized.
Prerequisite: BIO 353.

BIO 490 Independent Research (2, 3 or 4)
Directed undergraduate research in laboratory, field or theoretical biology. May be taken more than once. Graded numerically or S/U by written arrangement with biology faculty supervisor. A maximum of 8 credits may be numerically graded.
Prerequisite: Written agreement with a biology faculty supervisor.

BIO 497 Apprentice College Teaching (2)
Assisting in presenting a course, usually a laboratory course, to undergraduates. May be taken more than once.
Prerequisite: Written agreement with a biology faculty supervisor.

DEPARTMENT OF CHEMISTRY

357 HANNAH HALL (313) 370-2320

Chairperson: *Paul Tomboulian*

Professor emeritus: *Lewis N. Pino*

Professors: *Gottfried Brieger, Denis M. Callewaert, George Dahlgren, Isaac Eliezer, Kenneth M. Harmon, Joel W. Russell, Michael D. Sevilla, R. Craig Taylor, Paul Tomboulian*

Associate professors: *Julien Gendell, Tadeusz Malinski, Steven R. Miller, Kathleen Moore, Mark Severson, Robert L. Stern*

Assistant professor: *Arthur W. Bull*

Adjunct professor: *Peter Schmidt*

Adjunct associate professors: *David Becker, Fazlul Sarkar, Cynthia Sevilla*

Adjunct assistant professors: *Gerald G. Compton, Naomi Eliezer*

Lecturers: *William Bradford, Mark Richardson, William Robert, Stephen Tackitt, Douglas Thiel*

Chief adviser: *Robert L. Stern*

Oakland University's chemistry programs offer students the laboratories and equipment typically found at larger universities while retaining strong emphasis on the undergraduate education and informal student-faculty relations characteristic of smaller liberal arts colleges. Additionally, research opportunities are available to qualified undergraduates.

The Department of Chemistry provides highly professional chemistry programs as well as the liberal arts dedication to developing the highest intellectual and creative potential of its students. The department offers programs of study leading to Bachelor of Arts, Bachelor of Science and Master of Science degrees in chemistry and a Doctor of Philosophy degree in biomedical sciences with specialization in health and environmental chemistry.

High school students intending to major in chemistry should refer to the *Admissions* section of the catalog for specific preparation requirements.

Planning a program in chemistry

Curricula leading to a major in chemistry are quite structured, since knowledge is developed cumulatively in a four-year sequence. This leads to a fairly prescribed order of course presentation with a number of specific course requirements. Students interested in pursuing a program of study in chemistry should consult with a departmental adviser and file a program plan as early as possible in their college career.

Admission to major standing

To be eligible for a major in chemistry, students should be admitted to major standing by the department at least three semesters before graduation. Admission to major standing and the accompanying program certification guarantee that the student's program plan will meet the requirements for the Bachelor of Arts and Bachelor of Science degrees.

Students may apply through the department office or a faculty adviser. Students may be admitted to major standing after filing a satisfactory curriculum plan and completion of 30 total credits in chemistry, physics and mathematics, including CHM 234, 237, MTH 155 and PHY 151, with a grade point average of 2.00 or better.

Course work more than ten years old is subject to re-evaluation by the department. An examination may be required to demonstrate proficiency in areas covered by such courses.

Core curriculum

The core courses for the Bachelor of Arts and Bachelor of Science degrees consist of CHM 144 (or 164), 145 (or 165), 149, 225, 234-235, 237, 238, 342-343, 348 and two semesters of CHM 400. Also included in the core are MTH 154-155, PHY 151-152 and CSE 130.

Requirements for the liberal arts major in chemistry, B.A. program

This curriculum is for students who wish to incorporate a science major into a broader liberal arts program, or who wish a foundation in chemistry as a basis for study in chemical physics, medicine and related fields, environmental studies and technical-legal or technical-business careers. Students interested in sales or management careers in the chemical industry might consider taking the minor in general business offered by the School of Business Administration.

A minimum of forty-one credits in chemistry and admission to major standing are required for the Bachelor of Arts degree, including the core curriculum plus 5 additional credits in CHM courses at the 400 level or above, at least 2 of which are laboratory credits.

Requirements for the major in chemistry, B.S. program

The Bachelor of Science degree with a major in chemistry consists of the core curriculum plus a set of advanced courses. The program can provide the graduate with American Chemical Society certification (see requirements under "American Chemical Society certification").

The requirements for the major in chemistry are admission to major standing and a minimum of 48 credits in chemistry, consisting of the core curriculum and an advanced course program.

In selecting advanced courses, students may tailor their programs to fit specific career objectives, such as industrial chemistry, biochemistry, graduate study, research, medicine or dentistry. Students should plan their programs in consultation with a faculty adviser; advanced course programs must be approved as part of the application for major standing. In addition to the core curriculum, the B.S. degree requires 12 additional credits in CHM courses at the 400 level or above, at least two of which are laboratory credits (excluding CHM 490). Also required are three or more additional approved credits of BCM, BIO, APM, MTH, STA or PHY in a course which will ordinarily be numbered higher than 250, with the exception of STA 226. Excluded from the list of approved courses are BIO 300 and STA 225.

Secondary Teacher Education Program (STEP): Chemistry

The Secondary Teacher Education Program (STEP) at Oakland University is an extended program of study leading to certification. Students in this program should complete the requirements for a B.A. or B.S. degree in chemistry.

A program in STEP must include a 20-hour secondary teaching minor and a sequence of undergraduate course work in education to include SED 300, FE 345, RDG 538 and SED 427. Extended study including SED 428, SED 455, SE 501 and FE 602 is also required. Further details on program and admission requirements and procedures can be found in the School of Education and Human Services portion of the catalog and by consulting advisers in the Department of Chemistry and the School of Education and Human Services advising office (472 O'Dowd Hall, 370-4182).

Research

The Department of Chemistry offers exceptional opportunities year-round for interested and qualified students to participate in faculty research. Course credit for research may be earned in CHM 290 and 490. In addition, employment opportunities or fellowships are often available. Such research experience is of particular value to students preparing for graduate study or industrial employment.

Students should feel free to discuss research opportunities with members of the chemistry faculty. Specific arrangements with an individual faculty member must be made before enrollment in CHM 290 or 490.

CHM 490 credits cannot be counted as elective credits toward a chemistry major except by petition in exceptional cases.

Departmental honors

Departmental honors may be awarded to graduating seniors in chemistry who have been recommended for honors by their research advisers and have completed all required science courses with high grades.

Advanced courses in chemistry

Chemistry majors take one or more advanced courses in areas of interest. In addition to the courses listed in this catalog, the following advanced courses are open to qualified undergraduates: CHM 521 and 522 ("Advanced Analytical Chemistry" and "Topics in Analytical Chemistry"), CHM 534 and 535 ("Advanced Organic Chemistry" and "Topics in Organic Chemistry"), CHM 540 ("Symmetry in Chemistry"), CHM 541 and 542 ("Advanced Physical Chemistry" and "Topics in Physical Chemistry"), CHM 553 and 554 ("Advanced Biochemistry" and "Topics in Biochemistry"), CHM 563 and 564 ("Advanced Inorganic Chemistry" and "Topics in Inorganic Chemistry"). (See the *Oakland University Graduate Catalog* for course descriptions.)

Biochemistry program

In cooperation with the Department of Biology, the Department of Chemistry offers a Bachelor of Science degree with a major in biochemistry. Courses used to fulfill the requirements for a major in biochemistry may not be used simultaneously to fulfill the requirements for a major or minor in chemistry.

Requirements for the liberal arts minor in chemistry

Students in other departments or the Bachelor of General Studies program who wish to minor in chemistry must take CHM 144-145 (or 164-165), 149, 203-204 (or 234-235), 225 and 342. A minimum of 8 credits in chemistry must be earned at Oakland University. An approved concentration/minor authorization form must be filed three semesters prior to graduation.

Requirements for the secondary teaching minor in chemistry

Twenty credits in chemistry courses are required for the secondary teaching minor in chemistry. These must include CHM 144 (or 164), CHM 145 (or 165) and 149, plus 10 credits of CHM courses numbered at the 200 level or above. A choice from CHM 203, 204, 209, 225, 234, 235, 237, 238, 342, 343 and 348 is recommended.

Concentration in preprofessional studies in medicine, dentistry and optometry

Students can take a concentration in preprofessional studies by adding the required biology courses to a regular chemistry major program. Students should consult a departmental adviser before planning this concentration.

Engineering chemistry program

Coordinators: *Mark Severson (Chemistry) and Ching L. Ko (Engineering)*

The program in engineering chemistry, which is offered by the Department of Chemistry in cooperation with the School of Engineering and Computer Science, leads to the Bachelor of Science degree with a major in engineering chemistry. It is intended for well-qualified students who seek a basic preparation in engineering along with a highly professional chemistry program.

Program requirements* (a minimum of 128 credits) for the Bachelor of Science in engineering chemistry include:

1. MTH 154-155, MTH 254, APM 257 and PHY 151-152
2. CHM 144-145 (or 164-165), CHM 149, CHM 234-235, CHM 237, CHM 342-343, CHM

348 and CHM 471; choice of six credits from CHM 462-463, CHM 470, CHM 472 or CHM 477

3. EGR 101, EGR 401, CSE 132, CSE 171, EE 222, ME 221, ME 241, ME 331 and SYS 325; choice of eight credits from ME 438, ME 448, ME 449, ME 456, ME 482 and SYS 431.

In addition to the previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 in the courses taken to satisfy the engineering and chemistry requirements and in the courses prescribed for the mathematics, physics and computer science requirements. For limitations on free electives see the *Policies on Electives* section in the School of Engineering and Computer Science portion of the catalog.

*Students within this program are not required to complete the college distribution requirements.

American Chemical Society certification

The Department of Chemistry's faculty members, facilities and curriculum meet the criteria of the American Chemical Society. This allows the department to certify chemistry students as eligible for society membership. Certification is granted to students who have successfully completed the requirements for the Bachelor of Science degree with a major in chemistry, including CHM 426.

Placement in introductory chemistry courses

The various introductory courses (CHM 104, 140, 144 and 164) are for students in different majors and with different levels of mathematical and physical sciences preparation. In order to assure the best choice of course, students must take the Chemistry Placement Test before registering for any of these courses. Placement is based on the test results, declared major and high school science and mathematics experience. Students should consult the department office or the *Schedule of Classes* for additional details, test dates and times.

Course Offerings

The following course is designed particularly for non-science majors, and is not counted toward major or minor requirements.

CHM 300 Chemistry, Society and Health (4)
Introduction for non-science majors to the world of chemistry. Applications of chemistry and biochemistry to current issues including: food, metabolism and nutrition; drugs, pharmaceuticals and disease; air and water quality; global climate change; and energy alternatives. *Satisfies the university general education requirement in natural science and technology.*
Prerequisite: Sophomore standing.

The following courses are designed particularly for the chemistry major and minor, and for other students in science and engineering. *NOTE: credit will not be allowed for more than one course from each of the following sequences: CHM 104, 144 and 164; CHM 145 and 165; CHM 209 and 237; CHM 203 and 234; CHM 204 and 235. CHM 144-145 (or 164-165) ARE PREREQUISITE TO ALL OTHER CHEMISTRY COURSES AT THE 200 LEVEL OR ABOVE EXCEPT CHM 201 AND CHM 300. Credit will not be allowed in major and minor programs in chemistry, biology or physics for CHM 140, 201, 241, 300 and 497.

CHM 104 Introduction to Chemical Principles (4)
Study of general chemistry topics, including organic chemistry, selected to prepare students for CHM 201. (Credit will not be allowed for both CHM 104 and CHM 144 or CHM 164.) *Satisfies the university general education requirement in natural science and technology.*
Prerequisite: Chemistry Placement Test. Corequisite: MTH 011 or placement in MTH 012 or higher.

CHM 140 Foundations for Chemistry (4)
Basic chemical facts and concepts providing background and problem-solving skills in general chemistry. Intended especially for students needing additional preparation before enrolling in CHM 144. CHM 140 may not be used for major or minor credit in chemistry, biology or physics.
Prerequisite: Chemistry Placement Test; MTH 011 or placement in MTH 012 or higher MTH course.

CHM 144-145 General Chemistry (4 each)
Stoichiometry, states of matter, atomic and molecular structure, thermochemistry, equilibrium and kinetics. CHM 144-145 (or 164-165) are prerequisite to all other chemistry courses except CHM 201. Recommended preparation is three years of high school mathematics and one year of high school chemistry. CHM 144 must be taken first. (Credit will not be allowed for both CHM 104 and CHM 144.) *CHM 144 satisfies the university general education requirement in natural science and technology.*
Prerequisite: Chemistry Placement Test or CHM 140; MTH 012 or placement in MTH 141 or higher MTH course.

CHM 149 General Chemistry Laboratory (2)
Introduction to the basic techniques of chemistry experimentation.
Prerequisite: Grade of 2.0 or higher in CHM 144 (or 164). Corequisite: CHM 145 (or 165).

CHM 164-165 General Chemistry: An Advanced Introduction (4)
Intensive introduction to chemistry, in a small-class setting, including an investigation of selected areas of current research in chemistry. This course is recommended for students who have strong high school preparation in chemistry and physics, especially those majoring in physical sciences or engineering. *See note on duplication of credit above. *CHM 164 satisfies the general education requirement in natural science and technology.*
Prerequisite: One year of high school chemistry and physics and Chemistry Placement Test; for CHM 165: CHM 144 or CHM 164.

CHM 201 Introduction to Organic and Biological Chemistry (4)
Brief survey of organic and biological chemistry, emphasizing applications to human physiology. CHM 201 may not be used for major or minor credit in chemistry, biology or physics.
Prerequisite: CHM 104.

CHM 203-204 Organic Chemistry (4 each)
Structure, properties and reactivity of organic compounds. Intended primarily for majors in biology, health sciences and pre-professional students. Pre-professional students with a strong record in chemistry should consider CHM 234-235 as an alternative. CHM 203 must be taken first. (Credit will not be allowed for both CHM 203 and CHM 234, nor will credit be allowed for both CHM 204 and CHM 235.)
Prerequisite: CHM 145 (or 165).

CHM 209 Organic Chemistry Laboratory (2)
Basic techniques of synthesis, degradation and identification of organic substances. (Credit will not be allowed for both CHM 209 and CHM 237.)
Prerequisite: CHM 149 and CHM 203. Corequisite: CHM 204.

CHM 225 Analytical Chemistry (4)
Acid-base, complexation, precipitation, oxidation-reduction and phase-distribution principles, along with fundamentals of spectroscopy, chromatography and statistics, are studied and applied to chemical analysis. Four hours of lecture and eight hours of laboratory per week.
Prerequisite: CHM 149.

CHM 234-235 Organic Chemistry (4 each)
A comprehensive introduction to organic chemistry, with emphasis on modern theory and synthetic methods. Intended primarily for chemistry majors. CHM 234 must be taken first. (Credit will not be allowed for both CHM 203 and CHM 234, nor will credit be allowed for both CHM 204 and CHM 235.)
Prerequisite: CHM 145 (or 165).

CHM 237-238 Organic Chemistry Laboratory (2 each)
Preparation, separation and identification of organic compounds. CHM 237 must be taken first. (Credit will not be allowed for both CHM 209 and CHM 237.)
Prerequisite: CHM 149. Corequisite: CHM 234-235.

CHM 241 Problem Solving for Physical Chemistry (3)
Study and practice in applications of calculus to physical-chemical problems. CHM 241 may not be used for major or minor credit in chemistry, biology or physics.
Prerequisites: CHM 145 (or 165), MTH 155 and PHY 151.

CHM 290 Introduction to Research (1, 2, 3 or 4)
Introduction to laboratory research for students with no previous research experience. May be repeated for credit. Graded S/U.
Prerequisite: Permission of instructor.

CHM 300 Chemistry, Society and Health (4)
See description above under nonmajor courses.

CHM 342 Physical Chemistry I (4)
Applications of thermodynamics to chemical systems and equilibria.
Prerequisites: CHM 145 (or 165), PHY 152, and MTH 155. A grade of at least 2.7 is required in MTH 155 (or else a grade of at least 2.0 in CHM 241).

CHM 343 Physical Chemistry II (4)
Kinetics, introduction to quantum mechanics, statistical mechanics, and molecular spectroscopy.
Prerequisite: CHM 342.

CHM 348 Physical Chemistry Laboratory (2)
Experiments in thermodynamics, kinetics, phase equilibria and advanced spectroscopy with emphasis on mathematical treatment of experimental data.
Prerequisite: CHM 225 and 342. Corequisite: CHM 343.

CHM 400 Seminar (0)
Discussions of recent advances and topics of current interest; reports. Graded S/U.
Prerequisite: Senior standing.

CHM 426 Instrumental Analysis (3)
Theory and application of modern instrumental techniques including spectroscopy, radiochemical methods, x-ray methods, surface analysis, NMR, mass spectrometry, electroanalytical methods, gas and liquid chromatography and hyphenated methods.
Prerequisite: CHM 225 and CHM 343.

CHM 427 Electrochemistry (3)
Survey of electroanalytical and spectroelectrochemical methods. Includes microelectrodes and selective electrodes in bioelectrochemistry as well as electrical phenomena of the biological membrane level.
Prerequisite: CHM 225.

CHM 444 Physical Chemistry III (3)
Introduction to statistical mechanics. Applications of quantum and statistical mechanics to chemical bonding, molecular structure and spectroscopy.
Prerequisite: CHM 343 and MTH 254.

CHM 453 Biochemistry I (3)
First course in a comprehensive biochemistry sequence. Structure and function of proteins, carbohydrates and lipids. Enzyme mechanisms, kinetics and regulation. Bioenergetics and catabolism.. Identical with BCM 453.
Prerequisite: CHM 204 or 235.

CHM 454 Biochemistry II (3)
Metabolic pathways and control. Nucleic acid structure, function and processing, including regulation of gene expression. Selected topics in molecular physiology. Identical with BCM 454.
Prerequisite: CHM/BCM 453.

CHM 457 Biochemistry Laboratory (2)
Techniques of extraction, separation, identification, and quantification of biomolecules, including electrophoresis, chromatography and radioisotope techniques, with emphasis on mathematical treatment of experimental data.
Prerequisite or corequisite: CHM 453.

CHM 458 Biochemistry Projects (2)
Advanced project-oriented instruction in biochemical laboratory techniques.
Prerequisite: CHM 457 and permission of instructor.

CHM 462-463 Inorganic Chemistry (2 each)
Structure, bonding and reactivity of inorganic compounds, with emphasis on transition metals and selected main group elements.
Prerequisite: CHM 342.

CHM 466 Inorganic Synthesis Laboratory (2)
Synthesis, analysis and characterization of inorganic and organometallic compounds.
Prerequisite: CHM 238. Corequisite: CHM 462.

CHM 470 Industrial Chemistry (3)
Survey of the major sources and uses of chemicals, industrial chemical processes and fundamental raw materials. Includes discussion of organization, economics, communication, patents and government regulation in the chemical industry.
Prerequisite: CHM 235.

CHM 471 Macromolecular Chemistry (3)
Preparation, properties and structure of selected inorganic and organic polymers. Both chemical theory and technological applications will be discussed.
Prerequisite: CHM 204 or 235.

CHM 472 Physical Chemistry of Macromolecules (3)
The molecular principles governing the physical behavior of macromolecules in solution and in the glassy and crystalline states. The mechanical behavior and structure of macromolecules.
Prerequisite: CHM 471 and CHM 343 or instructor's permission.

CHM 477 Macromolecular Laboratory (2)
Introduction to the synthesis and physical characterization of synthetic polymers.
Prerequisite: CHM 238.

CHM 480 Selected Topics (1, 2, 3 or 4)
Advanced study in selected areas; normally involves preparation of a term paper or presentation of a seminar. May be repeated for credit.
Prerequisite: Permission of instructor.

CHM 486 Physical-Analytical Projects (1 or 2)
Advanced experimentation in physical or analytical chemistry, with at least four hours per week per credit.
Prerequisite: Permission of instructor.

CHM 487 Synthesis Projects (1 or 2)
Advanced synthesis work emphasizing modern techniques, with at least four hours per week per credit.
Prerequisite: Permission of instructor.

CHM 490 Research (1, 2, 3, 4, 6 or 8)
Laboratory practice in undergraduate research, with at least four hours per week per credit. May be repeated for credit. Graded S/U.
Prerequisite: Permission of instructor.

CHM 497 Apprentice College Teaching (2 or 4)
Directed teaching of selected undergraduate chemistry courses. May be repeated for credit. Graded S/U. CHM 497 may not be used for major or minor credit in chemistry, biology or physics.
Prerequisite: Permission of instructor.

DEPARTMENT OF ECONOMICS

416 VARNER HALL (313) 370-3282

Chairperson: *Ronald L. Tracy*

Professors: *Eleftherios N. Botsas, Karl D. Gregory, Oded Izraeli, Sid Mittra, Miron Stano*

Associate professors: *Sherman Folland, Augustin K. Fosu, Kevin J. Murphy, Ronald L. Tracy*

Assistant professors: *Addington Coppin, James E. Payne, Jr., Anandi P. Sahu*

Visiting Professor, *V. R. Chetty*

Lecturers: *George Kuljurgis, Scott Monroe, Jule Granthan*

Chief adviser: *Ronald L. Tracy*

The curriculum for the major or minor in economics combines the concepts and tools of economic analysis, a broad general education and the freedom to take several courses in other areas of interest to the student. Students learn how economic analysis can be applied to major problems facing individuals, businesses, the nation and the world today.

Besides preparing students for a career in economics, an education in economics is excellent preparation for entry into law school, a graduate school of public administration or management, or a Master of Business Administration (M.B.A.) program. Economics is a flexible choice for students seeking a rigorous, well-respected and relevant major without specializing in a narrowly defined area. To be employed as a professional economist or to teach economics, students normally will need to enroll in a graduate school and obtain at least a master's degree in economics, preferably a doctorate.

The Department of Economics offers three economics programs: Bachelor of Arts with a major in economics, Bachelor of Science with a major in economics (offered by the School of Business Administration), and a minor in economics. For economics majors, the Bachelor of Arts degree offers a less quantitative approach to economics than does the Bachelor of Science degree, offered through the School of Business Administration. (See program descriptions under the School of Business Administration.)

The economics faculty and program are an integral part of the School of Business Administration, which is responsible for establishing the curriculum, for advising economics students and for related administrative matters.

Requirements for the liberal arts major in economics

The program leading to a Bachelor of Arts degree in economics consists of completing the university general education courses; the college distribution requirements; cognate courses in mathematics, statistics and computers; admission to major standing in economics (see below); required economics courses, and economics electives, as listed below. The economics major must complete each of the cognate and required courses with a grade of 2.0 or better:

Cognate courses

MTH 011-012	Elementary-Intermediate Algebra (if required by score on the math placement test)	0
MTH 121	Linear Programming, Elementary Functions	4
MTH 122	Calculus for the Social Sciences (or MTH 154)	4
CSE 125	Introduction to Computer Use (or CSE 130)	4
QMM 250	Statistical Methods	6

Required courses

ECN 200	Principles of Macroeconomics	
and ECN 201	Principles of Microeconomics	
or ECN 210	Principles of Economics (combines ECN 200 and ECN 201)	6-8
ECN 301	Intermediate Microeconomics	3
ECN 302	Intermediate Macroeconomics	4

Economics electives

The economics elective requirement is 16 additional credits in courses numbered ECN 300 and above; 8 of these credits must be in courses numbered ECN 400 and higher (not including ECN 414); no more than 4 credits may be in ECN 490. 16

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Requirements for major standing

Admission to major standing in economics requires:

1. Certification of writing proficiency.
2. Completion of the following courses, or their equivalents, with a grade of 2.0 or better in each course: MTH 121-122, CSE 125 (or CSE 130), ECN 210 (or ECN 200 and ECN 201) and QMM 250.
3. Completion of 56 credits or more with a cumulative overall grade point average of 2.00 or better.
4. Approval of an "Application for Major Standing in Economics."

Admission to major standing in economics is required before a student may graduate with a Bachelor of Arts or Bachelor of Science degree with a major in economics. Although ECN 301 and ECN 302 are not required for admission to major standing in economics, students must earn a grade of 2.0 or better in both ECN 301 and ECN 302 in order to graduate.

Departmental honors

Economics majors are eligible for departmental honors if their grade point average in all economics and other courses taken from the School of Business Administration is 3.33 or above. Promising economics students may be invited to join Omicron Delta Epsilon, a national economics honor society.

Minor in economics

The economics faculty believes strongly in its role as a provider of education in economics to a broad range of students in other majors. Even moderate contact with the concepts and applications of economics will be valuable to most students. The minor in economics provides recognition to the student who does not want a major in economics but who has taken several courses in the area.

The minor in economics consists of a minimum of 18 semester credits in economics courses. Students must take ECN 150 or ECN 210 or both ECN 200 and ECN 201 and any prerequisites for these courses. In addition, students must earn at least 12 additional credits (16 credits if ECN 150 was taken) in economics (ECN) courses in order to fulfill the 18-credit requirement (excluding ECN 414). This minor is open to all students except economics majors.

Course Offerings

A detailed description of the economics courses is provided in the School of Business Administration section of this catalog. Following is a general description of the economics courses offered.

ECN 150: An introductory economics course for students not majoring in economics or management. After ECN 150, students may take certain economics courses numbered less than 350. ECN 150 may be used to meet the university general education requirement in the social sciences.

ECN 200 and 201: Introductory courses for students who intend to major in economics or business, or students who desire a more complete understanding of economics. The accelerated course, ECN 210, combines the material of ECN 200 and 201 into a single-semester, 6-credit course. Highly motivated and well-prepared students should considertaking ECN 210 instead of ECN 200 and 201.

ECN 301 and 302: These intermediate ecnomic analysis courses are designed for students who intend to major in economics or an area of business. Students may be admitted to these courses if they are pursuing a minor in economics.

ECN 309-ECN 342: Economics electives numbered 309 through 342 are applications of economics that are open to students who have taken ECN 150, ECN 200 or ECN 210.

ECN 350-ECN 385: Economics electives numbered 350 through 385 are intermediate level courses in the applications of economics intended for majors or minors in economics and business. These courses are open to students who have taken ECN 201 or ECN 210.

ECN 405-ECN 490: Economics courses numbered 405 or higher are advanced courses. Enrollment in these courses is limited to students who have taken ECN 301.

A detailed description of the economics courses is given in the School of Business Administration section of this catalog. Following is a list of the economics courses offered:

ECN 150	Basic Economics (4)
ECN 200	Principles of Macroeconomics (4)
ECN 201	Principles of Microeconomics (4)
ECN 210	Principles of Economics (6)
ECN 301	Intermediate Microeconomics (3)
ECN 302	Intermediate Macroeconomics (4)
ECN 309	Introduction to Urban and Regional Economics (4)
ECN 310	Economics of the Environment (4)
ECN 321	Money, Credit and the Economy (4)
ECN 326	Economic Development (4)
ECN 328	American Economic Development (4)
ECN 333	History of Economic Thought (4)
ECN 338	Economics of Human Resources (4)
ECN 342	Economic Analysis of Selected Nations (4)
ECN 350	Comparative Economic Systems (4)
ECN 373	International Economics (4)
ECN 378	Economic Analysis of Law (4)
ECN 385	Industrial Organization (4)
ECN 405	Econometrics (4)
ECN 409	Urban Economics and Location Theory (4)
ECN 411	Advanced Methods in Economics (4)
ECN 414	Engineering Economics (2)
ECN 418	Seminar in Economic Policy (4)
ECN 456	Public Finance (4)
ECN 467	Economics of Health Care (4)
ECN 468	Labor Economics (4)
ECN 473	Theory of International Trade and Finance (4)
ECN 480	Special Topics in Economics (4)
ECN 490	Independent Study (2 or 4)

DEPARTMENT OF ENGLISH

517 WILSON HALL (313) 370-2250

Chairperson: *Robert T. Eberwein*

Distinguished professor emerita: *Gertrude M. White*

Professors emeriti: *Joseph W. DeMent, Thomas Fitzsimmons*

Professors: *Jane D. Eberwein, Robert T. Eberwein, James F. Hoyle, Donald E. Morse*

Associate professors: *Nigel Hampton, David W. Mascitelli, Brian F. Murphy, Joan G. Rosen, Mark E. Workman (English and Folklore)*

Assistant professors: *Mary E. Arshagouni, Natalie B. Cole, Brian A. Connery, Kevin T. Grimm, Susan E. Hawkins, Neils Herold, Edward H. Hoeppner, Bruce J. Mann, Harriet E. Margolis*

Associated faculty: *Professor William Schwab (Linguistics and English), Associate Professor Daniel H. Fullmer (Linguistics and English)*

Lecturers: *Eugenie Beall, Laurie E. Grimm, Martha L. Hammel, Marilyn Krainen, Linda McCloskey, Subashini Subbarao, Carole J. Terry, Leslie Vitale*

Chief adviser: *David W. Mascitelli*

The Department of English offers courses in British and American literature, introducing students to literary history, genre studies, critical theory and intensive study of major authors. Courses in language, mythology, folklore and film broaden the field of literary inquiry in ways that associate imaginative writing with the other arts, with popular culture and with various academic disciplines. The department also provides frequent opportunities for training in writing: creative writing courses, courses in advanced expository writing and persuasive writing, technical writing courses and written assignments for literature courses.

By majoring in English, students can enhance appreciation of literary masterpieces, gain critical understanding of imaginative writing and develop sensitivity to the uses of language while developing skills in analysis, research and communication. Such knowledge enriches all aspects of life, while such skills prepare students for careers in law, business, publishing, medical professions, library science, journalism, government and education.

The English curriculum is flexible; by seeking regular departmental advice, English students can plan a program leading to many different professional and academic goals. The department encourages its students to balance their programs with such concentrations as American studies, environmental studies, film aesthetics and history, women's studies and computer science, or minors in linguistics, journalism, theatre arts, general business, modern languages and other related fields. Majors from other university programs are welcome in English courses, many of which have no prerequisites. Evening students can complete the English major entirely through night courses.

For a description of each semester's course offerings, students should consult the "Advising Memo," available in preregistration periods in the department office. Faculty advisers provide specific guidance and help students develop comprehensive educational plans; students should consult their advisers regularly.

Listed below are undergraduate programs of study leading to the Bachelor of Arts degree with a major in English, a modified major in English with a linguistics concentration, a liberal arts minor in English and a secondary teaching minor in English. The department offers programs leading to the Master of Arts degree in English and, in cooperation with the School of Education and Human Services, the Master of Arts in Teaching in English. Programs and course offerings are described in the *Oakland University Graduate Catalog.*

Requirements for the liberal arts major in English

A minimum of 40 credits in English, including ENG 290 (formerly ENG 140), and five courses (20 credits) at the 300 level or above, including one seminar at the 400 level (other than ENG 498 or ENG 499). Two courses must be in British literary history: either two from the ENG 354, 355, 356, 357 sequence; or one from 354, 355, 356, 357 and one from 311, 315, 316, 369.

Only one course at the 100 level will be accepted for credit toward the major. No more than 8 credits of ENG 499 will be accepted for credit toward the major. Normally, only 4 credits from study abroad programs will be accepted for credit toward an English major.

Departmental honors and scholarships

Departmental honors may be awarded to graduating English majors for outstanding achievement in English.

The department awards two scholarships: the Doris J. Dressler Scholarship to an English major or humanities major (junior year or beyond) demonstrating academic promise and financial need; and the Mr. and Mrs. Roger M. Kyes Scholarship to an outstanding major. Information is available in the department office. The deadline for applications will normally be April 1.

Requirements for the modified major in English with a linguistics concentration

The modified English/linguistics major requires 24 credits in English and American literature, including ENG 290 (formerly ENG 140). Two courses must be in British literary history: either two from the ENG 354, 355, 356, 357 sequence; or one from 354, 355, 356, 357 and one from 311, 315, 316, 369. At least 20 of the 44 combined credits must be taken at the 300 level or above, and at least 4 of these credits must be in a 400-level seminar in English. See the linguistics offerings of the catalog for specific requirements.

Requirements for the liberal arts minor in English

ENG 290 (formerly ENG 140), plus 16 additional credits in English courses are required. At least two courses must be taken at the 300-400 level. Only one course at the 100 level will be accepted as part of the minor. Only 4 credits of ENG 499 will be accepted as part of the minor. Normally, only 4 credits from study abroad programs will be accepted for an English minor. A maximum of 8 transfer credits will be accepted for the liberal arts minor in English. Courses used to satisfy the university's writing proficiency requirement cannot be used to fulfill requirements for the minor.

Requirements for the secondary teaching minor in English

Required for a secondary teaching minor are 20 credits from offerings in English, including ENG 290 (formerly ENG 140), one course in British literature, one course in American literature and one course in writing (ENG 215, 310 or 380). At least two courses must be taken at the 300-400 level. All students who plan to obtain the minor should consult with a department adviser. A maximum of 8 transfer credits will normally be accepted for the secondary teaching minor in English. Courses used to satisfy the university's writing proficiency requirement cannot be used to fulfill requirements for the minor.

Course Offerings

Courses on the 100 level are directed to students seeking nontechnical, liberally oriented courses to fulfill general education requirements or for use in minors and particular concentrations. Courses on the 200 level offer broad introductions to literary materials and approaches basic to the study of English. Reading is often extensive and the classes are conducted primarily through lecture. Courses on the 300 level offer more intensive investigations into particular areas of English studies. These courses, the core of the program for majors, are open to advanced students

according to their special needs and their preparation in related disciplines. Courses on the 400 level apply theory and methods of literary history, criticism and research to writers and to problems presented by specific topics. They are designed for upperclass majors. Graduate courses on the 500 level are open to senior majors by permission of the instructor and the departmental chairperson.

Course prerequisites

Except where noted, 100- and 200-level courses have no prerequisites. Advanced courses (numbered 300 to 499) have a general prerequisite of writing proficiency, plus any special requirements listed with the course descriptions.

ENG 100 Masterpieces of World Literature (4)
A survey acquainting the student with some of the great books of the world. Emphasis on the Western literary tradition. *For students seeking an English elective or a course to satisfy the university general education requirement in literature.*

ENG 105 Shakespeare (4)
A general introduction to representative dramatic works of Shakespeare. *For students seeking an English elective or a course to satisfy the university general education requirement in literature.*

ENG 111 Modern Literature (4)
A general introduction to some phase of modern literature. Sample offerings might be: modern drama, modern American fiction, or continental literature. *For students seeking an English elective or a course to satisfy the university general education requirement in literature.*

ENG 200 Topics in Literature and Language (4)
Topics or problems selected by the instructor.

ENG 211 The Bible as Literature (4)
Study of the types of literature found in the Old and New Testaments. Identical with REL 211.

ENG 214 Introduction to Folklore (4)
The major forms of traditional artistic expression (folktale, myth, legend, proverb, ballad, ritual) studied in their literary and cultural contexts.

ENG 215 Fundamentals of Grammar and Rhetoric (4)
A course treating the relationship of the study of language systems to composition, exploring various grammatical and rhetorical models.
Prerequisite: RHT 101 or equivalent.

ENG 220 Literature of Fantasy and Science Fiction (4)
May emphasize either fantasy or science fiction in any given term, and may present a historical view or deal with current trends in the literature.

ENG 224 American Literature (4)
Introduction to literary analysis and appreciation through readings in the American literary tradition. Emphasis on such authors as Hawthorne, Melville, Dickinson and James. *For students seeking an English elective or a course to satisfy the university general education requirement in literature.*

ENG 241 British Literature (4)
Introduction to literary analysis and appreciation through readings in the British literary tradition. Emphasis on such authors as Chaucer, Shakespeare and Dickens. *For students seeking an English elective or a course to satisfy the university general education requirement in literature.*

ENG 250 Film: A Literary Approach (4)
Exploration of the dramatic and narrative content of classic and modern films, treating such elements as theme, motif, symbol, imagery, structure and characterization, as well as cultural and philosophical implications.

ENG 290 Introduction to Literary Study (4)
The foundation course for English majors and minors. Analytical reading of drama, fiction and poetry. Attention given to literary criticism, basic research methods and critical writing. Required of majors and minors in English. **Formerly ENG 140.**

ENG 300 Special Topics in Literature and Language (4)
Special problems or topics selected by the instructor.

ENG 301 Poetry (4)
The major forms of poetic expression studied from generic and historical points of view.

ENG 302 Popular Culture (4)
The major forms of popular expression (mystery, western, science fiction, romance) in literature and related media (film, television, music) studied in their cultural contexts.

ENG 303 Fiction (4)
The major forms of narrative fiction (short story, novella, novel) studied from generic and historical points of view. *Satisfies the university general education requirement in literature.*
Prerequisite: Junior standing.

ENG 304 Studies in Literary Mode (4)
A major literary mode (such as tragedy, comedy, epic, romance, satire) studied from generic and historical points of view.

ENG 306 Drama (4)
The major forms of dramatic expression studied from generic and historical points of view. *Satisfies the university general education requirement in literature.*
Prerequisite: Junior standing.

ENG 307 Modern Drama (4)
Studies in English, American and Continental drama since Ibsen.

ENG 310 Workshop in Writing (4)
Intermediate-level workshop for apprentice writers in poetry or fiction, the emphasis varying from semester to semester.

ENG 311 Chaucer (4)
The major works, with emphasis on *The Canterbury Tales* and *Troilus and Criseyde.*

ENG 312 Classical Mythology (4)
The principal Greek and Roman myths and their uses in classical and post-classical art and literature. *Satisfies the university general education requirement in literature.*
Prerequisite: Junior standing.

ENG 313 Myth in Literature (4)
Study of the mythic content and/or structure of literature.

ENG 314 Folklore in Literature (4)
Reflection of folk themes, images and structures in British and American literature by authors such as Twain, Faulkner, Hardy and Joyce.

ENG 315 Shakespeare (4)
Reading and discussion of representative plays and poetry.

ENG 316 Milton (4)
His major poetry, with emphasis on *Paradise Lost* and some attention to his prose.

ENG 317 Early American Literature (4)
Studies in colonial and early national American literature with emphasis on such writers as Bradstreet, Taylor, Edwards and Franklin.

ENG 320 American Poetry (4)
Studies in American poetry from its origins with emphasis on the major writers of the nineteenth and early twentieth centuries such as Poe, Whitman, Dickinson, Frost and Eliot.

ENG 322 Nineteenth Century American Fiction (4)
Readings in the novel, tale and sketch with emphasis on major writers such as Hawthorne, Melville, Twain and James.

ENG 324 Issues in American Literature (4)
Study of literary works ranging across period and/or genre in their relation to a central issue, theme, or problem in American literature. Representative topics are romanticism, the Puritan tradition, American humor and the writer and American society.

ENG 332 Modern American Fiction (4)
Studies in American fiction since the turn of the century with emphasis on such figures as Faulkner, Hemingway, West, Dos Passos, Steinbeck and Fitzgerald.

ENG 333 Modern Poetry (4)
Studies in poetry since the turn of the century. The course may emphasize American or British in any given semester or discuss international currents in modern poetry.

ENG 340 Contemporary Writing (4)
Post World War II writing, including traditional and experimental forms within their cultural contexts.

ENG 341 Selected Ethnic Literature (4)
Reading and critical analysis of representative selections from American ethnic literature. Special attention to groupings such as American-Jewish and Native American at discretion of instructor.

ENG 342 The Black Experience in Literature (4)
A study of works portraying the black experience; may include authors from Africa and Latin America as well as representative American writers.

ENG 350 Topics in Film (4)
Topic or problem to be selected by the instructor.

ENG 354 British Medieval Literature (4)
Development of Old and Middle English literature to about 1500. Emphasis on the major works from *Beowulf* to Chaucer and Malory.

ENG 355 British Literature of the Renaissance (4)
Literature from about 1500 to 1660. Emphasis on the development of the sonnet and lyric, drama, prose and epic. Consideration of such major authors as Sidney, Donne, Shakespeare and Milton.

ENG 356 British Literature from the Restoration to Romanticism (4)
From 1660 to the Romantic revolution of the early nineteenth century. Consideration of such major authors as Dryden, Swift, Pope, Johnson, Burns, Blake and Wordsworth.

ENG 357 British Literature of the Victorian and Early Modern Periods (4)
From the Victorians to the 1920s. Among the major authors to be considered are Tennyson, Browning, Arnold, Carlyle, Rossetti, Hopkins, Shaw and Yeats.

ENG 369 The English Novel (4)
A study of the origin and development of the English novel from its beginnings to the early twentieth century. Among the novelists to be considered are Fielding, Richardson, Austen, Dickens, Conrad, Lawrence and Joyce.

ENG 375 Modern Literature (4)
Modern British, American and/or Continental literature, with concentration on the work of a small number of writers.

ENG 376 History of the English Language (4)
A detailed survey of the English language from its beginning to modern times.

ENG 380 Advanced Writing (4)
Emphasis on techniques of persuasion including analysis, argument and the study of rhetorical context.

ENG 382 Business and Technical Writing (4)
Instruction, practice and technique in writing business communications (letters, memoranda, reports and technical communications).

ENG 385 Interdisciplinary Issues (4)
The relationship of literature and literary study to one or more complementary academic disciplines such as art, history, religion and the social sciences.

ENG 390 Literary Theory and Critical Methods (4)
Studies in modern critical methods, with emphasis on formal analysis, structuralism, and myth criticism. Application of critical approaches and techniques.

ENG 391 History of Literary Criticism (4)
The development of literary criticism, presented as a survey with emphasis on major theorists. Significant applications of theory examined.

ENG 392 Film Theory and Criticism (4)
Study of major critical approaches to film such as those of Eisenstein, Kracauer, Arnheim, Bazin, Sarris and Metz.
Prerequisite: A course in film.

ENG 400 Advanced Topics in Literature and Language (4)
Advanced topics and problems selected by the instructor.
Prerequisite: Four courses in English.

ENG 401 Studies in Literary Kinds (4)
The study of a single literary kind, whether genre (such as novel, lyric or drama) or mode (such as tragedy or comedy).
Prerequisite: Four courses in English.

ENG 410 Imaginative Writing (4)
Designed for potential writers of fiction, poetry and/or drama. The course may focus on one kind of writing, and the approach may shift from semester to semester.
Prerequisite: Permission of instructor.

ENG 451 Major American Writers (4)
Studies in one or two American writers to be selected by the instructor.
Prerequisite: Four courses in English.

ENG 452 Major British Writers (4)
Studies in one or two British writers to be selected by the instructor.
Prerequisite: Four courses in English.

ENG 453 Studies in Major Authors (4)
Intensive study of a selected group of authors: British, American, or both.
Prerequisite: Four courses in English.

ENG 465 Shakespeare (4)
Analysis of four or five of the plays.
Prerequisite: Four courses in English.

ENG 490 Advanced Criticism (4)
Studies in criticism, often concentrating on a single school.
Prerequisite: Four courses in English.

ENG 498 The Theories of Teaching Literature, Language and Composition (4)
Designed for the future teacher of English, this course focuses on materials and methods for teaching English in junior and senior high schools. Offered only during winter semester.
Prerequisite: English and language arts secondary education majors and minors only.

ENG 499 Independent Study (2 or 4)
A proposed course of study must be submitted to the prospective instructor in the semester before the independent study is to be taken. Only 8 credits of 499 may apply toward the major, and only 4 credits may apply toward the minor. May be elected on an S/U basis.
Prerequisite: Four courses in English and permission of instructor.

DEPARTMENT OF HISTORY

380 O'DOWD HALL (313) 370-3510

Acting chairperson: *Carl R. Osthaus*

Distinguished professor emeritus: *George T. Matthews*

Professors emeritus: *Charles W. Akers, Robert C. Howes, W. Patrick Strauss, S. Bernard Thomas*

Professors: *John Barnard, Mary C. Karasch, Joseph A. Klaits, Anne H. Tripp, Richard P. Tucker*

Associate professors: *De Witt S. Dykes, Jr., Leonardas V. Gerulaitis, James D. Graham, Roy A. Kotynek, Lawrence D. Orton, Carl R. Osthaus*

Assistant professors: *Linda Benson, Turk McCleskey, Sean Moran*

Chief adviser: *Linda Benson*

The study of history at the undergraduate level has traditionally been considered one of the major paths to informed and effective citizenship. Its emphasis on broad knowledge, critical reading, careful judgment and precise writing offers excellent preprofessional preparation for many careers in business, government service, law, the ministry, journalism and library and museum service.

The Department of History guides students toward these careers and provides an opportunity to support academic preparation with field experience in the community (e.g., a historical society, museum or private or public agency). Oakland University's teacher preparation program draws on history in the elementary education major and minor concentrations in history/social science and in the secondary teaching minor in history.

Careers in college teaching and other forms of professional historical scholarship usually require post-graduate training, toward which solid work in the undergraduate major is extremely important. Students interested in achieving a Ph.D. in history should be aware that most graduate schools require demonstrated competence in one or two modern foreign languages.

The department's undergraduate program leads to the Bachelor of Arts degree. It also offers a Master of Arts program which is described in the *Oakland University Graduate Catalog.* The department offers both undergraduate and graduate evening courses, and students can complete either the B.A. or M.A. entirely at night. All history students should plan their course of study in close consultation with a department adviser.

Requirements for the liberal arts major in history

The major in history requires a minimum of 40 credits in history courses. At least 20 of these credits must be in courses numbered 300 or above, and must include HST 300. No more than 16 credits in independent study (HST 391 and 491) may be counted toward the history major. There is an appropriate writing component in history courses at all levels.

Departmental honors and scholarships

Majors who wish to be considered for departmental honors must submit an application to the History Honors Committee with a research paper prepared in connection with regular course work. The committee will want the original of the paper, along with the instructor's comments and grade. There is no statutory grade point minimum for honors but the award is seldom made to students with less than a 3.50 grade point average in history.

There are two scholarships specifically for students majoring in or intending to major in history. Information about the George T. Matthews Scholarship and the Oakland University Foundation Matthews Scholarship is available in the History Department office.

Requirements for the liberal arts minor in history

The liberal arts minor in history requires a minimum of 20 credits in history courses, including 8 credits in courses numbered 300 or above.

Requirements for the secondary teaching minor in history

The secondary teaching minor in history requires 20 credits in history courses, including HST 114 and 115; at least 8 credits must be in courses numbered 300 or above.

Course Offerings

Course prerequisites

Introductory and survey courses (HST 100–HST 299) have no prerequisites. More advanced courses (HST 300–HST 399) have a general prerequisite of writing proficiency certification plus any special requirements listed within the course descriptions. The most advanced research courses at the undergraduate level (HST 400–HST 499) have a general requirement of 20 credits in history plus any special requirements listed within the course descriptions.

HST 100 Topics in History (4)
An introductory course to develop critical judgment regarding the nature and use of historical evidence. Recommended for students with little or no background in college-level history. May be repeated once for a total of 8 credits.

HST 101 Introduction to European History before 1715 (4)
Surveys the history of Europe from the ancient period through the Middle Ages, Renaissance, Reformation and the Early Modern periods. *Satisfies the university general education requirement in Western civilization.*

HST 102 Introduction to European History since 1715 (4)
Surveys the history of Europe from the Enlightenment to the present. *Satisfies the university general education requirement in Western civilization.*

HST 114 Introduction to American History before 1876 (4)
Surveys American history from colonial times through the Reconstruction era, focusing upon the formation of the United States and the forces promoting unity and division in the new nation. *Satisfies the university general education requirement in Western civilization.*

HST 115 Introduction to American History since 1876 (4)
Surveys American history from Reconstruction to the present, emphasizing the emergence of the United States as an industrial-urban nation with global interests. *Satisfies the university general education requirement in Western civilization.*

HST 210 Science and Technology in Western Culture (4)
A survey of the development of science from antiquity to the present with reference to its technological consequences and influence upon society. *Satisfies the university general education requirement in Western civilization.*

HST 218 History of Michigan (4)
A survey of the political, economic and social history of the state from the Indian and French settlement to the present. Offered in alternate years.

HST 219 United States since 1945 (4)
A survey of American political, economic and social history since World War II.

HST 221 American Diplomatic History (4)
The origin, formulation and development of American foreign policy from the Revolution to the present; topics include the Monroe Doctrine, manifest destiny and imperialism, the Civil War, World Wars I and II, the Cold War and nuclear diplomacy.

HST 222 American Sport History (4)
The place of sport in American society from the colonial period to the present. Several sports are selected to illustrate developments of major historical significance.

HST 223 History of American Cities (4)
History of American cities from pre-industrial America to the present emphasizing the effect of such forces as industrialization, immigration, migration, trade, economic patterns and transportation upon city organization and life.

HST 224 History of American Families (4)
History of American families as social institutions emphasizing the impact of historical events and trends upon family composition, family functions and family life. Includes research in the student's personal family history. Identical with WS 224.

HST 234 Introduction to English History I (4)
A survey of English history from 55 B.C. to the Glorious Revolution of 1688-1689.

HST 235 Introduction to English History II (4)
A survey of English history from 1689 to the present, emphasizing political, social, economic, cultural and legal development.

HST 250 History of Russia (4)
An introduction to the political, social and intellectual history of Russia and the Soviet Union from the Kievan State to the present.

HST 254 Eastern European History (4)
The historical development of the peoples and states of East-Central Europe and the Balkans — Poland, Ukraine, Czechoslovakia, Hungary, Rumania, Yugoslavia and Bulgaria — from the Middle Ages to the present, with emphasis on the period since World War II.

HST 261 Introduction to Latin American History I (4)
A survey of pre-Columbian and colonial Latin America to 1825, stressing the Hispanization of the society, its socio-economic institutions, the influence of the Enlightenment and the achievement of political independence.

HST 262 Introduction to Latin American History II (4)
Surveys the national period of Latin America from 1825 to the present, emphasizing the problems of nation-building and modernization, the emergence of nationalism and militarism and the roots of social revolutionary ferment.

HST 270 History of Modern Japan (4)
History of Japan from the mid-nineteenth century to the post-World War II reform, recovery and emergence as an economic power.

HST 292 History of the African-American People (4)
Surveys the African-American experience from the African background through the Civil War and post-Civil War periods to the present.
Satisfies the university general education requirement in Western civilization.

HST 300 Seminar in Historical Research (4)
The development of critical judgment regarding the nature and use of historical evidence: historiographical readings, library investigation into specific topics within a general historical subject, a research paper and a presentation of the paper to the seminar.
Prerequisite: One history course. Major status or permission of instructor.

HST 302 American Labor History (4)
The economic, social and political history of the American work force with emphasis on the history of organized labor.

HST 303 American Constitutional History (4)
Origins and development of American constitutional doctrine and interpretation from the colonial period to the present, emphasizing constitutional controversy and change.

HST 304 History of the American Industrial Economy and Society (4)
The development of the American industrial system and its impact on business organization, labor, government and the international economy.

HST 305 History of American Mass Media (4)
The establishment and growth of mass communication in the United States, focusing on the development of print, film, radio and television and their impact on society and popular culture.

HST 306 Colonial and Revolutionary America (4)
Covers the partial transplantation of European society to continental North America; the ethnic origins of colonial American culture; the political, economic and social development of the colonies; the English conquest of the continent; the American Revolution; and the establishment of national government under the Constitution. Offered each year.

HST 307 American Religious History (4)
A study of American religious history, including religious elements in immigration, separation of church and state, denominationalism and sectarianism, religion and nationalism, religious leadership and religion as a social force. Identical with REL 307.

HST 310 The Young Republic and the Age of Jackson, 1787-1850 (4)
Covers the political, economic and social development of the new nation, with emphasis on American commercial and territorial expansion, social protest, and sectionalism. Offered in alternate years.

HST 312 The Civil War and Reconstruction, 1850-1876 (4)
The origins of secession, the wartime problems of the Union and the Confederacy, the principal military campaigns, the Reconstruction era and the creation of a new union, and the significance of the Civil War and Reconstruction in American history. Offered each year.

HST 313 American History, 1876-1900 (4)
The New South, industrial consolidation, the origins of the modern labor movement, the rise of the city, immigration, agrarian protest movements, the businessman's philosophy and the challenge to laissez-faire.

HST 314 American History, 1900-1928 (4)
Social, political and economic developments in the U.S. during the progressive era and the decade of the 1920s. Offered in alternate years.

HST 315 American History since 1928 (4)
The myth of the New Era, the social and political impact of the Great Depression, New Deal programs and radical alternatives, the isolationist-internationalist debate, modern Republicanism and the New Frontier. Offered in alternate years.

HST 316 The American Mind to 1860 (4)
The history of American thought from the colonial period to the Civil War, emphasizing New England Puritanism, the transition from colonies to provinces, the era of the American Revolution and the origins of modern America.

HST 317 The American Mind since 1860 (4)
Major intellectual trends in the United States from the Civil War to the present, including ideological conflict during the Civil War and Reconstruction, the impact of evolutionary thought and responses to industrialization and urbanization.

HST 318 Topics in American Social History (4)
Selected topics in the history of popular beliefs, social structure and organization and the process of social change, including movements of reform.

HST 319 History of the American South (4)
The South from colonial times to the 1960s, emphasizing the transition from the agrarian, slave South of the antebellum period to the modern South of the 20th century.

HST 321 History of American Foreign Relations in the Twentieth Century (4)
American foreign policy and diplomacy from the Spanish-American War to the present, including American imperialism, Caribbean and Far Eastern policies, involvement in the world wars and the Cold War, and nuclear diplomacy. Offered each year.

HST 323 Topics in African-American History (4)
The economic, social and political activities, status, organizations and institutions of African-American people.

HST 325 Medieval Europe (4)
The European Middle Ages from about A.D. 400 to 1300, with special emphasis on intellectual developments. Offered in alternate years.

HST 326 The Italian Renaissance (4)
The European Renaissance period, with emphasis on the Italian experience. Offered in alternate years.

HST 327 The Northern Renaissance (4)
European humanism, with emphasis on the Lowlands, France and Germany. Offered in alternate years.

HST 329 Europe in the Seventeenth Century (4)
A comparative analysis of European societies: the articulation of absolutism and constitutionalism, the emergence of the European states system, the origins and impact of modern science, the culture of the baroque and the development of commercial capitalism.

HST 334 Victorian and Edwardian England (4)
The political, social, economic and intellectual life of England from 1837 to the outbreak of World War I.

HST 335 Twentieth-Century Britain (4)
British adjustment to global wars, the loss of empire, economic weakness and social discord.

HST 338 The Origins of Modern Economics: Smith to Marx (4)
Ideas of the classical economists from Adam Smith to Karl Marx, and how they relate to social and political change in Britain's Industrial Revolution and to more recent economic issues. Offered in alternate years.

HST 339 History of Women: Modern Europe (4)
Women in the family, society and culture of preindustrial Europe; changing economic and social roles for women in the nineteenth century; rise of feminism; women and war, socialism, fascism and the welfare state in the twentieth century. Identical with WS 339.

HST 340 The Middle Class in Modern Europe: 1789 to 1968 (4)
Analyzes the rise of and developments in the European bourgeoisie from the French Revolution to the events of 1968; includes questions of class formation and class relations, political strategies and ideologies, economic growth and change, and social developments regarding men, women and the family.

HST 341 Europe since 1914 (4)
An analysis of Europe in world perspective since World War I.

HST 343 Germany since 1848 (4)
The history of the German nation-state, concentrating on constitutional and political developments in their social context.

HST 345 France since 1789 (4)
The political development of modern France as a nation-state and the cultural and economic movements connected with French public life.

HST 346 European Witchcraft (4)
A scholarly investigation of witch beliefs and witch trials in Europe, England and New England. The social and intellectual foundations of witchcraft prosecutions from the Middle Ages to the end of the seventeenth century.

HST 348 Europe in the Eighteenth Century (4)
A comparative analysis of European societies: the old regime in Europe, beginnings of industrial development, the Enlightenment as a political and social movement, reform under the monarchy and the emergence of democratic ideologies, and the French Revolution.

HST 349 France in the Age of Absolutism and Enlightenment (4)
The *ancien regime* in France from the end of the wars of religion to the beginning of the Revolution (1589-1789).

HST 350 The European Mind to 1700 (4)
Major developments in European thought from the God-oriented world views of the Middle Ages to the development of scientific concepts in the seventeenth century. Emphasis is on reading original materials.

HST 353 Imperial Russia (4)
Russian history from Peter the Great to the Bolshevik Revolution: the growth of Russian national power, westernization, serfdom and revolution.

HST 354 Soviet Russia (4)
Russia and the Soviet Union from 1917 to the present: revolution and civil war, collectivization and industrialization, Stalinism, World War II, de-Stalinization, the Soviet Union and the world Communist movement.

HST 363 History of Southern South America (4)
The social, political and economic history of Argentina, Brazil and Chile in the nineteenth and twentieth centuries; expansion and Indian warfare; slavery and Empire in Brazil; regionalism and nationalism; industrialization and urbanization; and international relations.

HST 365 Colonialism and Nationalism in the Modern World (4)
A comparative survey of selected European colonial systems and the responses of colonized peoples in Latin America, Africa and Asia. Emphasis on themes such as economic expansion, acculturation, resistance movements and state formation.
Prerequisite: IS 210 or IS 230 or IS 240 or IS 250.

HST 366 Slavery and Race Relations in the New World (4)
A comparative approach to the study of slavery in North America, Latin America and the Caribbean, and to present race relations in these areas.

HST 367 History of Mexico (4)
The scope and achievements of pre-Columbian civilizations, the Spanish Conquest, the emergence of a multiracial society, the achievement of political independence and nation-building in the twentieth century.

HST 373 China: The Final (Ch'ing) Imperial Phase, 1644-1912 (4)
China under Manchu rule, from the conquest to the collapse of the Confucian imperial order in the early twentieth century.

HST 374 China: The Nationalist Republican Period, 1912-1949 (4)
Revolutionary nationalism and political, social and cultural change under the Chinese Republic from the warlord era to the establishment of the Communist-led People's Republic in 1949, and post 1949 developments in Nationalist-ruled Taiwan.

HST 376 History of Chinese Communism: 1921 to the Present (4)
The revolutionary history of the Chinese Communist movement from its beginning in 1921 to its accession to power in 1949 and the major lines of development under the Chinese People's Republic since 1949.

HST 377 Empires of the Steppe (4)
Great Empires of the Eurasian steppe from antiquity to modern times, including indigenous steppe cultures, the impact of the Central Asian Empires on European Asian civilizations, and threats posed by nomadic leaders like Attila, Ghenghis Khan and Tamerlane.

HST 384 Modern Environmental History (4)
Global depletion of natural resources since 1500 in relation to European empires and modern world economy; the environmental implications of America's global interests; the tension between economic development and damage to major ecosystems.

HST 385 African History to 1945 (4)
Continuity and change in African societies and states from earliest times until World War II; typical themes include the extended family system in African life and problems of transition in African political economies.

HST 386 African History since 1945 (4)
African history since World War II, emphasizing problems of economic development and political stability; special case studies, which focus on selected nations, such as Kenya and Tanzania, provide opportunity for analyzing the historical background of contemporary issues.

HST 387 History of South Africa (4)
A regional introduction to historical trends in the development of ethnic conflicts, economic classes, political ideologies and family relationships in South Africa since 1500, with special emphasis on the development of apartheid.

HST 391 Directed Readings in History (2, 4 or 8)
Independent but directed readings for juniors and seniors interested in fields of history in which advanced courses are not available. Offered each semester.
Prerequisite: Permission of instructor.

HST 399 Field Experience in History (4)
Field experience in history, with faculty supervision which incorporates student performance in an occupational setting. May be repeated for credit.
Prerequisite: 24 credits in history, of which at least 8 must be at the 300-400 level.

HST 491 Directed Research in History (4, 8 or 12)
Directed individual research for advanced history majors. Offered each semester
Prerequisite: Permission of instructor and HST 300.

CENTER FOR INTERNATIONAL PROGRAMS

430 WILSON HALL (313) 370-2154

Director: *Carlo Coppola (Modern Languages and Literatures)*

International Studies Executive Committee: *Richard B. Stamps (Sociology and Anthropology), Peter J. Bertocci (Sociology and Anthropology), Carlo Coppola (Modern Languages and Literatures), Vincent B. Khapoya (Political Science), Kathryn M. McArdle-Pigott (Modern Languages and Literatures)*

Drawing on faculty from various disciplines, the College of Arts and Sciences sponsors a distinctive offering of international studies programs. International studies involves the examination of living world civilizations (with the exception of those of Western Europe and North America) from an interdisciplinary point of view. The various aspects of these civilizations — art, government, history, language, literature, music, religion and social organization — are studied in the traditional departments of the university.

A major in one of these areas might be considered by a student who, from intellectual curiosity or from career choice, seeks an integrated view of a civilization. Career opportunities in international studies include business and industries with international dimensions, international agencies and foundations, government service, translation, journalism, teaching and graduate study.

The college offers a major in African and African-American studies, East Asian studies (China and Japan), South Asian studies (India, Pakistan and Bangladesh), Slavic studies (Russia and Eastern Europe) and Latin American studies. A minor in international studies is also offered. Courses labeled IS are described in this section. All other courses applicable to international studies programs are offered by individual college departments; descriptions of those courses can be found in respective departmental listings.

Requirements for the liberal arts major in international studies

The international studies major consists of a minimum of 40 credits, of which 28 credits must be taken in the primary area (African and African-American studies, East Asian studies, South Asian studies, Slavic studies or Latin American studies); 12 credits in a complementary area of study; and language proficiency equivalent to 8 credits of work at the third year of study in an appropriate language. The complementary area of study ordinarily consists of the appropriate introductory course and two additional courses appropriate to the area, which may be either international studies courses or departmental courses.

Duplication of course credit in the primary and complementary areas is not permitted. However, majors may apply their introductory course to both their major and general education requirement in international studies.

Departmental honors

Honors are available to outstanding students in the major. For specific information, students should contact Center for International Programs.

Requirements for the liberal arts minor in international studies

The minor in international studies consists of a minimum of 20 credits in a given area of study distributed as follows: appropriate introductory course, appropriate special topics course, appropriate seminar and 8 additional credits chosen from the appropriate program offerings.

African and African-American studies program

Coordinator: *Vincent B. Khapoya (Political Science)*

Faculty: *De Witt S. Dykes, Jr. (History), James D. Graham (History), Karl D. Gregory (Economics), James W. Hughes (School of Education and Human Services), Mary C. Karasch (History), Charlotte V. Stokes (Art and Art History)*

Course requirements for the major in African and African-American studies are: IS 230, HST 292, IS 384 and 16 additional credits distributed as widely as possible from the following courses: AH 208, AH 305, ECN 342, ENG 342, HST 323, HST 365, HST 366, HST 385, HST 386, HST 387, MUS 347-348, PS 203, PS 333, SOC 331, IS 300, IS 390 and IS 490. The complementary area of study may be either Latin American or Islamic civilization. The appropriate language is French, although students whose complementary area is Latin America may elect Spanish. Students must demonstrate a language proficiency equivalent to 8 credits of work at the third year of study in French or Spanish.

East Asian studies program

Coordinator: *Richard B. Stamps (Sociology and Anthropology)*

Faculty: *Bonnie F. Abiko (Art and Art History), Sheldon L. Appleton (Political Science), Janet Krompart (Kresge Library: East Asian librarian), John Marney (Modern Languages and Literatures)*

Course requirements for the major in Chinese studies are IS 210, IS 300, IS 381 and 16 additional credits distributed as widely as possible from the following courses: AH 304, AN 362, ECN 342, HST 373, HST 374, HST 376, PHL 350, PS 318, IS 390 and IS 490. The complementary areas of study may be either Japanese or South Asian studies. The appropriate language is Chinese. The Center for International Programs periodically sponsors summer study tours to China.

Course requirements for the major in Japanese studies are IS 220, IS 300, IS 381 and 16 additional credits distributed as widely as possible from the following courses: AH 301, ECN 342, HST 270, PHL 350, IS 361-362, IS 365-366, IS 390 and IS 490. The complementary area of study may be Chinese or South Asian studies. The appropriate language is Japanese. Students wishing to study in Japan may do so through an exchange program between Oakland University and Nanzan University, Nagoya, Japan.

South Asian studies program

Coordinator: *Peter J. Bertocci (Sociology and Anthropology)*

Faculty: *Richard W. Brooks (Philosophy), Thomas W. Casstevens (Political Science), Carlo Coppola (Modern Languages and Literatures), Munibur Rahman (Modern Languages and Literatures), Richard P. Tucker (History)*

Course requirements for the major in South Asian studies are IS 240, IS 300, IS 382 and 16 additional credits distributed as widely as possible from the following courses: AH 302, AH 320, AN 361, ECN 342, PHL 350, PHL 352, PS 334, REL 304, SOC 301, IS 270, IS 390 and IS 490. The complementary area of study may be Chinese studies, Japanese studies or Islamic civilization. The appropriate language is Hindi or Urdu.

Slavic studies program

Coordinator: *Carlo Coppola (Modern Languages and Literatures)*

Faculty: *James R. Ozinga (Political Science)*

Course requirements for the major in Slavic studies are IS 260, IS 300, IS 383 and 16 additional credits distributed as widely as possible from the following courses: ECN 342, HST 250, HST 254, HST 353, HST 354, PS 318, PS 337, PS 377, IS 386, IS 390 and IS 490. The complementary area of study may be Chinese studies, Japanese studies or Islamic civilization. The appropriate language is Russian or Polish. The Center for International Programs periodically sponsors summer study tours to the Soviet Union.

Latin American studies program

Coordinator: *Kathryn M. McArdle-Pigott (Modern Languages and Literatures)*

Faculty: *James W. Dow (Sociology and Anthropology), Mary C. Karasch (History), Patricia Montenegro (Modern Languages and Literatures), Charlotte V. Stokes (Art and Art History)*

Course requirements for the major in Latin American studies are IS 250, IS 300, IS 385 and 16 additional credits distributed as widely as possible from the following courses: AH 307, AN 370, AN 371, AN 372, ECN 342, HST 261, HST 262, HST 363, HST 365, HST 366, HST 367, PS 335, SPN 420, SPN 421, IS 390 and IS 490. The complementary area of study is African studies. The appropriate language is Spanish or Portuguese. The Center for International Programs periodically sponsors summer study programs in Mexico.

Course Offerings

IS 210 Introduction to China (4)
An interdisciplinary study of the peoples of China and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 220 Introduction to Japan (4)
An interdisciplinary study of the peoples of Japan and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 230 Introduction to Africa (4)
An interdisciplinary study of the peoples of Africa and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 240 Introduction to India (4)
An interdisciplinary study of the peoples of India and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 250 Introduction to Latin America (4)
An interdisciplinary study of the peoples of Latin America and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 260 Introduction to Russia and Eastern Europe (4)
An interdisciplinary study of the peoples of Russia and Eastern Europe and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 270 Introduction to the Middle East (4)
An interdisciplinary study of the peoples of the Middle East and their traditional and modern civilizations. *Satisfies the university general education requirement in international studies.*

IS 300 Special Topics in International Studies (4)
Interdisciplinary study of a foreign area for which no regular course offerings exist. May be repeated once for a total of 8 credits.
Prerequisite: Appropriate IS introductory course.

IS 310 Introduction to Canada (4)
Identical with SOC 310.

IS 361-362 Japan Exchange Program (16-18)
Course work is taken at Nanzan University in Nagoya, Japan; includes Japanese language study and additional appropriate courses with English as the language of instruction.

IS 363-64 France Exchange Program (12, 16 or 18)
Course work is taken at the Universite d'Orleans in France; includes French language study and regular course offerings at Orleans. French is the language of instruction.
Prerequisite: Permission of program coordinator.

IS 365-366 Japan Program: Shiga (12, 16 or 18)
Course work is taken at the Japan Center for Michigan Universities, Shiga, Japan; includes Japanese language study and additional appropriate courses with English as the language of instruction.

IS 380-385 Seminars (4)
Selected topics dealing with a specified area, to supplement departmental area courses. Students enroll under the number corresponding to a specific area. May be repeated once for a total of 8 credits.
Prerequisite: Senior standing and permission of instructor.

IS 380 Seminar in African-American Studies

IS 381 Seminar in East Asian Studies

IS 382 Seminar in South Asian Studies

IS 383 Seminar in Russian and Eastern European Studies

IS 384 Seminar in African Studies

IS 385 Seminar in Latin American Studies

IS 386 Slavic Folk Studies (2)
An intensive survey of the traditional music, songs, dances, and costumes of selected Slavic cultures. Includes participation in the Slavic Folk Ensemble. May be repeated once for a total of 4 credits. Graded S/U.

IS 390 Directed Readings in International Studies (2, 4, 6 or 8)
Readings from diverse disciplines with focus on a student's area of specialization. Conducted as a tutorial by an instructor chosen by the student.
Prerequisite: Appropriate IS introductory course and permission of program chairperson and instructor.

IS 490 Directed Research in International Studies (2, 4, 6 or 8)
Research relating to area of specialization including a senior essay or research paper. Supervised by an international studies instructor.
Prerequisite: Senior standing and permission of program chairperson and instructor.

DEPARTMENT OF LINGUISTICS

306 WILSON HALL (313) 370-2175

Chairperson: *Peter J. Binkert*

Professors: *Peter J. Binkert (Linguistics, Classics) and William Schwab (Linguistics, English)*

Associate professor: *Daniel H. Fullmer (Linguistics, English)*

Assistant professor: *Michael B. Smith*

Visting assistant professor: *Rodney Johnson*

Adjunct assistant professor: *Gregory G. Brown*

Associated faculty:

Professors: *Carlo Coppola (Modern Languages and Literatures, Linguistics), Donald C. Hildum (Rhetoric, Communications and Journalism, Linguistics)*

Associate professor: *Alice S. Horning (Rhetoric, Communications and Journalism, Linguistics)*

Chief adviser: *Daniel H. Fullmer*

Linguistics is concerned with the objective study of language, language history, comparison of languages and with theories about human languages and their implications in language acquisition and learning theory. As recent research has indicated, linguistics plays a pivotal role in studies dealing with the nature of the mind. Rapid expansion of knowledge in linguistics has involved such fields as anthropology, computer and information science, language teaching, speech pathology, sociology, and dialectology, and has produced the new disciplines of biolinguistics, computational linguistics, psycholinguistics and sociolinguistics as exciting and viable fields.

The Department of Linguistics offers a cross-disciplinary liberal arts major in linguistics leading to the Bachelor of Arts degree, a modified liberal arts major in linguistics with a concentration in computer science, concentrations in linguistics with a modified major in departments of the College of Arts and Sciences, and a minor in linguistics.

The department also offers a graduate program with several specializations in linguistics. For more information, see the *Oakland University Graduate Catalog.*

Requirements for the liberal arts major in linguistics

To earn a liberal arts major in linguistics, students must complete:

1. A minimum of 32 credits in linguistics courses to include LIN 301, LIN 403 and LIN 404. Only 12 of these credits may be in ALS courses.
2. 8 credits in a cognate area — anthropology, computer science, English, modern languages, philosophy, psychology, sociology or communication arts.
3. Either:
   a. one year of foreign language study or demonstrated first-year proficiency or one year of American Sign Language, or
   b. two semesters of LIN 410: "Studies in the Structure of a Language," one Indo-European and one non-Indo-European.

Requirements for the modified major in linguistics with a minor in computer science

To earn the minor, students must complete:

1. A minimum of 24 credits in linguistics courses to include LIN 301, LIN 403 and LIN 404. Only 8 of these credits may be in ALS courses.
2. A minimum of 20 credits in CSE, including CSE 125, CSE 220, and three electives (two of which must be chosen from CSE 335, CSE 340, CSE 343, CSE 345 or any 400-level CSE course approved by an adviser). See requirements for the minor in computer science.
3. PHL 370.

Departmental honors

The Department of Linguistics offers departmental honors to students who achieve a grade point average of 3.60 or above in specified courses. In the case of the liberal arts major, the courses include the eight required LIN and ALS courses and the two courses in the cognate area. In the case of the modified major with a concentration in computer science, the courses include the six required LIN and ALS courses, the four required CSE courses and PHL 370.

The department also recommends honors for students who have modified majors in other departments with concentrations in linguistics.

Requirements for the liberal arts minor in linguistics

A minimum of 20 credits in linguistics courses, to include:

1. ALS 176 or one 200-level LIN course
2. LIN 301
3. At least 12 credits at the 300 or 400 levels (of which 4 must be at the 400 level)

Requirements for a concentration in linguistics with modified majors in other departments

Students may elect a modified major in anthropology, communication arts, English, philosophy, psychology, or sociology, and may concentrate in linguistics at the same time. Requirements are:

1. 20 credits in LIN or ALS courses, including:
   a. LIN 301
   b. For a major in: anthropology, ALS 375; communication arts, LIN 401; English, LIN 303; philosophy, LIN 407; psychology, ALS 335; sociology, ALS 376
2. For requirements in the modified majors, consult the appropriate department.

Course Offerings

APPLIED LANGUAGE STUDIES

ALS 102 Studies in Vocabulary and Etymology (4)
A basic course in vocabulary building. The origin of scientific and literary terms, foreign phrases in current use, borrowing of words into English from other languages, the relationship between meaning and culture, and meaning and context. Course not applicable to LIN programs.

ALS 176 The Humanity of Language (4)
An introduction to the interrelationships of language and other cultural subsystems. Linguistic knowledge, the child's acquisition of language, sound and writing systems, meaning and communication, language and social groups are among the topics discussed. *Satisfies the university general education requirement in language.*

ALS 328 Theory and Practice in Language Testing (4)
A study of the different types of aptitude and achievement tests used in different language settings, including research and educational situations. Brief introduction to test statistics and computerized analysis of test scores. Practical aspects of testing: design, scoring and administration.
Prerequisite: LIN 301.

ALS 334 Language Development in Children (4)
Language acquisition in normal and abnormal children: stages of the acquisition process, the role of the environment, the relationship between language and the development of other skills, language acquisition in children with sensory or psychological disorders.
Prerequisite: ALS 176 or one course in PSY.

ALS 335 Psycholinguistics (4)
The psychology of language, the accommodation between the cognitive and physical structure of humans and the structure of language, the nature of the language learning process, and the consequences of language use. Identical with PSY 335.
Prerequisite: ALS 176 or one course in PSY.

ALS 340 The Biology of Language (4)
Animal communication and the evolution of man's capacity for language, development of language in normal and abnormal children, disorders of speech, hearing and language, language and the brain, and genetic aspects of language.
Prerequisite: ALS 176 or one course in BIO.

ALS 360 Neurolinguistics (4)
The neurology of language: essentials of neuroanatomy, neurological mechanisms underlying language, aphasia and kindred disorders of speech; the relationship of language to memory, intelligence, and cognition; language and mental retardation and psychological disorders.
Prerequisite: ALS 176 or one course in BIO.

ALS 373 Ethnography of Communication (4)
The systematic description of the interaction of linguistic form, participants, setting and modes of interaction. Comparison of similar communicative events in simple and complex societies. Readings and guided student research. Identical with AN 373.
Prerequisite: ALS 176 or one course in AN.

ALS 374 Cross-Cultural Communication (4)
A theoretical and practical examination of the role of language and nonverbal modes in intercultural communication. Problems and strategies for developing awareness of and operational skills in intercultural processes. Identical with AN 374 and SCN 374.
Prerequisite: ALS 176 or one course in AN.

ALS 375 Language and Culture (4)
Language viewed as cultural behavior, its system, acquisition and use, its relation to history, attitudes and behavior, standard languages, social dialects, pidgins and creoles. Identical with AN 375.
Prerequisite: ALS 176 or one course in AN.

ALS 376 Sociolinguistics (4)
Language in its social context, intrasocietal variation, social evaluation of language varieties (style, dialect) as an influence in language change, and the choice of a language variety as an index of group solidarity, social ideology and individual attitudes. Identical with SOC 376.
Prerequisite: ALS 176 or one course in SOC.

ALS 420 Linguistics and Reading (4)
Linguistic description and analysis of the process of getting meaning from print. The course will review competing linguistic models of the reading process and insights from first and second language acquisition, psycholinguistics, reading disorders and studies in writing.
Prerequisite: LIN 301.

ALS 428 The Teaching of English as a Second Language (4)
Approaches, methods and techniques of teaching pronunciation, grammar and vocabulary. The use of language tests and laboratory techniques.
Prerequisite: LIN 301.

ALS 429 Practicum (2 or 4)
Supervised experience in some area of applied linguistics, such as working with nonnative speakers of English, tutoring, or other appropriate field work or internship, to be approved by the Department of Linguistics.
Prerequisite: LIN 301.

LINGUISTICS

LIN 207 Semantics (4)
The study of meaning, which involves the relation among speaker, the language and the real, or imagined, world. Attention is given to modern theories about the organization of thought. Identical with SCN 207.
Satisfies the university general education requirement in language.

LIN 215 Natural and Artificial Languages (6)
A study of the similarities and differences among the languages of people, animals and machines. The focus will be the general problem of constructing a robot that understands English. Involves study of the linguistic structures of natural languages. Identical with CSE 215. *Satisfies the university general education requirement in language and in mathematics, logic and computer science.*
Prerequisite: Sophomore standing; high school algebra recommended.

LIN 300 Topics in Linguistics (4)
Topics and problems selected by the instructor.
Prerequisite: Permission of the Department of Linguistics.

LIN 301 Linguistic Structures (4)
An introduction to synchronic linguistic analysis, with structural problems in natural languages.
Prerequisite: ALS 176 or a course in a foreign language taken at least at the 114 level.

LIN 302 Historical Linguistics (4)
Diachronic linguistic analysis: language change, dialect geography, establishment of genealogical relationships, the reconstruction of earlier stages of languages and the relationship of language change to synchronic analysis.
Prerequisite: LIN 301.

LIN 303 Sound Patterns of American English (4)
The fundamentals of articulatory phonetics with studies in American social and geographic dialects.
Prerequisite: LIN 301.

LIN 315 Computer Parsing of Natural Languages (4)
An examination of the syntactic and semantic properties of natural language and a survey of the techniques for computer parsing. Student projects in the computer analysis of language. Identical with CSE 315.
Prerequisite: LIN/CSE 215 or both ALS 176 and CSE 130 or CSE 132.

LIN 401 Phonetic Theory (4)
An introduction to articulatory and acoustic descriptions of spoken language and training in the recognition and production of sounds found in languages other than English. Identical with SCN 401.
Prerequisite: LIN 301.

LIN 403 Phonological Theory (4)
A presentation of theory and application of phonological analysis with emphasis on original work.
Prerequisite: LIN 301.

LIN 404 Syntactic Theory (4)
A presentation of theory and application of morphological and syntactic analysis, with emphasis on original work.
Prerequisite: LIN 301.

LIN 407 Semantic Theory (4)
An inquiry into comtemporary efforts to formulate and articulate a theory of meaning adequate for the analysis of natural language, with emphasis on the relation between syntactic and semantic analysis.
Prerequisite: LIN 301.

LIN 410 Studies in the Structure of a Language (4)
A study of the structural aspects of an individual language to be determined by the instructor. Among the languages for study are French, German, Hindi-Urdu and Sanskrit.
Prerequisite: LIN 301.

LIN 475 Philosophy of Language (4)
Identical with PHL 475.

LIN 480 Seminar in Linguistics (4)
Topics and problems selected by the instructor.
Prerequisite: LIN 301 and permission of the Department of Linguistics.

LIN 490 Independent Study (2 or 4)
Special research projects in linguistics.
Prerequisite: Permission of the Department of Linguistics.

DEPARTMENT OF MATHEMATICAL SCIENCES

334 O'DOWD HALL (313) 370-3430

Acting chairperson: *Darrell Schmidt*

Professors emeriti: *John W. Dettman, George F. Feeman, William C. Hoffman*

Professors: *Harvey J. Arnold, Louis R. Bragg, Baruch Cahlon, Jerrold W. Grossman, G. Philip Johnson, Donald G. Malm, James H. McKay, Louis J. Nachman, Darrell Schmidt, Irwin E. Schochetman, Sze-Kai Tsui, J. Barry Turett, Stuart S. Wang, Stephen J. Wright*

Associate professors: *Kevin T. Andrews, Charles C. Cheng, J. Curtis Chipman, David J. Downing, Jon Froemke, Subbaiah Perla, Meir Shillor*

Assistant professors: *Ian S. Bradbury, Almira Karabeg, Devadatta Kulkarni, Robert H. Kushler, Panajiotis Sakkalis, Peter Shi, T. N. Subramaniam, Winson Taam*

Visiting assistant professor: *Theophilus Ogunyemi*

Adjunct professors: *Joseph Assenzo, Seth Bonder, Gary C. McDonald, Edward F. Moylan*

Chief adviser: *Jerrold W. Grossman*

The Department of Mathematical Sciences offers programs of study leading to the Bachelor of Arts degree with a major in mathematics, Bachelor of Science degree with a major in mathematical sciences or applied statistics, Master of Science degree in industrial applied mathematics, Master of Science degree in applied statistics and Master of Arts in mathematics. In addition, the department offers courses that are required or recommended as electives in other academic programs. For further information on the graduate programs offered by the department, see the *Oakland University Graduate Catalog.*

Whether in the B.A. or B.S. program, students are encouraged to elect a variety of applied courses, both inside and outside of the department. The greater the familiarity with applications of mathematics, the greater the possibilities of employment in a world that is becoming more mathematics-oriented each year. Concentrations or minors, or even second majors, are available in computer science, the life sciences, the physical sciences, engineering, business administration, the social sciences and linguistics. Mathematics majors are advised to consult department faculty before planning their programs.

The department recommends that all students majoring or minoring in mathematics, in either the B.A. or B.S. program, acquire programming ability at the level of CSE 132 in their first or second year. Candidates for the B.S. degree must meet additional programming requirements. High school students intending to major in mathematical sciences should refer to the *Admissions* section of the catalog for specific preparation requirements.

Prerequisites and placement examinations

Each student enrolling in a course offered by the Department of Mathematical Sciences must meet the prerequisites for that course. Students who do not meet the prerequisites will not be permitted to enroll or remain enrolled in the course.

The prerequisites may be met in a number of ways: by completing the stated prerequisite course(s) with a grade of 2.0 or better; by completing an equivalent course at another university, college or community college with a grade of 2.0 or better; or by placing sufficiently high on the placement test given by the department.

Grades below 2.0 in prerequisite courses are not acceptable, nor are high school courses. In rare cases, the department may grant permission to enroll in a course without the formal prerequisites; students with unusual circumstances should consult the instructor of the course or a department adviser.

The placement test covers the algebra and trigonometry that are normally taught in good high school college-preparatory programs. Successful performance on the placement test will enable a student to enter a regular college-level math course (MTH 121, MTH 122, MTH 154, MTH 185, STA 225 or MTE 210) without having to take MTH 011* ("Elementary Algebra"), MTH 012* ("Intermediate Algebra") or MTH 141 ("Precalculus").

Students who test deficient in these subjects must take the appropriate prerequisite course(s) — or the equivalent at another university, college or community college — before attempting the regular courses. The levels of placement are as follows:

E: The student must start in MTH 011*

I: The student has demonstrated competence through MTH 011* and is ready for MTH 012* or MTH 185

R: The student has demonstrated competence through MTH 012* and is ready for MTH 121, MTH 141, MTH 185, MTE 210 or STA 225

C: The student has demonstrated competence through MTH 141 and is ready for MTH 121, MTH 122, MTH 154, MTH 185, MTE 210 or STA 225

Formal course competency credit is not available in MTH 011*, MTH 012* or MTH 141.

*See information concerning these courses below.

Requirements for the liberal arts major in mathematics, B.A. program

To earn the Bachelor of Arts degree with a major in mathematics, students must:

1. Complete a minimum of 41 credits in mathematical sciences: MTH 154, MTH 155, MTH 254, MTH 256, MTH 351, MTH 475; one of STA 226, APM 257 or APM 263; and additional courses labeled APM, MOR, MTH or STA that are at or above the 300 level, including one course at the 400 level other than MTH 414 or MTH 497. (MTH 414, however, can count toward the major.)
2. Complete five courses outside the Department of Mathematical Sciences in areas related to mathematics. It is recommended that at least two of these courses be in science.
3. Earn a minimum grade of 2.0 in each mathematical science course used to satisfy the major requirements in mathematical sciences.

Requirements for the major in mathematical sciences, B.S. program

To earn the Bachelor of Science degree with a major in mathematical sciences, students must:

1. Complete a core of 26 credits in mathematical sciences: MTH 154, MTH 155, MTH 254, MTH 256, APM 257, MTH 351, STA 226.
2. Complete an approved program of 20 additional credits in mathematical sciences courses from the areas below, including at least two courses from a single area, with at least two areas represented (approved Independent Study and/or Special Topics courses may also be included):
   a. Applicable analysis and mathematical modeling (APM 332, APM 357, APM 455)
   b. Discrete mathematics (APM 263, APM 463, APM 477)
   c. Numerical analysis (APM 433, APM 434)
   d. Operations research (MOR 342, MOR 346)
   e. Pure mathematics (MTH 302, MTH 352, MTH 361, MTH 372, MTH 415, MTH 453, MTH 461, MTH 465, MTH 475)
   f. Statistics (STA 322, STA 323, STA 324, STA 425, STA 426, STA 427, STA 428).
3. Complete 16 credits in an area related to the student's option outside the department.
4. Earn a minimum grade of 2.0 in each mathematical sciences course used to satisfy the major requirements in mathematical sciences.
5. Complete CSE 132 and CSE 262 with an average grade of at least 2.00 (or equivalent).

Requirements for the major in applied statistics, B.S. program

To earn the Bachelor of Science degree with a major in applied statistics, students must:

1. Complete 28 credits in statistics: STA 226, STA 322, STA 427, STA 428 and 12 credits chosen from STA courses numbered above 300 (but not including STA 501-502).
2. Complete MTH 154, MTH 155, MTH 254, MTH 256 and one more course chosen from APM 257, APM 263, APM 332, APM 433, APM 434; MTH 351; or MOR 342, MOR 346.
3. Complete CSE 132 and either CSE 232 or CSE 236.
4. Complete ENG 380 or 382.
5. Complete a course in ethics given by the Department of Philosophy.
6. Complete 16 credits in a single area outside the Department of Mathematical Sciences to which statistics could be applied. The 16 credits must include at least one course that is quantitatively oriented. The rest of the 16 credits could come from prerequisite courses or any related courses. These 16 credits must be approved in advance by an adviser in the Department of Mathematical Sciences. The courses need not be in a single department, but the total package should constitute a substantive examination of a single area.
7. Earn a minimum grade of 2.0 in each mathematical sciences and computer science course used to satisfy the major requirements.

Secondary Teacher Education Program (STEP): Mathematics

The Secondary Teacher Education Program (STEP) at Oakland University is an extended program of study leading to certification. Students in this program must complete the requirements for a B.A. degree in mathematics (in which STA 226, MTH 361, MTH 414 and CSE 132 must be included).

A program in STEP must include a 20-hour secondary teaching minor and a sequence of undergraduate course work in education to include SED 300, FE 345, RDG 538 and SED 427. Extended study including SED 428, SED 455, SE 501 and FE 602 is also required. Further details on program and admission requirements and procedures can be found in the School of Education and Human Services portion of the catalog and by consulting advisers in the Department of Mathematical Sciences and the School of Education and Human Services advising office (472 O'Dowd Hall, 370-4182).

Departmental honors

Departmental honors may be awarded to graduating seniors in either the B.A. or the B.S. degree program who have demonstrated outstanding achievement in their mathematical science course work, as evidenced by high grades, high level courses and/or more than a minimum number of courses. Further information is available from the department chairperson.

Requirements for the liberal arts minor in mathematics

To qualify for the liberal arts minor in mathematics, students must take a minimum of 20 credits of departmental course work beyond MTH 154. These credits must include MTH 155, MTH 254 and MTH 256. Two additional courses must be chosen from among STA 226, MTH 351, APM 257, APM 331, APM 263 or any 400-level course from the APM, MOR, MTH or STA listings except MTH 414 and MTH 497. Each course used to satisfy the minor requirements must be completed with a grade of at least 2.0.

Students majoring in engineering or computer science should consult "Concentrations and minors" in the School of Engineering and Computer Science section of this catalog for information on minors in applied mathematics and applied statistics.

Requirements for the secondary teaching minor in mathematics

To qualify for the secondary teaching minor in mathematics, students must take a minimum

of 20 credits of departmental course work. Only MTH 154 and STA 226 and courses with at least MTH 154 as a prerequisite may be used to satisfy this requirement. It is recommended that students select their courses from among MTH 154, MTH 155, MTH 254, MTH 256, MTH 351 and MTH 361; APM 257, APM 263 and APM 332; STA 226 and STA 322; and MOR 342 and MOR 346. Each course used to satisfy the minor requirements must be completed with a grade of at least 2.0.

Requirements for the minor in computer science for mathematics majors

The requirements for a minor in computer science are determined by the School of Engineering and Computer Science. For this minor, students must complete a minimum of 20 credits of CSE courses with a grade point average of at least 2.00, from the following:

1. A maximum of 8 credits from CSE 125, and either CSE 130 or CSE 132.
2. A maximum of 8 credits from CSE 220, CSE 248, CSE 280 and CSE 262.
3. A maximum of 4 credits from the "Programming Language Labs."
4. A minimum of 8 credits taken from CSE 335, CSE 340, CSE 343, CSE 345 or any other 400-level CSE course.

Students seeking a minor must obtain permission from the Department of Computer Science and Engineering in order to register for CSE courses at the 300 and 400 levels.

Skill development courses: MTH 011 and MTH 012

MTH 011 and MTH 012 are skill development courses specially designed to aid incoming students who need additional preparation prior to entering one of the university's standard math sequences. Credits earned in these courses, while part of a student's official record, may not be applied toward minimal graduation requirements in any academic program. Grades earned in these courses will be included in the student's grade point average.

Note that when a student exercises the repeat option and takes MTH 011 or MTH 012 to replace a grade previously earned in MTH 102, 103, 111 or 112, the grade earned in MTH 011 or MTH 012 will replace the former grade and will remove credits which would have counted toward minimal graduation requirements.

Course Offerings

MATHEMATICS

MTH 011 Elementary Algebra (4)
Review of order of operations, integral exponents, square roots; linear equations in one variable, polynomial arithmetic, factoring, quadratic equations, points and lines in the coordinate plane, 2 by 2 and 3 by 3 systems of linear equations, story problems, absolute value linear inequalities in one variable intervals on the real line. See note above. *This course cannot be used to satisfy minimal graduation requirements in any program.*

MTH 012 Intermediate Algebra (4)
Algebraic fractions, nonlinear inequalities, analytic geometry (distance, circles, parabolas, hyperbolas), the algebra of exponents, radicals and logarithms; problem solving. See note above. *This course cannot be used to satisfy minimal graduation requirements in any program.*
Prerequisite: MTH 011 or placement.

MTH 100 Topics in Elementary Mathematics (2 or 4)
A selection of topics designed to develop student awareness and appreciation of mathematics with an emphasis on problem solving. Includes individualized reinforcement of basic arithmetic skills, as well as a laboratory and reading component. Graded S/U.
Prerequisite: Placement in Academic Opportunity Program.

MTH 121 Linear Programming, Elementary Functions (4)
Systems of equations, matrices, linear programming (simplex method); rational, exponential and logarithmic functions. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 012 or placement.

MTH 122 Calculus for the Social Sciences (4)
The basic concepts, theorems and applications to the social sciences of the differential and integral calculus of one and several variables. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 121 or MTH 141 or placement.

MTH 141 Precalculus (4)
Functions, roots of polynomials, rational, exponential and logarithmic functions, trigonometric functions (including graphs, identities, inverse functions, equations and applications), complex numbers, analytic geometry and conic sections.
Prerequisite: MTH 012 or placement.

MTH 154-155 Calculus (4 each)
A comprehensive study of analytic geometry, limits, differentiation and integration of functions of one real variable, including transcendental functions, infinite series, indeterminate forms, polar coordinates, numerical methods and applications. Each is offered fall and winter semester. *MTH 154 satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 141 or placement.

MTH 185 Mathematical Sciences in the Modern World (4)
Designed for students without an extensive mathematics background who wish to explore the ways people use mathematical sciences to solve problems that arise in modern society. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 011 or placement.

MTH 254 Multivariable Calculus (4)
A study of vectors, polar coordinates, three-dimensional geometry, differential calculus of functions of several variables, exact differential equations, multiple integrals, line and surface integrals, and vector fields.
Prerequisite: MTH 155.

MTH 256 Introduction to Linear Algebra (3)
An introduction to the theoretical and computational aspects of linear algebra. Topics covered include linear equations, vectors and matrices, matrix algebra, determinants, eigenvalues and eigenvectors, linear transformations, vector spaces, and inner product spaces.
Prerequisite: MTH 155.

MTH 290 Independent Study (2 or 4)
Reading or research on some mathematical topic. May be repeated for additional credit.
Prerequisite: Permission of department.

MTH 302 Introduction to Advanced Mathematical Thinking (4)
The propositional and predicate calculus, set theory, methods of mathematical proof, inductive and recursive thinking, relations and functions, infinity. Emphasis is on rigorous proofs of mathematical statements.
Prerequisite: MTH 256 or permission of department.

MTH 351 Advanced Calculus I (4)
The topology of the real number line and of n-dimensional Euclidean space, continuity and uniform continuity, derivatives, the Riemann integral, sequences and series, uniform convergence. *Replaces APM 331.*
Prerequisite: MTH 254 and MTH 256; MTH 302 recommended.

MTH 352 Complex Variables (4)
A study of analytic functions of a complex variable including differentiation and integration, series representations, the theory of residues and applications.
Prerequisite: MTH 254.

MTH 361 Geometric Structures (4)
A study of topics from Euclidean geometry, projective geometry, non-Euclidean geometry and transformation geometry.
Prerequisite: MTH 256 or permission of instructor.

MTH 372 Number Theory (4)
Number-theoretic functions, diophantine equations, congruences and quadratic residues.
Prerequisite: MTH 155.

MTH 405 Special Topics (2 or 4)
Advanced study of some topic in mathematics. May be repeated for additional credit.
Prerequisite: Permission of department.

MTH 414 History of Mathematics (4)
Mathematics from ancient to modern times, its growth, development and place in human culture.
Prerequisite: MTH 351 or permission of instructor.

MTH 415 Foundations of Mathematics (4)
An examination of the logical foundations of mathematics including analysis of the axiomatic method, basic set theory, cardinal and ordinal numbers, and the axiom of choice.
Prerequisite: MTH 351.

MTH 453 Advanced Calculus II (4)
Improper integrals, derivatives and integrals in n-dimensional Euclidean space, implicit and inverse function theorems, differential geometry and vector calculus, Fourier series.
Prerequisite: MTH 351.

MTH 461 General Topology (4)
A study of topological spaces and continuous functions. Separation and countability properties, connectedness, compactness and local properties.
Prerequisite: MTH 351.

MTH 465 Differential Geometry (4)
Theory of curves and surfaces in Euclidean space with an introduction to the theory of matrix Lie groups.
Prerequisite: MTH 351.

MTH 475 Abstract Algebra (4)
Groups, subgroups, cosets, homomorphisms; rings and ideals, integral domains; fields and field extensions. Applications.
Prerequisite: MTH 256; MTH 302 recommended.

MTH 490 Independent Study (2 or 4)
Research on some mathematical topic. May be repeated for additional credit.
Prerequisite: Permission of department.

MTH 497 Apprentice College Teaching (2 or 4)
Open to any well-qualified junior or senior who obtains consent of a faculty member to assist in presenting a regular college course. The apprentice should be capable of assuming limited classroom teaching duties. May be repeated for additional credit.
Prerequisite: Permission of department.

APPLICABLE ANALYSIS AND MATHEMATICAL MODELING

APM 257 Introduction to Differential Equations (3)
An introduction to the basic methods of solving ordinary differential equations, including the methods of undetermined coefficients, variation of parameters, series, Laplace transforms and numerical methods. Separable, exact and linear equations. Applications.
Prerequisite: MTH 155.

APM 263 Discrete Mathematics (4)
Concepts and methods of discrete mathematics with an emphasis on their application to computer science, logic and proofs, sets and relations, algorithms, induction and recursion, combinatorics, graphs and trees.
Prerequisite: MTH 155.

APM 332 Applied Matrix Theory (4)
Eigenvalues, eigenvectors and their applications, matrix calculus, linear differential equations, Jordan canonical forms, quadratic forms. Time will also be spent on various computational techniques.
Prerequisite: MTH 256 and APM 257.

APM 357 Elements of Partial Differential Equations (4)
Partial differential equations of physics, Fourier methods, Laplace transforms, orthogonal functions, initial and boundary value problems and numerical methods.
Prerequisite: APM 257.

APM 405 Special Topics (2 or 4)
Advanced study of a selected topic in applied mathematics. May be repeated for additional credit.
Prerequisite: Permission of department.

APM 407 Mathematics for Engineering (4)
Elementary ordinary differential equations, linear algebra, matrix operations and numerical methods. Closed to math majors and minors.
Prerequisite: MTH 155.

APM 433 Numerical Methods (4)
Propagation of errors, approximation and interpolation, numerical integration, methods for the solution of equations, Runge-Kutta and predictor-corrector methods. Credit will not be granted for both APM 433 and CSE 417.
Prerequisites: MTH 256, APM 257 and a knowledge of a scientific programming language, or permission of the instructor.

APM 434 Applied Numerical Methods: Matrix Methods (4)
Systems of linear equations, Gaussian elimination, LU factorization, approximation and curve fitting, eigenvalue problems, nonlinear systems. Credit will not be granted for both APM 434 and CSE 418.
Prerequisites: MTH 254, MTH 256 and a knowledge of a scientific programming language, or permission of the instructor.

APM 455 Intermediate Ordinary Differential Equations (4)
Review of elementary techniques, existence and uniqueness theory, series methods, systems of equations, oscillation and comparison theorems, Sturm-Liouville theory, stability theory and applications.
Prerequisite: APM 257 and MTH 351.

APM 463 Graph Theory and Combinatorial Mathematics (4)
Introduction to combinatorics. Topics include techniques of enumeration, fundamental concepts of graph theory, applications to transport networks, matching theory, and block design.
Prerequisite: MTH 256 and APM 263.

APM 477 Computer Algebra (4)
The mathematics and algorithms for symbolic computation. Includes theory of algebraic extensions, modular and p-adic methods, Groebner bases, factorization and zeros of polynomials, solutions to systems of polynomial equations, applications to automatic geometric theorem proving, and closed form solutions to differential equations.
Prerequisites: MTH 256 and knowledge of a scientific computer programming language, or permission of instructor.

APM 490 Independent Study (2 or 4)
Reading or research on some topic in applied mathematics. May be repeated for additional credit.
Prerequisite: Permission of department.

STATISTICS

STA 225 Introduction to Statistical Concepts and Reasoning (4)
Statistical ideas and thinking relevant to public policy, quality improvement, and physical and social sciences. Data collection and presentation; association; normal distribution; probability and simulation; confidence intervals, p-values, hypothesis testing. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 012 or placement.

STA 226 Applied Statistics (4)
Introduction to statistics as applied to the physical, biological and social sciences and to engineering. Applications of special distributions and nonparametric techniques. Regression analysis and analysis of variance. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Corequisite: MTH 122 or MTH 154.

STA 322 Regression Analysis (4)
Basic results from probability and statistics, linear regression, model testing and transformations, matrix methods in multiple regression, polynomial regression, indicator variables, stepwise and other search procedures.
Prerequisite: STA 226 or permission of instructor.

STA 323 Design of Experiments (4)
Planning of experiments, completely randomized, randomized block and Latin square designs, incomplete blocks, factorial and fractional factorial designs, confounding, response surface methodology.
Prerequisite: STA 226 or permission of instructor.

STA 324 Analysis of Categorical Data (4)
Analysis techniques for data obtained by counting responses in different categories. Discrete distributions, goodness of fit, contingency tables, association and agreement measures, loglinear and logit models.
Prerequisite: STA 226 or permission of instructor.

STA 405 Special Topics (2 or 4)
Advanced study of a selected topic in statistics. May be repeated for additional credit.
Prerequisite: Permission of department.

STA 425 Elements of Stochastic Processes (4)
Random walk models, Markov chains and processes, birth and death processes, queuing processes, diffusion processes and non-Markov processes.
Prerequisite: STA 226 and MTH 351, or permission of instructor.

STA 426 Statistical Analysis by Graphical and Rank Order Methods (4)
Exploratory data analysis, rank tests for location and scale, power of competing tests, confidence intervals, nonparametric analysis of variance methods.
Prerequisite: STA 226 or permission of instructor.

STA 427-428 Introduction to Mathematical Statistics (4 each)
The distribution of random variables, conditional probability and stochastic independence, special distributions, functions of random variables, interval estimation, sufficient statistics and completeness, point estimation, tests of hypothesis and analysis of variance.
Prerequisite: MTH 254, MTH 256 and STA 226; or permission of instructor.

STA 490 Independent Study (2 or 4)
Reading or research on some statistical topic. May be repeated for additional credit.
Prerequisite: Permission of department.

OPERATIONS RESEARCH

MOR 342 Introduction to Operations Research (4)
Topics will be drawn from deterministic models of operations research, such as linear programming, network analysis, dynamic programming, inventory control and integer programming.
Prerequisite: MTH 256 or both MTH 121 and MTH 122 with 3.0 or better.

MOR 346 Stochastic Models in Operations Research (4)
Stochastic processes including Markov chains with applications to the development and analysis of queuing models. Further topics drawn from such areas as reliability, decision analysis, stochastic inventory control and simulation.
Prerequisite: MTH 254 and STA 226 or MTH 122 and QMM 250 with 3.0 or better.

MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS

MTE 210 Numerical Structures (4)
Elementary set and number theory. Components of the real number system. History of numeration. Algorithms of arithmetic. Other general algebraic structures. Problem solving. Enrollment limited to elementary education majors.
Prerequisite: MTH 012 or placement.

MTE 211 Structures of Geometry (4)
An informal approach to geometry including topics from Euclidean and transformational geometries. Stress is placed on topics close to the elementary school curriculum such as mensuration formulae, ruler and compass construction, symmetries, congruence and similarity, and figures in two and three-dimensional and Euclidean spaces. Enrollment is limited to elementary education majors.
Prerequisite: MTE 210.

MTE 410 Elementary School Mathematics and the Computer (4)
Selected topics in mathematics useful to elementary school teachers in line with current curriculum developments. Computer-assisted programs will be emphasized. Enrollment is limited to elementary education majors.
Prerequisite: MTE 211, STA 225 and IST 396.

DEPARTMENT OF MODERN LANGUAGES AND LITERATURES

418 WILSON HALL (313) 370-2060

Chairperson: *Renate Gerulaitis*

Professors emeriti: *John W. Barthel (German), Dolores Burdick (French), Alfred J. DuBruck (French), Don R. Iodice (French), Helen Kovach-Tarakanov (Russian), Richard A. Mazzara (French), Robert E. Simmons (German), Amitendranath Tagore (Chinese), Carmen Urla (Spanish)*

Professors: *Carlo Coppola (Hindi-Urdu), Renate Gerulaitis (German), Jack R. Moeller (German), Munibur Rahman (Hindi-Urdu)*

Associate professors: *David Jaymes (French), John Marney (Chinese), Kathryn M. McArdle-Pigott (Spanish)*

Assistant professors: *Nicole Buffard-O'Shea (French), Christopher Clason (German), Barbara Mabee (German), Patricia G. Montenegro (Spanish), Ronald F. Rapin (Spanish), Sally M. Silk (French)*

Chief advisers: *David Jaymes, Jack R. Moeller*

The Department of Modern Languages and Literatures offers programs leading to the Bachelor of Arts degree. The aim of the modern language curriculum is to help students acquire competence in the language of a given country or countries and, through the study of literature and civilization, to acquaint them with the cultural background of the country or countries. It also prepares students for graduate work, teaching, and careers in business or government service.

Students may wish to investigate the advantages of combining a knowledge of foreign languages and cultures with competence in other fields. Majors such as political science, English, linguistics, art and music are enriched by the knowledge of a foreign language and culture. Students interested in study or work abroad, graduate study or non-academic careers should get help from special advisers in the department familiar with the possibilities in these areas.

The selection of a foreign language should be a reasoned one. It is usually best to continue with a language begun in high school. However, students who wish to learn a language not widely taught at the secondary level should not hesitate to change. Those who need advice about these choices should consult with a department faculty member.

Placement examinations

A modern language placement test is administered by the Special Advising Office. Students who enter Oakland University with previous work in French, German or Spanish must take the appropriate placement test during summer orientation. Students are urged to consult with the department's advising office about the proper level of placement.

Admission to major standing

To be eligible for a major in one or more foreign languages, a student must be admitted to major standing by the Department of Modern Languages and Literatures. Normally, a student should apply for major standing at the department office after having attained 56 credits and no later than three semesters before graduation. A student planning to graduate with a Bachelor of Arts degree will be admitted to major standing after completion of 8 credits at the 300 level with a minimum grade point average of 2.80.

Requirements for liberal arts majors in a modern language and literature

The department offers three liberal arts degrees in language and literature: French, German and Spanish. The requirement for each degree is a minimum of 32 credits at the 300 and 400 levels in the chosen language, culture and literature. In German, courses numbered 316, 317, 318, 370, 380, 408 and two 400-level literature courses must be included. French and Spanish require courses numbered 314, 316, 318, 370, 380 and 408, plus two 400-level literature courses. In all languages, two collateral courses are required: one in history or civilization (in French, FRH 351 or 352) and one numbered LIT 181 or 182. Students planning graduate work are strongly urged to study a second foreign language recommended by the department.

Requirements for the liberal arts major in two modern languages

The requirement is a minimum of 18 credits at the 300 and 400 levels in each of two languages. In French and Spanish, courses numbered 314, 316, 318, 355, 408 and 455 are required. German must include courses numbered 316, 317, 318, 355, 408 and 455. Chinese requires 18 credits at the 300-400 level.

Three collateral courses are required: LIN 301 and two courses in history or civilization, one in each language area, to be approved by the student's department adviser. LIT 181 and LIT 182 are recommended. Students are strongly advised to complete a minor in a complementary field such as economics or business. Most traditional graduate programs in language and literature will require students in this major to make up courses in literature.

Requirements for the modified liberal arts major in German with a concentration in German studies

Students must complete a minimum of 24 credits in German beyond second year and 20 credits in related fields. The German courses required are GRM 316, 317, 318, 340, 355, 370, 408 and 440. The courses required in related fields are AH 345, HST 343, LIT 182, MUS 100 or MUS 320, PS 373. In addition, students must choose two corequisites from among the following: AH 334, AH 365, HST 327, HST 341, MUS 345.

Secondary Teacher Education Program (STEP): Modern Languages and Literatures

The Secondary Teacher Education Program (STEP) at Oakland University is an extended program of study leading to certification. Students in this program must complete the requirements for a B.A. degree in a modern language and literature. The department offers the following liberal arts majors with specialization in secondary teaching: French, German, German Studies and Spanish.

A program in STEP must include a 20-hour secondary teaching minor and a sequence of undergraduate course work in education to include SED 300, FE 345, RDG 538 and SED 427. Extended study including SED 428, SED 455, SE 501 and FE 602 is also required. Further details on program and admission requirements and procedures can be found in the School of Education and Human Services portion of the catalog and by consulting advisers in the Department of Modern Languages and Literatures and the School of Education and Human Services advising office (472 O'Dowd Hall, 370-4182).

Requirements for the modified liberal arts major in a modern language with majors or minors in economics, general business, international management, engineering, or computer science

Modified majors are available in French, German, Spanish and Chinese with majors or minors in economics, business, international management, engineering, or computer science. (Students with majors or minors in one of the other professional schools may petition the department

for a modified major.) The requirement in French, German or Spanish is a minimum of 24 credits at the 300-400 level. In Chinese, the requirement is a minimum of 16 credits at the 300-400 level, plus 12 credits in Chinese international studies including IS 210 and IS 490. Students should note the credit hour restriction for the minors in economics or business. (Students interested in a five-year program leading to a Bachelor of Arts degree in a modern language and a Master of Business Administration should consult the department's "Student Advising Guide" and the *Oakland University Graduate Catalog.)*

Requirements for the liberal arts major in Chinese language and civilization

The requirements are a minimum of 16 credits in Chinese language courses numbered 314, 316, 355, 380, and 408 and a minimum of 20 credits in East Asian studies courses, including IS 210. For further information, see the East Asian studies program.

Requirements for the liberal arts major in Latin American language and civilization

The requirements are a minimum of 18 credits in Spanish language courses numbered SPN 314, 316, 318, 355, 370, and 408 and 20 credits in Latin American studies courses, including IS 250.

Departmental honors and scholarships

At the discretion of the department, departmental honors in a foreign language may be awarded to graduating seniors who complete a writing project, usually either a critical paper or a translation, of high quality and who maintain a grade point average in major courses of at least 3.60. Students who wish to be nominated for honors should consult a departmental adviser one year before graduation. In accordance with university policy, each year normally no more than one-third of the graduates may be nominated for departmental honors.

There are three scholarships specifically for majors in the department. The Robert E. Simmons Tuition Grant provides two one-semester grants for German majors. The Don R. Iodice Grant-in-Aid for Foreign Travel is available for majors who will return to Oakland University for a minimum of two full semesters. The Carmine Rocco Linsalata Memorial Scholarship offers one stipend to an incoming student who intends to major in a foreign language and another to a major with a minimum of 28 credits.

Translation program

Students may qualify for a translation certificate by completing language courses numbered 355, 455 and 491, and may then become candidates for the American Translators Association Accreditation Test. A 491 course does not apply toward the major.

Requirements for the liberal arts minor in a modern language and literature

Minors are available in French, German or Spanish language and literature. The requirement is a minimum of 20 credits beyond the 115 level, including 370 and 380.

Requirements for the liberal arts minor in a modern language

Minors are available in Chinese, French, German or Spanish language. The requirement is a minimum of 20 credits beyond 114-115. French and Spanish must include courses numbered 314, 316 and 318, and 4 credits from courses numbered 355, 408, 455 and 457. German requires courses numbered 316, 317 and 318, and 4 credits from courses numbered 355, 408, 455 or 457.

Requirements for the liberal arts minor in German studies

Students must complete a minimum of 22 credits in German beyond first year. The courses required are GRM 316, 317, 318, 340 and 440. HST 343 is also required.

Requirements for the secondary teaching minor in a modern language

The requirement for a secondary teaching minor in a modern language is a minimum of 20 credits in one language. Of these, 16 credits must be at the 300-400 level, including 314, 316 and 370 in French and Spanish and 316, 317, 318 and 370 in German.

Requirements for an elementary teaching major in a modern language

For students who wish to teach a foreign language at the elementary or junior high school level, the requirements are a minimum of 36 credits with at least 20 credits at the 300-400 level. For complete details on other requirements, including courses in education, consult the Department of Curriculum, Instruction and Leadership in the School of Education and Human Services section of this catalog.

Requirements for an elementary teaching minor in a modern language

Requirements are a minimum of 24 credits with at least 8 credits at the 300-400 level. For complete details on other requirements, including courses in education, consult the Department of Curriculum, Instruction and Leadership in the School of Education and Human Services section of this catalog.

Course Offerings

CHINESE LANGUAGE AND LITERATURE

CHE 114-115 Introduction to Chinese and Chinese Culture (4 each)
A two-semester sequence in the fundamentals of modern Mandarin Chinese (kuo-yu) and Chinese culture. A beginning course. CHE 114 must be taken first. *CHE 114 satisfies the university general education requirement in language.*

CHE 214-215 Second Year Chinese (4 each)
A two-semester sequence continuing the work of CHE 114-115, with the addition of cultural and literary readings. CHE 214 must be taken first.
Prerequisite: One year of college Chinese or equivalent.

CHE 310 Literary Chinese (4)
Studies based upon literary texts of Confucius, Mo Tzu, etc.
Prerequisite: CHE 215.

CHE 314 Grammar Review through Translation (4)
Review of Chinese grammar through translation of a variety of materials from English to Chinese and Chinese to English.
Prerequisite: CHE 215.

CHE 316 Intermediate Chinese Conversation (2)
Provides a transition between the carefully structured drills of other intermediate courses and free manipulation of the spoken language. Should be taken concurrently with CHE 314.
Prerequisite: CHE 215.

CHE 330 Readings in Chinese Political Essays (4)
Studies in the documentary style of Chinese, selected mainly from writings of twentieth century political leaders of China.
Prerequisite: CHE 215.

CHE 355 Translation: Chinese (4)
Translation from Chinese to English of a range of materials from commercial and technical to literary, with an emphasis on idiomatic English.
Prerequisite: CHE 314, 316.

CHE 380 Survey of Chinese Literature (4)
Masterpieces of Chinese literature; a selected historical overview.
Prerequisite: CHE 215.

CHE 408 Advanced Oral Practice in Chinese (2)
Practice in speaking at an advanced level, which may include style and delivery appropriate to formal and informal speaking situations. May include oral presentations, self-recording and critique.
Prerequisite: CHE 316.

CHE 410 Chinese Fiction and Drama (4)
Studies in texts and criticism of fiction and drama, modern or classical.
Prerequisite: CHE 310.

CHE 418 The Twentieth Century (4)
Studies in modern pai-hua literature, including short stories, poems, essays, and pamphlets.
Prerequisite: CHE 380.

CHE 440 Chinese Poetry (4)
Selections from either classical T'ang and Sung Dynasty poems or from the post-May-fourth movement of poetry.
Prerequisite: CHE 310.

CHE 457 Business Chinese (4)
Introduction to the essential vocabulary and style specific to Chinese business as well as to the basic workings of the Chinese economy.
Prerequisite: CHE 355.

CHE 490 Directed Readings and Research in Chinese (2, 4 or 8)
For students with a high degree of competence in the language. May be conducted either in literary or modern Chinese. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

FRENCH LANGUAGE AND LITERATURE

FRH 114-115 Introduction to French and French Culture (4 each)
A two-semester sequence in the fundamentals of French and French culture. A beginning course. FRH 114 must be taken first. *FRH 114 satisfies the university general education requirement in language.*

FRH 214-215 Second Year French (4 each)
A two-semester sequence continuing the work of FRH 114-115, with the addition of cultural and literary readings. FRH 214 must be taken first.
Prerequisite: One year of college French or equivalent.

FRH 216 Basic French Conversation (2)
Designed to develop the student's ability to organize and express ideas in French with a minimum of inhibition.
Prerequisite: FRH 115.

FRH 290 Directed Readings in French (2 or 4)
A reading course for nonmajors in research in a particular area. Approximately 50 hours of reading per credit; one conference weekly with the instructor.
Prerequisite: FRH 215.

FRH 314 Grammar Review (4)
Review of French grammar through a variety of approaches such as reading, translation and composition. Conducted in French. Offered fall semester.
Prerequisite: FRH 215.

FRH 316 Intermediate French Conversation (2)
Practice in speaking at intermediate level. Format may include oral presentations and phonetics. Offered winter semester. Must be taken concurrently with FRH 318.
Prerequisite: FRH 215.

FRH 318 French Composition (2)
Practice in written composition. Techniques of textual analysis and exposition are introduced. Offered winter semester. Must be taken concurrently with FRH 316.
Prerequisite: FRH 215.

FRH 351 French Civilization (4)
An overview of contemporary life, education, and socio-economic conditions in France. Conducted in French. Offered in alternate years.
Prerequisite: FRH 215.

FRH 352 The Modern French Consciousness (4)
An examination of the origins and development of the twentieth century French identity. Particular attention will be paid to concepts such as individuality, political awareness and popular culture. Conducted in French. Offered in alternate years.
Prerequisite: FRH 314, 316, 318.

FRH 355 Translation into English (4)
Translation from French to English of materials that may range from commercial and technical to literary. Offered winter semester.
Prerequisite: FRH 314.

FRH 369 Field Experience in Teaching French in Elementary and Middle Schools (2 or 4)
Provides supervised experience in teaching French in elementary and middle schools. Graded S/U. May be repeated for credit once. Does not carry credit toward departmental major.
Prerequisite: FRH 314.

FRH 370 Introduction to French Literature (4)
An introduction to textual analysis based on selected readings. Conducted in French. Offered fall semester.
Prerequisite: FRH 215.

FRH 380 Survey of French Literature (4)
A survey of French literature. Intended to supplement the work of FRH 370. Conducted in French. Offered winter semester.
Prerequisite: FRH 370.

FRH 390 Directed Readings in French (2 or 4)
Directed individual readings in French. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

FRH 408 Advanced Oral Practice in French (2)
Practice in speaking at an advanced level. Format may include oral presentations and readings.
Prerequisite: FRH 316 and 318.

FRH 413 From the Middle Ages through the Sixteenth Century (4)
A study of works in various genres of several periods. Works and authors may include epics, bawdy tales, courtly romances, Villon, Rabelais and Montaigne. Conducted in French.
Prerequisite: FRH 370 and FRH 380.

FRH 415 The Seventeenth and Eighteenth Centuries (4)
A study of works in various genres by leading French authors such as Pascal, Corneille, Racine, Moliere, La Fontaine, Montesquieu, Diderot, Rousseau and Voltaire. Conducted in French.
Prerequisite: FRH 370 and FRH 380.

FRH 417 The Nineteenth Century (4)
A study of works in various genres by leading French authors such as Stendhal, Balzac, Hugo, Nerval, Flaubert, Zola, Baudelaire and Mallarme. Conducted in French.
Prerequisite: FRH 370 and FRH 380.

FRH 418 The Twentieth Century (4)
A study of contemporary works from various genres demonstrating different approaches.
Prerequisite: FRH 370 and FRH 380.

FRH 455 Translation into French (4)
Translation from English into French of a wide variety of materials that may range from commercial and technical to literary. Offered fall semester in alternate years.
Prerequisite: FRH 314, 316, 318 and 355.

FRH 457 Business French (4)
Introduction to the essential vocabulary and style specific to French business as well as to the basic workings of the French economy.
Prerequisite: FRH 314, 316, 318 and 355.

FRH 480 Undergraduate Seminar (2 or 4)
Study of individual authors, selected themes or critical problems. Conducted in French.
Prerequisite: FRH 370 and 380.

FRH 490 Independent Reading and Research (2, 4 or 8)
Directed individual research and reading for advanced French majors. May be repeated for a total of 8 credits.
Prerequisite: Two 400-level French literature courses and permission of department.

FRH 491 Independent Translation Project (4 or 8)
Directed annotated translation from French into English of a major work in the student's field. May not be counted toward the major.
Prerequisite: FRH 355 and 455 and permission of department.

GERMAN LANGUAGE AND LITERATURE

GRM 114-115 Introduction to German and German Culture (4 each)
A two-semester sequence in the fundamentals of German and German culture. A beginning course. GRM 114 must be taken first. *GRM 114 satisfies the university general education requirement in language.*

GRM 214-215 Second Year German (4 each)
A two-semester sequence continuing the work of GRM 114-115, with the addition of cultural and literary readings. GRM 214 must be taken first.
Prerequisite: One year of college German or equivalent.

GRM 290 Directed Readings in German (2 or 4)
A reading course for nonmajors interested in research in a particular area. Approximately 50 hours of reading per credit; one conference weekly with the instructor.
Prerequisite: GRM 215.

GRM 316 Intermediate German Conversation I (2)
Provides a transition between the carefully structured drills of other intermediate courses and free manipulation of the spoken language. Should be taken concurrently with GRM 318. Offered fall semester.
Prerequisite: GRM 215.

GRM 317 Intermediate German Conversation II (2)
Provides practice in the free manipulation of the language. Offered winter semester.
Prerequisite: GRM 316 or permission of instructor.

GRM 318 German Composition (2)
Practice in written composition. Techniques of textual analysis and exposition are introduced. Should be taken concurrently with GRM 316. Offered fall semester.
Prerequisite: GRM 215.

GRM 340 German Culture I (4)
Culture in history before 1900. The course covers the principal characteristics of culture and civilization generally regarded as important by German-speaking people themselves. Conducted in German. Offered fall semester in alternate years.
Prerequisite: GRM 215 or equivalent.

GRM 355 Translation: German (4)
Translation from German to English of a range of materials from commercial and technical to literary, with an emphasis on idiomatic English. Offered winter semester.
Prerequisite: GRM 316 and GRM 318.

GRM 369 Field Experience in Teaching German in Elementary and Middle Schools (2 or 4)
Provides supervised experience in teaching German in elementary and middle schools. Graded S/U. May be repeated for credit once. Does not carry credit toward departmental major.
Prerequisite: GRM 215.

GRM 370 Great Works in German Literature (4)
A historical survey. Conducted in German.
Prerequisite: GRM 215.

GRM 380 Introduction to the Study of German Literature (4)
A sampling of critical approaches to the study of selected works of German literature. Conducted in German.
Prerequisite: GRM 370.

GRM 390 Directed Readings in German (2 or 4)
Directed individual readings in German. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

GRM 408 Advanced Oral Practice in German (2)
Practice in speaking at an advanced level, which may include style and delivery appropriate to formal and informal speaking situations. May include oral presentations, self-recording and critique.
Prerequisite: GRM 316, 317 or permission of instructor.

GRM 413 From the Middle Ages through the Seventeenth Century (4)
A study of works in all genres by leading authors of the period including Walter von der Vogelweide, Wolfram von Eschenbach, Gottfried von Strassburg and Grimmelshausen. Conducted in German.
Prerequisite: GRM 370 and 380.

GRM 415 The Eighteenth Century (4)
A study of representative works of Lessing, Goethe and Schiller, which exemplify the intellectual and artistic currents of this period. Conducted in German.
Prerequisite: GRM 370 and 380.

GRM 417 The Nineteenth Century (4)
A study of works in all genres by leading authors of the period with emphasis on the lyric poetry of Romanticism, the dramas of Kleist, Grillparzer and Hebbel, and the novella of Poetic Realism. Conducted in German.
Prerequisite: GRM 370 and 380.

GRM 418 The Twentieth Century (4)
A study of works and movements in various genres from Naturalism to the present by authors such as Schnitzler, Toller, Brecht, Mann, Boll, Wolf, Celan and Kirsch. Conducted in German.
Prerequisite: GRM 370 and 380.

GRM 440 German Culture II (4)
German culture of the 20th century, with emphasis on the period since World War II and particularly the present. Conducted in German. Offered winter semester in alternate years.
Prerequisite: GRM 340 or reading ability at the fourth-year level.

GRM 455 Translation into German (4)
Translation from English into German of a wide variety of materials ranging from commercial and technical to literary. Individual students may emphasize areas of interest. Offered fall semester in alternate years.
Prerequisite: GRM 318 and 355.

GRM 457 Business German (4)
Introduction to the essential vocabulary and style specific to German business as well as to the basic workings of the German economy. All language skills receive equal stress.
Prerequisite: GRM 316 and 318.

GRM 480 Undergraduate Seminar (2 or 4)
Study of individual authors, selected themes, or critical problems. Conducted in German.
Prerequisite: GRM 370 and 380.

GRM 490 Independent Reading and Research (2, 4 or 8)
Directed individual research and reading for advanced German majors. May be repeated for a total of 8 credits.
Prerequisite: Two 400-level German literature courses and permission of department.

GRM 491 Independent Translation Project (4 or 8)
Directed annotated translation from German into English of a major work in the student's field. May not be counted toward the major.
Prerequisite: GRM 355 and 455 and permission of department.

HINDI-URDU LANGUAGE

HIU 114-115 Introduction to Hindi and Urdu Languages and Cultures (4 each)
A two-semester sequence of the fundamentals of both Hindi and Urdu languages and cultures. A beginning course. HIU 114 must be taken first. *HIU 114 satisfies the university general education requirement in language.*

ITALIAN LANGUAGE AND LITERATURE

IT 114-115 Introduction to Italian and Italian Culture (4 each)
A two-semester sequence of the fundamentals of Italian and Italian culture. A beginning course. IT 114 must be taken first. *IT 114 satisfies the university general education requirement in language.*

IT 214-215 Second Year Italian (4 each)
A two-semester sequence continuing the work of IT 114-115 with the addition of cultural and literary readings. IT 214 must be taken first.
Prerequisite: One year of college Italian or equivalent.

IT 390 Directed Readings in Italian (2 or 4)
Directed individual readings in Italian. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

JAPANESE LANGUAGE AND LITERATURE

JPN 114-115 Introduction to Japanese and Japanese Culture (4 each)
A two-semester sequence in the fundamentals of Japanese and Japanese culture. A beginning course. JPN 114 must be taken first. *JPN 114 satisfies the university general education requirement in language.*

JPN 214-215 Second Year Japanese (4 each)
A two-semester sequence continuing the work of JPN 114-115, with the addition of cultural and literary readings. JPN 214 must be taken first.
Prerequisite: One year of college Japanese or equivalent.

JPN 390 Directed Readings in Japanese (2 or 4)
Directed individual readings in Japanese. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

RUSSIAN LANGUAGE AND LITERATURE

RUS 114-115 Introduction to Russian and Russian Culture (4 each)
A two-semester sequence in the fundamentals of Russian and Russian culture. A beginning course. RUS 114 must be taken first. *RUS 114 satisfies the university general education requirement in language.*

RUS 214-215 Second Year Russian (4 each)
A two-semester sequence continuing the work of RUS 114-115, with the addition of cultural and literary readings. RUS 214 must be taken first.
Prerequisite: One year of college Russian or equivalent.

RUS 290 Directed Readings in Russian (2 or 4)
A reading course for nonmajors interested in research in a particular area. Approximately 50 hours of reading per credit; one conference weekly with the instructor.
Prerequisite: RUS 215.

RUS 314 Grammar Review Through Translation (4)
Review of Russian grammar through translation of a variety of materials from English to Russian and Russian to English.
Prerequisite: RUS 215.

RUS 316 Intermediate Russian Conversation (2)
Provides a transition between the carefully structured drills of other intermediate courses and free manipulation of the spoken language. Should be taken concurrently with RUS 318.
Prerequisite: RUS 215.

RUS 318 Russian Composition (2)
Practice in written composition. Techniques of textual analysis and exposition are introduced. Should be taken concurrently with RUS 316.
Prerequisite: RUS 314.

RUS 355 Translation: Russian (2)
Translation from Russian to English of a range of materials from commercial and technical to literary, with an emphasis on idiomatic English.
Prerequisite: RUS 314.

RUS 370 Introduction to Russian Literature (4)
A sampling of critical approaches to the study of some masterpieces of Russian literature. Conducted in Russian.
Prerequisite: RUS 215.

RUS 380 Survey of Russian Literature (4)
Masterpieces of Russian literature. Conducted in Russian.
Prerequisite: RUS 370.

RUS 400 Special Topics in Language (2 or 4)
Special problems or topics selected by the instructor. May be repeated for a total of 4 credits.
Prerequisite: RUS 314, 316 and 318.

RUS 408 Advanced Oral Practice in Russian (2)
Practice in speaking at an advanced level, which may include style and delivery appropriate to formal and informal speaking situations. May include oral presentations, self-recording and critique.
Prerequisite: RUS 316.

RUS 418 The Twentieth Century (4)
A study of works in all genres by Russian authors of the period, including Bunin, Lamiatin and Solzhenitsin. Conducted in Russian.
Prerequisite: RUS 370 and 380.

RUS 455 Translation into Russian (4)
Translation from English into Russian of a wide variety of materials ranging from commercial and technical to literary. Individual students may emphasize area of interest.
Prerequisite: RUS 318 and 355.

RUS 480 Undergraduate Seminar (2 or 4)
Study of individual authors, selected themes, or critical problems.
Prerequisite: RUS 370 and RUS 380.

RUS 490 Independent Reading and Research (2, 4 or 8)
Directed individual research and reading for advanced Russian majors. May be repeated for a total of 8 credits.
Prerequisite: Two 400-level Russian literature courses and permission of department.

RUS 491 Independent Translation Project (4 or 8)
Directed annotated translation from Russian into English of a major work in the student's field. May not be counted toward the major.
Prerequisite: RUS 355 and 455 and permission of department.

SPANISH LANGUAGE AND LITERATURE

SPN 114-115 Introduction to Spanish and Spanish Culture (4 each)
A two-semester sequence in the fundamentals of Spanish and Spanish culture. A beginning course. SPN 114 must be taken first. *SPN 114 satisfies the university general education requirement in language.*

SPN 214-215 Second Year Spanish (4 each)
A two-semester sequence continuing the work of SPN 114-115, with the addition of cultural and literary readings. SPN 214 must be taken first.
Prerequisite: One year of college Spanish or equivalent.

SPN 290 Directed Readings in Spanish (2 or 4)
A reading course for nonmajors interested in research in a particular area. Approximately 50 hours of reading per credit; one conference weekly with the instructor.
Prerequisite: SPN 215.

SPN 313 Spanish Phonetics (2)
Group and individual practice in the sound system of Spanish, with specific reference to interference from English. Both written and laboratory work required.
Prerequisite: SPN 215.

SPN 314 Grammar Review Through Translation (4)
Review of Spanish grammar through translation of a variety of materials together with directed conversation. Offered fall semester.
Prerequisite: SPN 215.

SPN 316 Intermediate Spanish Conversation (2)
Provides a transition between the carefully structured drills of other intermediate courses and free manipulation of the spoken language. Offered winter semester.
Prerequisite: SPN 314.

SPN 318 Spanish Composition (2)
Practice in written composition. Techniques of textual analysis and exposition are introduced. Offered winter semester. Should be taken together with SPN 316.
Prerequisite: SPN 314.

SPN 351 Spanish Civilization (3)
Historical approach to Spanish culture and civilization, with emphasis on geography, social structure, philosophical thought, music, art and architecture.
Prerequisite: SPN 215.

SPN 355 Translation: Spanish (4)
Translation from Spanish to English of a range of materials from commercial and technical to literary, with an emphasis on idiomatic English. Offered winter semester.
Prerequisite: SPN 314.

SPN 369 Field Experience in Teaching Spanish in Elementary and Middle Schools (2 or 4)
Provides supervised experience in teaching Spanish in elementary and middle schools. Graded S/U. May be repeated for credit once. Does not carry credit toward departmental major.
Prerequisite: SPN 215.

SPN 370 Survey of Spanish Literature (4)
Analytical reading of masterpieces of peninsular Spanish fiction, poetry and drama together with a chronological development of literary movements. Conducted in Spanish.
Prerequisite: SPN 215.

SPN 380 Survey of Latin American Literature (4)
Analytical reading of masterpieces of Latin American fiction, poetry and drama together with a chronological development of literary movements. Conducted in Spanish.
Prerequisite: SPN 215.

SPN 390 Directed Readings in Spanish (2 or 4)
Directed individual readings in Spanish. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

SPN 408 Advanced Oral Practice in Spanish (2)
Practice in speaking at an advanced level, which may include style and delivery appropriate to formal and informal speaking situations. May include oral presentations, self-recording and critique.
Prerequisite: SPN 316.

SPN 411 Spanish Golden Age (4)
Reading and critical consideration of selected works of fiction, poetry and drama of the period. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 412 Spanish Baroque (4)
Reading and critical consideration of selected works of fiction, poetry and drama of the period. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 417 The Nineteenth Century (4)
A study of works in all genres by leading Spanish authors, including Galdos, Zorrilla, Becquer. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 418 The Twentieth Century (4)
A study of works in all genres by leading Spanish authors, including Unamuno, Machado, Lorca, Cela. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 420 Spanish-American Literature before 1888 (4)
A study of principal literary figures from the Colonial Period to Modernism. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 421 Spanish-American Literature since 1888 (4)
Masterworks of twentieth-century Spanish-American literature, including Fuentes, Asturias, Neruda, Borges. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 455 Translation into Spanish (4)
Translation from English into Spanish of a wide variety of materials ranging from commercial and technical to literary. Individual students may emphasize areas of interest. Offered fall semester in alternate years.
Prerequisite: SPN 314, 318 and 355.

SPN 457 Business Spanish (4)
Introduction to the essential vocabulary and style specific to Spanish business as well as to the basic workings of the Hispanic economy. All language skills receive equal stress.
Prerequisite: SPN 314, 316 and 318.

SPN 480 Undergraduate Seminar (2 or 4)
Study of individual authors, selected themes, or critical problems. Conducted in Spanish.
Prerequisite: SPN 370 and 380.

SPN 490 Independent Reading and Research (2, 4 or 8)
Directed individual research and reading for advanced Spanish majors. May be repeated for a total of 8 credits.
Prerequisite: Two 400-level Spanish literature courses and permission of department.

SPN 491 Independent Translation Project (4 or 8)
Directed annotated translation from Spanish into English of a major work in the student's field. May not be counted toward the major.
Prerequisite: SPN 355 and 455 and permission of department.

LITERATURES IN TRANSLATION

LIT 100 Introduction to Asian Literature (4)
A survey of the four great Asian literary traditions: China, Japan, India and Middle East. *Satisfies the university general education in literature.*

LIT 181 European Literature I (4)
A study of the main literary currents as reflected in continental European masterpieces up to 1850. All works read in English translations. *Satisfies the university general education requirement in literature.*

LIT 182 European Literature II (4)
A study of the main literary currents as reflected in continental European masterpieces from 1850 to the present. All works read in English translations. *Satisfies the university general education requirement in literature.*

LIT 251 Studies in Foreign Film (4)
A study of film as a mirror of the cultures and aesthetics of various societies. Topics to be selected by the instructor.

LIT 375 Topics in Foreign Literature (4)
A study of the main literary currents of a particular century or era of a major foreign literature. Conducted at a site approved by the Center for International Programs. All works read in English translation. May not be used to satisfy requirements in the Department of Modern Languages and Literatures.

MODERN LANGUAGE

ML 191-192 Tutorial in Foreign Language (4 each)
Instruction in the elements of a spoken or written foreign language such as Arabic, Bengali, Czech, Sanskrit, Catalan, etc. for which no regular course sequence exists at Oakland University. May be repeated for credit in a different language each time. *Satisfies the university general education requirement in language.*
Prerequisite: Permission of instructor.

ML 211 Diction for Singers, First Semster (4)
A basic course to instruct voice students in the techniques for pronouncing foreign languages. Extensive work with the International Phonetic Alphabet, tapes, and native speakers. Italian and Latin will be stressed. Offered fall semester in alternate years.

ML 212 Diction for Singers, Second Semester (4)
A continuation of ML 211 with emphasis on German and French. Extensive work with transcription techniques, tapes and native speakers. Offered winter semester in alternate years.
Prerequisite: ML 211.

ML 290 Topics Related to Foreign Language Study (2 or 4)
Topics explored in areas not normally a part of regular offerings in language or literature. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

ML 291-292 Intermediate Tutorial in Foreign Language (4 each)
Intermediate work in a language and literature not normally taught at Oakland University. May be repeated for credit.
Prerequisite: Permission of instructor.

ML 390 Advanced Study of Topics Related to Foreign Languages and Cultures (2 or 4)
Topics are explored in areas not normally a part of regular offerings in language, culture or literature. May be repeated for a total of 8 credits.
Prerequisite: Permission of department.

ML 391-392 Advanced Tutorial in Foreign Language (4 each)
Advanced work in a language not normally taught at Oakland University. May be repeated for credit.

ML 399 Field Experience in a Modern Language (4)
Field experience in an appropriate employment setting correlated with directed study assignments relating the experience to the knowledge and skills developed by the foreign language student. May not be repeated for credit.
Prerequisite: FRH or SPN 314, 316 and 318; GRM 316, 317 and 318.

ML 440 Interactive Technology: Computers in Foreign Language Teaching (4)
The course will develop competency in creating supplementary computer software for foreign language classes in the schools. It will include designing and field-testing interactive computer programs, proficiency-based units, and programs for "housekeeping chores." In addition, students will learn to evaluate commercial material.
Prerequisite: B.A. or B.S. or completion of ED 428 or equivalent (methodology of teaching foreign languages) or permission of the instructor. Major or minor in a foreign language or English as a second language. Prior experience with computers highly recommended.

DEPARTMENT OF MUSIC, THEATRE AND DANCE

315 VARNER HALL (313) 370-2030

Chairperson: *Robert Facko*

Professor emerita: *Adeline G. Hirschfeld-Medalia (Theatre)*

Professors: *David Daniels, Stanley Hollingsworth, Lyle Nordstrom, John K. Urice*

Associate professors: *James Dawson, John Dovaras, Robert Facko, Michael Gillespie, Carol Halsted, Flavio Varani, John Paul White*

Assistant professors: *Susan Barrett, Laurie Eisenhower*

Adjunct professors: *David DiChiera, Terence E. Kilburn, Leonard Leone*

Adjunct assistant professors: *Joyce Adelson, Janice Albright*

Lecturers: *Steven Carryer, Frederic DeHaven, Philip Fox, Phyllis White*

Applied music instructors: *Joyce Adelson (piano), Janice Albright (voice), Mary Bartlett (harp), Steven Carryer (jazz guitar), Keith Claeys (percussion), Douglas Cornelsen (clarinet), Penelope Crawford (harpsichord), James Dawson (saxophone), Frederic DeHaven (organ), Edith Diggory (voice), Kirkland Ferris (bassoon), John Hall (classical guitar), Maxim Janowsky (jazz double bass), Kenneth Kellet (jazz double bass), Bryan Kennedy (french horn), Daniel Maslanka (jazz percussion), Ervin Monroe (flute), Brian Moon (trumpet), Lyle Nordstrom (recorder/lute), Patricia Adams Nordstrom (recorder/viola da gamba), Scott Petersen (jazz saxophone), Eddie Russ (jazz piano), Robert Sherman (tuba), Walter Szymanski (jazz trumpet), Flavio Varani (piano), John Paul White (voice)*

Chief adviser: *David Daniels*

The Department of Music, Theatre and Dance offers the following programs: Bachelor of Arts with major in music; Bachelor of Music with majors in music education, performance, early music or composition, sacred music; Master of Music with concentrations in performance, pedagogy, conducting, music education, early music or composition. Liberal arts minors are offered in music, theatre or dance; a secondary teaching minor is offered in music. A secondary teaching minor in speech may include up to 12 credits of theatre courses.

The department offers student performance opportunities in dramatic productions, dance recitals, music ensembles and recitals, and music theatre.

Departmental honors

Departmental honors will be awarded for a combination of academic achievement (minimum 3.30 GPA), artistry in the major area of study, and contribution to the operations of the department.

Music Programs

Requirements for the liberal arts major in music, B.A. program

This degree is for students who wish a broad general education without a high degree of specialization in music. Students in this degree program may not use a music course to satisfy the university general education requirement in the arts. Students must successfully complete

the departmental ear training examination and must fulfill the concert attendance requirement and solo performance requirement as described in the "Undergraduate Music Handbook." The following course work is required:

	Credits
Harmony and Ear Training: MUT 211-212	8
Theory elective, selected from MUT 311, 312, 314, 410, 412, 414	4
Instrumentation: MUT 411	4
Music history survey: MUS 320	4
Music history electives: four courses selected from MUS 250, 328, 329, 330, 334, 345, 347, 423	8-10
Ensembles: Four semesters; two must use applied major	4
Applied music (may include conducting, and up to 4 credits in keyboard techniques)	16
Language: Two years of a modern language, or equivalent proficiency	4-16

Requirements for the Bachelor of Music degree

The Bachelor of Music degree is intended for students who wish preprofessional and professional preparation in music education, performance, early music, composition and sacred music. Students in this degree program may not use a music course to satisfy the university general education requirement in the arts. Students must successfully complete the departmental ear training examination and must fulfill the concert attendance requirement and solo performance requirement as described in the "Undergraduate Music Handbook." Requirements are listed below by major.

1. **Instrumental Music Education**

	Credits
Harmony and Ear Training: MUT 211-212	8
Theory elective, selected from MUT 311, 312, 314, 410, 412, 414	4
Instrumentation: MUT 411	4
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4
Applied major (normally an orchestral instrument)	14
Applied minor (MUA 251, 252, 253, 254, 256, 257, 258; a student whose applied major is one of the above will substitute MUA 255 for the appropriate class)	7
Ensemble (seven semesters of membership required)	4
Keyboard: MUA 371 (or equivalent proficiency)	0-6
MUA 160, Vocal Techniques	2
MUS 395, Conducting	4
MUS 400, Elementary Instrumental Methods	4
MUS 404, Secondary Instrumental Methods	4
RDG 338, Teaching Reading in the Content Areas	4
FE 344, Social and Philosophical Issues in Secondary Education	4
FE 345, Educational Psychology for Secondary Teachers	4
SED 427, Methods of Teaching Secondary Students	2
SED 455, Internship in Secondary Education	12
Language numbered 115 or higher	4-8

2. **Vocal music education**

	Credits
Harmony and Ear Training: MUT 211-212	8
Theory elective, selected from MUT 311, 312, 314, 412, 414	4
Instrumentation: MUT 411	4
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4

Applied major (normally voice or piano)	14
Applied minor (piano for voice majors; voice for piano majors; both for those with another applied major)	8-16
Ensemble (seven semesters of membership required)	4
Instrumental class (1 credit each of a wind and a string instrument class, chosen from MUA 251-259)	2
MUS 395, Conducting	4
MUS 401, Teaching Music in the Elementary Schools	4
MUS 403, Secondary Choral Methods	2
ML 211-212, Diction for Singers (offered only in alternate years)	8
Language numbered 115 or higher or equivalent proficiency	4-8
RDG 338, Teaching Reading in the Content Areas	4
FE 344, Social and Philosophical Issues in Secondary Education	4
FE 345, Educational Psychology for Secondary Teachers	4
SED 427, Methods of Teaching Secondary Students	2
SED 455, Internship in Secondary Education	12

3. **Performance: piano**

Harmony and Ear Training: MUT 211-212	8
Theory electives, selected from MUT 311, 312, 314, 410, 411, 412, 414	8
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4
Ensembles: eight semesters; four must be accompanying	8
Applied major	32
Applied minor	8
Piano pedagogy: MUS 441	4
Repertoire (MUS 440 for pianists; organists consult an adviser)	4
Recommended: Conducting: MUS 395	4
Senior recital	
Language course (German, French or Italian recommended) numbered 215 or higher; *or* language course numbered 115 or higher plus Diction for Singers (ML 211-212, offered only in alternate years)	4-16

4. **Performance: voice**

Harmony and Ear Training: MUT 211-212	8
Theory electives, selected from MUT 311, 312, 314, 410, 411, 412, 414	8
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4
Ensemble: eight semesters; four must use applied major; one semester must be accompanying	8
Applied major	32
Applied minor (must be keyboard unless excused by proficiency equivalent to MUA 471)	8
Repertoire	4
Recommended: Conducting: MUS 395	4
Senior recital	
Italian, French or German course numbered 115 or higher plus Diction for Singers (ML 211-212, offered only in alternate years)	8-16

5. **Early music**

Harmony and Ear Training: MUT 211-212	8
Theory electives, selected from MUT 311, 312, 314, 410, 411, 412, 414	8
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4

	Credits
Ensembles: one per semester for four semesters; two per semester for four semesters; six must use applied major	12
Applied major	24
Applied minor	8
Keyboard: MUA 271 or equivalent proficiency	0-4
Performance practice: MUS 423	2
Bibliography: MUS 490	2
Language course (German, French or Italian recommended) numbered 215 or higher	4-16
Recommended: Senior recital	
Additional credits in music history	

6. **Composition**	Credits
Harmony and Ear Training: MUT 211-212	8
Advanced theory: MUT 311, 312, 410, 411, 412	20
Composition	16
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4
Ensembles: six semesters; three must use applied major	6
Applied major	8
Keyboard: MUA 471 or equivalent proficiency	0-8
Conducting: MUS 395	4
Senior recital	
Language course (German recommended) numbered 215 or higher, *or* language course numbered 115 or higher plus Diction for Singers (ML 211-212, offered only in alternate years)	4-16

7. **Sacred Music**	
Harmony and Ear Training: MUT 211-212	8
Theory electives, selected from MUT 311, 312, 314, 410, 411, 412, 414	8
Music history survey: MUS 320	4
Music history electives: two 2-credit courses selected from MUS 328, 329, 330, 334, 345, 347	4
Ensembles: eight semesters, four of which must be in accompanying	8
Applied major: Organ	24
Applied minor: Voice	8
Church Music I and II: MUS 360-361	4
Conducting: MUS 395	4
Secondary Choral Methods: MUS 403	2
Performance Practices: MUS 423	2
Beginning Violin or Violoncello: MUA 251 or 252	1
One beginning wind class (MUA 253-257)	1
Senior recital	0
ML 211-212 Diction for singers	8
German through GRM 115	4 or 8

Ensemble requirements

The ensemble requirements vary from one degree program to another. The requirements are given in terms of minimum number of semesters and minimum number of credits; at least half of these ensembles must use the applied major. A student may, of course, exceed these minima; in fact, the department recommends ensemble participation every semester, if possible.

Major standing

Prospective music majors must apply to the Department of Music, Theatre and Dance for major standing after completing 48 credits at Oakland University or elsewhere. Normally, transfer students should apply during their first semester at Oakland.

To apply for major standing, students must:

1. Meet with the departmental adviser and prepare a program plan.
2. Complete an application for major standing and submit it with the completed program plan to the department office.
3. Perform a major standing jury in the applied specialization at the end of the semester in which the student has applied for major standing.

Auditions

New music majors must audition in their performing medium for a faculty committee within the first week of classes. Students should be prepared to demonstrate proficiency in an applied specialty and may be asked to do some sight reading. For ensemble auditions, see Music Ensembles.

Applied music juries

Music majors must play for a jury in their major performing medium at the end of each fall and each winter semester of applied study; in some cases a jury in a performance minor may also be required. Failure to complete this requirement will result in an "I" (Incomplete) grade. For specific jury requirements, students should consult the head of their division.

Requirements for the secondary teaching minor in music

To earn the secondary teaching minor in music, students must complete 28 credits in music distributed as follows: 8 credits in music theory (MUT); 8 credits in applied music (MUA); four semesters (at least 4 credits) in music ensembles (MUE); and a planned program of 8 credits (to be approved by a music adviser) selected from MUS 149, MUS 250, MUS 320, MUS 395, MUS 400, MUS 401, MUS 403, MUS 404, MUS 441, MUS 491, MUS 494 and MUS 495. At least 14 of the 28 credits must be in courses numbered 300 or above.

Requirements for the liberal arts minor in music

To earn a minor in music, students must complete a minimum of 24 credits in music chosen in consultation with a department adviser as follows: 8 credits of music theory (MUT), 6 credits of music history (MUS 320, MUS 328, MUS 329, MUS 330, MUS 334, MUS 345 and MUS 347); 6 credits of applied music (MUA); and 4 credits of music ensemble (MUE).

Course Offerings

APPLIED MUSIC

Applied music refers to study of a given instrument or voice.

The following courses each have four course number designations. Music majors are to enroll using the number which corresponds to the year in school — freshmen, 100 level; sophomores, 200 level; juniors, 300 level; seniors, 400 level.

Music faculty may adjust course numbers at the time of the entering audition, or after the first lesson.

Beginners must use the 100-level designation regardless of year in school. Students who have previously studied, either privately or in a college or university, should consult the departmental adviser to determine an appropriate course number if an exception to the above listings exists. May be repeated for credit except where indicated.

The following courses are individual lessons and involve an applied music fee.

MUA 100 Voice (2 or 4)
Prerequisite: MUA 160, Vocal Techniques (2 credits) for one semester.

MUA 200, 300, 400	Voice (2 or 4)
MUA 101, 201, 301, 401	Piano (2 or 4)
MUA 102, 202, 302, 402	Organ (2 or 4)
MUA 103, 203, 303, 403	Harpsichord (2 or 4)
MUA 104, 204, 304, 404	Violin (2 or 4)
MUA 105, 205, 305, 405	Viola (2 or 4)
MUA 106, 206, 306, 406	Violoncello (2 or 4)
MUA 107, 207, 307, 407	Double Bass (2 or 4)
MUA 108, 208, 308, 408	Flute (2 or 4)
MUA 109, 209, 309, 409	Oboe (2 or 4)
MUA 110, 210, 310, 410	Clarinet (2 or 4)
MUA 111, 211, 311, 411	Bassoon (2 or 4)
MUA 112, 212, 312, 412	French Horn (2 or 4)
MUA 113, 213, 313, 413	Trumpet (2 or 4)
MUA 114, 214, 314, 414	Trombone (2 or 4)
MUA 115, 215, 315, 415	Tuba (2 or 4)
MUA 116, 216, 316, 416	Timpani (2 or 4)
MUA 117, 217, 317, 417	Percussion (2 or 4)
MUA 118, 218, 318, 418	Harp (2 or 4)
MUA 119, 219, 319, 419	Guitar (classical) (2 or 4)
MUA 120, 220, 320, 420	Renaissance Winds (2 or 4)
MUA 121, 221, 321, 421	Viola da Gamba (2 or 4)
MUA 122, 222, 322, 422	Lute (2 or 4)
MUA 123, 223, 323, 423	Recorder (2 or 4)
MUA 124, 224, 324, 424	Saxophone (2 or 4)
MUA 130, 230, 330, 430	Piano (jazz) (2 or 4)
MUA 131, 231, 331, 431	Guitar (jazz) (2 or 4)
MUA 132, 232, 332, 432	Trumpet (jazz) (2 or 4)
MUA 133, 233, 333, 433	Saxophone (jazz) (2 or 4)
MUA 134, 234, 334, 434	Percussion (jazz) (2 or 4)
MUA 135, 235, 335, 435	Double Bass (jazz) (2 or 4)
MUA 149, 249, 349, 449	Applied Music (2 or 4)

May be used to increase the number of private lessons in the student's major or minor performing medium. Must be taken with one of the applied music courses.

MUA 160 Vocal Techniques (2)
Techniques of singing, including diction, breath control, projection and repertoire. This course is a prerequisite to private voice study. Preference for openings in this course is given to music majors.

The following music courses are group lessons and involve an applied music fee.

MUA 171, 271, 371, 471 Keyboard Technique (2 each)
Development of the basic keyboard facility essential to any musician and some acquaintance with keyboard literature. May not be repeated for credit.
Prerequisite: Permission of instructor.

MUA 251	Beginning Violin Class (1)
MUA 252	Beginning Violoncello Class (1)
MUA 253	Beginning Flute Class (1)
MUA 254	Beginning Clarinet Class (1)
MUA 255	Beginning Double Reed Class (1)
MUA 256	Beginning Trumpet Class (1)
MUA 257	Beginning Trombone Class (1)
MUA 258	Beginning Percussion Class (1)
MUA 259	Beginning Guitar Class (1)

MUA 251 through 259 may be repeated for a total of 2 credits.

MUA 361-362 Vocal Literature I and II (2 each)
A survey of literature for the voice with emphasis on historical style. MUA 361 covers the Middle Ages through the nineteenth century, with emphasis on German song. MUA 362 continues through the nineteenth and twentieth centuries, emphasizing French, British and American.
Prerequisite: ML 212 (may be taken concurrently) and permission of instructor.

MUA 370 Accompanying (1 or 2)
To help the pianist acquire knowledge of the basic skills required in the ensemble. Representative vocal and instrumental compositions are studied; emphasis is on rehearsal techniques and performance.

MUA 373 Piano Tuning and Technology (2)
Basic skills in tuning and regulating a piano. Ability to set equal temperament as well as some discussion of historic temperaments.
Prerequisite: MUT 212.

MUA 376, 377, 476, 477 Jazz Keyboard Practices (2)
Development of basic jazz keyboard techniques and skill including jazz chord and rhythm reading, melodic development and voice leading. May not be repeated for credit.
Prerequisite: Keyboard proficiency demonstrated by audition.

MUSIC ENSEMBLES

Ensembles are open to all students by audition. May be repeated for credit. Students may pre-register for the ensemble of their choice; auditions are held during the first week of classes for most ensembles.

MUE 301 University Chorus (1)
Performance of the large choral masterpieces from all music periods.

MUE 302 University Community Chorus (1)
Festival-type mixed chorus for citizens of the surrounding communities who possess vocal experience. Performance of varied choral literature. Meets in the evening.

MUE 304 Oakland Chorale (1)
Performance of a wide range of choral chamber repertoire from Renaissance to the present.
Prerequisite: Permission of instructor.

MUE 305 Opera Chorus (1)
An ensemble which performs with the Michigan Opera Theatre.
Prerequisite: Permission of instructor.

MUE 306 Starshine (1)
An introduction to show ensemble performance of staged and choreographed shows.
Prerequisite: Permission of instructor.

MUE 307 University Drive (1)
A show ensemble presenting staged and choreographed shows. Emphasis on skill development in singing, style, stage presence, stage movement and microphone technique.
Prerequisite: Permission of instructor.

MUE 308 Meadow Brook Estate (1 or 2)
A show ensemble presenting staged and choreographed shows. Rigorous performance schedule in professional situations. Auditions are held prior to the beginning of the semester.
Prerequisite: Permission of instructor.

MUE 309 Meadow Brook Festival Chorus (1)
Performance of major choral masterpieces from all music periods under world-famous conductors at Meadow Brook Music Festival. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor.

MUE 310 Vocal Improvisation Workshop (2)
A laboratory in vocal improvisation designed to increase skills in performing commercial and popular music.
Prerequisite: Permission of instructor.

MUE 315 Vocal Jazz Ensemble (1)
Ensemble performance of complex vocal jazz works. Development of jazz style and blend, scat-singing, solo production and microphone technique.
Prerequisite: Permission of instructor.

MUE 320 Pontiac-Oakland Symphony (1)
Orchestral performance of repertoire from the eighteenth, nineteenth and twentieth centuries. Several concerts per year, on- and off-campus. Accompaniments for solo concertos and university choral groups. Membership by audition. Graded S/U.

MUE 331 Concert Band (1)
An ensemble of wind instruments performing standard concert band literature.
Prerequisite: Permission of instructor.

MUE 340 Afram Jazz Ensemble (1)
A study of traditional and contemporary literature for large jazz ensembles within the African-American cultural context. Both conceptualization of the material and improvisational techniques will be explored and defined.

MUE 341 Jazz Improvisation Workshop (2)
A performance practice laboratory designed to increase improvisational skills indigenous to jazz performance and to identify systematically and use stylistic characteristics of various jazz subcategories.

MUE 350 Opera Workshop (1)
Study and experience in various forms of musical theatre.
Prerequisite: Permission of instructor.

MUE 351 Musical Theatre Workshop (1)
Performance and study of repertory of the musical theatre.
Prerequisite: Permission of instructor.

MUE 360 Collegium Musicum (1)
Performance of Medieval, Renaissance and Baroque music in various vocal and instrumental combinations. Period instruments and performance practices are emphasized. Graded S/U.
Prerequisite: Permission of instructor.

MUE 370 Guitar Ensemble (1)
Performance practice and techniques of guitar literature involving two or more players.

MUE 371 Woodwind Ensemble (1)
Ensembles of three or more saxophones performing appropriate literature.
Prerequisite: Permission of instructor.

MUE 373 Percussion Ensemble (1)
Performance of music for various combinations of percussion instruments.
Prerequisite: Permission of instructor.

MUE 375 Keyboard Ensemble Technique (2)
Class instruction in performance and repertory of multiple keyboard literature.
Prerequisite: Permission of instructor.

MUE 380 Chamber Music (1)
Performing ensemble of various instrumentations. A spectrum of appropriate music literature, medieval through contemporary.

MUE 390 Accompaniment Practicum (1)
Experience in piano accompaniment of solo and/or ensembles, vocal and instrumental. May be repeated once for credit.
Prerequisite: MUA 370.

MUSIC HISTORY, LITERATURE, APPRECIATION AND EDUCATION

MUS 100 An Introduction to Music (4)
An introduction to the techniques of listening to great music, and a study of its elements, forms and styles. Begins at the level of the student lacking previous musical experience. An elective for nonmusic majors. *Satisfies the general education requirement in arts.*

MUS 149 Music as an Art and as an Elementary School Subject (4)
Introduction to the techniques of listening to music and of teaching music in the elementary school. Begins at a level for the student lacking previous musical experience.

MUS 215 West African Drumming (2)
Study of drum ensemble traditions and practice as related to West African oral culture. Includes performance experience with authentic Ewe and Akan drums. Comparison with other musical traditions of indigenous African cultures.

MUS 231 Studies in Orchestral Music (1 or 2)
Seminars, independent study and performance of orchestral music, including study of performance practices, theory, history and chamber music of various periods. Offered summer session.

MUS 250 World Music Survey (4)
Introduction to selected music cultures to acquaint the student with a variety of musical functions and styles at various places and times. Emphasis is on demonstrations via live performances by visiting lecturers and guest artists. May be taken twice for a total of 8 credits. *Satisfies the university general education requirement in arts.*

MUS 251 Applied Music (1 or 2)
Independent study for freshmen and sophomores in the technique and literature of a performing medium. Offered spring and summer terms.
Prerequisite: Permission of department.

MUS 295 Independent Study (1, 2 or 4)
Normally for freshmen and sophomores.
Prerequisite: Permission of department.

MUS 318 Business of Music (4)
A survey of business techniques and procedures, laws, licensing and accounting practices in the music industry, and a study of career opportunities related to music.

MUS 320 Survey of Music History and Literature (4)
A survey of music from medieval through modern contemporary, primarily for music majors.
Prerequisite: MUT 212 is recommended. *Satisfies the university general education requirement in arts.*

MUS 328 Music of the Baroque Period (2)
Music history and literature of the Baroque period.
Prerequisite: MUS 320.

MUS 329 Music of the Classical Period (2)
Music history and literature of the Classical period.
Prerequisite: MUS 320.

MUS 330 Music of the Renaissance (2)
Music history and literature of the Renaissance period.
Prerequisite: MUS 320.

MUS 334 Music of the Romantic Period (2)
Music history and literature of the Romantic period.
Prerequisite: MUS 320.

MUS 345 Twentieth Century Music (2)
A study of significant styles and composers from Debussy to the present.
Prerequisite: MUS 320.

MUS 347-348 History of Jazz (2 each)
A survey and historical study of the development of jazz, including significant periods and trends, stylistic analysis and aesthetic foundations.
Prerequisite: MUS 320.

MUS 351 Commercial Music Seminar (4)
A study of commercial music careers and performance techniques for singers and instrumentalists.
Prerequisite: Sophomore standing.

MUS 353 Audio Techniques (2)
A performer-oriented study of microphones, voltage regulation, amplification, mixers, speakers and acoustical phenomena associated with sound recording and reinforcement.
Prerequisite: Sophomore standing.

MUS 360-361 Church Music I and II (2 each)
Study of liturgy and hymnology. Development of skill in service playing at the organ, chant accompaniment, modulation and improvisation. Combination of organ and choral repertoire for church service. Offered in alternate years.
Prerequisites for 360: MUT 312 and MUS 320.
Prerequisite for 361: MUS 360.

MUS 395 Conducting (4)
Basic techniques of conducting, including instrumental and choral. Participants elect to emphasize either instrumental or choral technique and will be assigned at least one hour per week as assistants in university performing groups or public school ensembles.
Prerequisite: MUT 212.

MUS 400 Elementary Instrumental Methods (4)
Develops a purposeful approach to methodology. Isolates distinct teaching problems and develops practical knowledge through discovery principles. One hour per week field experience is required.
Prerequisite: MUT 212.

MUS 401 Teaching Music in Elementary Schools (4)
Organization and content of the general vocal music class in kindergarten through sixth grade. The development of musicality in the child. Emphasis on teaching music reading and ear training to young children. Participation in a selected number of field studies included.
Prerequisite: MUT 212.

MUS 403 Secondary Choral Methods (2)
The organization and conducting of choral music in junior and senior high schools. Repertoire, materials and techniques. Assigned number of field studies in junior and senior high school choral programs.
Prerequisite: MUS 395 or permission.

MUS 404 Secondary Instrumental Methods (2)
The organization and conducting of instrumental music in junior and senior high schools. Repertoire, materials and techniques. A selected number of field studies included.
Prerequisite: MUS 395 or permission.

MUS 423 Performance Practices (2)
A study of the performing practices of music of earlier times. Content varies each semester. May be repeated a total of three times for credit with permission of instructor.
Prerequisite: Permission of instructor.

MUS 440 Piano Master Class (2)
Class study of piano literature for stylistic characteristics and technical considerations for proper performance.
Prerequisite: Permission of instructor.

MUS 441-442 Music Pedagogy (4 each)
Principles of music instruction for the studio teacher. The first semester will be devoted to a survey of the field and to observation. The second semester will be devoted to supervised teaching.

MUS 451 Applied Music (1 or 2)
Independent study for juniors and seniors in the technique and literature of a performing medium. Offered spring and summer terms.
Prerequisite: Permission of department.

MUS 480 Advanced Studies in Choral Conducting and Literature (1, 2, 3 or 4)
Independent and seminar work in advanced choral conducting. Emphasis is on interpretation of choral literature through research. Opportunities are provided for conducting experience in choral lab groups.
Prerequisite: Choral conducting experience and one music history class.

MUS 481 Advanced Studies in Orchestral Conducting and Literature (1, 2 or 3)
Independent and seminar work in advanced orchestral conducting. Emphasis is on interpretation of orchestral literature through research. Opportunities are provided for conducting experience in a laboratory orchestra. Offered summer session.
Prerequisite: Conducting experience, music theory.

MUS 490 Introduction to Music Bibliography (2)
An introduction to basic research materials and methods in musicology primarily for the music history and literature major.
Prerequisite: MUS 320 and a 400-level theory course.

MUS 491 Directed Research in Music History (4)
Directed individual reading and research for advanced music history majors.
Prerequisite: MUS 320, a 400-level theory course and 2 of the following: MUS 328, 329, 330, 334, 345.

MUS 494 Directed Research in Music Education (2 or 4)
Directed individual reading and research in technology of, innovation in, and psychology of music instruction.
Prerequisite: Two courses from MUS 401, 403 and 404.

MUS 495 Independent Study (1, 2 or 4)
Normally for juniors and seniors.
Prerequisite: Permission of department.

MUS 497 Apprentice College Teaching (2)
Supervised participation in teaching an undergraduate course in music, together with discussion of teaching methods and objectives.
Prerequisite: Permission of department.

MUS 499 Special Topics in Music (1, 2, 3 or 4)
Current topics and issues in music performance and literature.

MUSIC THEORY AND COMPOSITION

MUT 110 Rudiments of Music Notation (2)
Introduction to music notation and terminology. Offered concurrently with MUT 111.

MUT 111 Beginning Musicianship (4)
Introduction to the techniques of reading and writing music, notation, pitch and rhythmic organization, elementary sight singing, dictation and keyboard familiarity. An elective for nonmusic majors.

MUT 205 Ear Training Preparation (1)
A required course for all full-time music majors who have not satisfied the ear training preparation. See "Undergraduate Music Handbook." May be repeated for a maximum of 4 credits. Graded S/U or numerically at the discretion of the department.
Prerequisite: MUT 212.

MUT 211 Harmony and Ear Training I (4)
Beginning ear training and rudiments of tonal harmony. The harmonic practice of late eighteenth and early nineteenth centuries; composition and analysis in this style.

MUT 212 Harmony and Ear Training II (4)
Harmonic practice of the late nineteenth and early twentieth centuries; composition and analysis in this style.
Prerequisite: MUT 211 or equivalent.

MUT 311 Techniques of Musical Analysis (4)
Techniques of analyzing works of various styles and periods, with emphasis on tonal music.
Prerequisite: MUT 212.

MUT 312 Tonal Counterpoint (4)
The contrapuntal style of the eighteenth century; composition and analysis.
Prerequisite: MUT 212.

MUT 314 Jazz Theory (4)
Jazz notation, arranging and composition.
Prerequisite: MUT 212.

MUT 315 Composition (4)
Private lessons in composition and composition laboratory. Studies, exercises and projects concerning creativity and craft in music composition. For freshmen and sophomores. May be repeated for credit.
Prerequisite: MUT 312 and permission of instructor.

MUT 410 Twentieth Century Techniques (4)
Compositional practices in the 20th century; composition and analysis.
Prerequisite: MUT 212.

MUT 411 Instrumentation (4)
A study of the orchestral instruments and their use in various combinations, including full orchestra and band. MUS 400, 404, 395 and MUT 410 are related courses.
Prerequisite: MUT 212.

MUT 412 Modal Counterpoint (4)
The contrapuntal style of the sixteenth century. Analysis and composition in this style. Offered in alternate years.
Prerequisite: MUT 212.

MUT 414 Jazz Composition and Arranging (4)
Composition and arranging technique for jazz ensembles. Includes study of jazz notational systems, idiomatic jazz practice, standard jazz forms and orchestration for instruments and voice as used in jazz ensembles.
Prerequisite: Permission of instructor.

MUT 415 Advanced Theory/Composition (4)
Private lessons in composition and composition laboratory: studies, exercises and projects concerning creativity and craft in composing music. For juniors and seniors. May be repeated for credit.
Prerequisite: MUT 312 and permission of instructor.

Theatre and Dance Programs

The Department of Music, Theatre and Dance offers liberal arts minors in theatre and dance.

To earn a minor in theatre, students must complete a minimum of 20 credits distributed as follows: 4 credits in THA 110 and THA 120; 4 credits in THA 201 or THA 300; 4 credits from THA 210, THA 211, THA 213 or THA 310; 4 credits from THA 320, THA 321 or THA 322; 4 additional credits from any theatre course(s) except THA 100.

To earn a minor in dance, students must complete a minimum of 20 credits including DAN 173, DAN 372, DAN 373 and 2 credits of DAN 376, and 8 credits from all other dance courses.

Course Offerings

THEATRE

THA 100 Introduction to Theatre (4)
Theatre as an art form. Topics include acting, directing, design, dramatic literature, theatre history, theory and criticism. Students will view selected plays. *Satisfies university general education requirement in arts.*

THA 110 Acting: Improvisation (2)
Spontaneous creation of theatrical interaction from imaginary circumstances. Improvisation as an initial step in the development of the actor's resources and as a key to creativity. Graded S/U.

THA 120 Stagecraft (2)
Survey of techniques of scenery and costume construction and stage lighting, including proper use of tools and hardware in these areas. Sixty hours of production work are required.

THA 201 Theatre History (4)
Survey of theatre from its origins to the present, including dramatists, stages, productions and acting. A few representative plays will be read. Mandatory attendance at selected live performances. May include student participation in brief performance projects. *Satisfies university general education requirement in arts.*

THA 210 Stage Voice (2)
Development of the actor's understanding and practical command of vocal production, articulation and pronunciation.

THA 211 Stage Movement (2)
Studies in various forms of movement demanded of the actor, e.g., period movement, athleticism and agility, voice-movement integration, stage combat, etc. Topics may vary. May be repeated once for credit.

THA 213 Mime (2)
A studio course emphasizing active involvement in the techniques and art of mime. Classical and traditional forms are explored.

THA 220 Theatre Ensemble (1)
Participation in a student production under faculty supervision. A minimum of 60 hours. Students will maintain a running log, keeping track of their time and continuously evaluating their experiences. Credit is available for on-stage and backstage work. May be repeated for a total of 8 credits. Graded S/U.

THA 300 Play Reading and Analysis (4)
Consideration of a wide range of plays from historical, literary and theatrical perspectives. Study of the structures of dramas from various periods and genres and exploration of the creative process involved in transforming a written text into a live performance.
Prerequisite: THA 201 recommended.

THA 310 Acting: Realism (2)
Scene study focusing on the requirements of realistic acting. Accompanying work on vocal and physical technique. (May be repeated once for credit).
Prerequisite: THA 110.

THA 320 Scenic Design (4)
A study of the process of designing scenery for the stage, including conceptualization, drafting and rendering.
Prerequisite: THA 120.

THA 321 Lighting Design (4)
A study of the process of designing lighting for the stage, including conceptualization, instrumentation, plotting, hanging and focusing, cueing and board operation.
Prerequisite: THA 120.

THA 322 Costume Design (4)
A study of the process of designing costumes for the stage, including conceptualization, materials, rendering and construction. Some consideration of the history of fashion.
Prerequisite: THA 230.

THA 323 Stage Makeup (4)
A study of the process of designing makeup for the stage, including conceptualization, materials, and application of two-dimensional designs.
Prerequisite: THA 120.

THA 330 Stage Management (2)
A study of the duties and the organizational, communication and leadership skills required of the theatrical stage manager.
Prerequisite: THA 120.

THA 331 Stage Manager Project (2)
Student will serve as a stage manager for a departmental production under faculty supervision.
Prerequisite: THA 330.

THA 400 Directing (4)
Theory and practice in play directing. Script interpretation, casting, staging, rehearsal techniques, supervision of technical staff. Culminates in a final directing project.
Prerequisite: THA 120, 310 and one of the following: THA 320, 321, 322 or 323.

THA 401 Advanced Directing Project (2)
Direction of a lengthy one-act or full-length theatre piece under faculty supervision.
Prerequisite: THA 400; permission of instructor.

THA 410 Acting: Styles (2)
Focuses on the requirements of various acting and period styles. Continued work on vocal and physical technique. Topics may vary. May be repeated once for credit.
Prerequisite: THA 310.

THA 425 Advanced Design Projects (2)
Advanced student design projects in the areas of scenery, lighting, costume, or makeup produced under faculty supervision. May be repeated for credit.
Prerequisite: Permission of instructor.

THA 480 Special Topics Seminar (2 or 4)
Group study of topics of special interest chosen by department faculty and students.
Prerequisite: Will vary with topic; permission of instructor.

THA 490 Independent Study (1 or 4)
Normally for juniors and seniors.
Prerequisite: Permission of instructor and department.

THA 491 Internship (2 or 4)
Experience working with professionals in a variety of performing arts settings.
Prerequisite: Junior standing and permission of supervising faculty.

THA 497 Apprentice College Teaching (2)
Supervised participation in teaching an undergraduate course in theatre, together with discussion of teaching methods and objectives.
Prerequisite: Permission of instructor and department.

DANCE

DAN 100, 200, 300, 400 Ballet (1)
Technique of classical ballet. Each course may be repeated for up to 4 credits.
Prerequisite: 100-level dance class or equivalent for courses above the 100 level.

DAN 110, 210, 310, 410 Modern Dance (1)
Technique of modern dance. Each course may be repeated for up to 4 credits.
Prerequisite: 100-level dance class or equivalent for courses above the 100 level.

DAN 120, 220, 320, 420 Jazz Dance (1)
Technique of jazz dance. Each course may be repeated for up to 4 credits.
Prerequisite: 100-level dance class or equivalent for courses above the 100 level.

DAN 173 Dance History and Appreciation (4)
A historical survey of the development of theatre dance in Western culture. Course materials presented through lecture, discussion, films, slides and viewing of live dance performances. *Satisfies the university general education requirement in arts.*

DAN 221, 222 Tap Dance I and II (1 each)
Previous dance experience not required.

DAN 299 Dance Workshop (1, 2, 3 or 4)
A workshop designed to give students opportunities for participation in a variety of dance experiences led by performing artists. Normally offered in the spring and summer. Graded S/U.

DAN 330 Kinesiology for the Dancer (4)
Analysis of movement from an anatomical and mechanical point of view with emphasis on problems of dance technique. Also includes prevention and treatment of dance-related injuries.
Prerequisite: Three dance courses.

DAN 350 Creative Dance for Children (4)
Methods and styles of teaching dance to children within schools, community centers and private studios.
Prerequisite: None.

DAN 351 Children's Dance Theatre: Rehearsal and Performance (4)
Choreography, rehearsal and performance of a dance program for children that tours local elementary schools.
Prerequisite: Permission of instructor.

DAN 372 Choreography I (4)
Theory of dance composition through reading, discussion, observation and experimentation.
Prerequisite: One full year of dance.

DAN 373 Dance for Music Theatre (2)
An applied dance course that covers the techniques and styles of dance for music theatre prevalent from the 1920s until the present day. Class includes the study of voice and acting, as it pertains to music theatre, and a final performance.
Prerequisite: One dance course.

DAN 376 Practicum: Dance Rehearsal and Performance (1 or 2)
A technique- and performance-based laboratory course. Each student will participate in a dance performance during the semester, either as a performer or choreographer. Two credits are given for performance and choreography and 1 credit for performance only. May be repeated for a maximum of 8 credits. Graded S/U.
Prerequisite: Permission of instructor.

DAN 402 Advanced Ballet: Partnering (1)

DAN 403 Advanced Ballet: Pointe and Variation (1)

DAN 423 Historical Dance (2)
The study of Baroque, Renaissance and nineteenth century social dance styles. Course includes practical, theoretical and historical background.

DAN 430 Special Topics (2 or 4)
Group study of current topics in dance. Three dance courses.
Prerequisite: Three dance courses.

DAN 441 Dance Pedagogy (4)
Theory and practice of teaching ballet and modern dance. Emphasis on instruction of adult-level classes.
Prerequisite: Permission of instructor.

DAN 470 Elementary Labanotation (4)
An introduction to Laban's system of movement notation.
Prerequisite: 12 credits in dance, including DAN 173.

DAN 472 Choreography II (4)
Continuation of DAN 372 at a more advanced level.
Prerequisite: DAN 372.

DAN 480 Senior Recital (1 or 2)
A dance program choreographed and performed by a student in the final year of dance study.
Prerequisites: Senior standing, 24 credits in dance including DAN 173, 372, 376 and permission of instructor.

DAN 490 Independent Study (1, 2 or 4)
Permission of instructor. Graded S/U.

DAN 497 Apprentice College Teaching (2 or 4)
Supervised participation in teaching an undergraduate course in dance, together with discussion of teaching methods and objectives.
Prerequisite: Permission of instructor.

DEPARTMENT OF PHILOSOPHY

530 WILSON HALL (313) 370-3390

Chairperson: *David C. Bricker*

Professors: *David C. Bricker, Richard J. Burke*

Associate professor: *Richard W. Brooks*

Assistant professor: *John F. Halpin, Paul Graves*

Visiting assistant professor: *Timothy R. Quigley*

Adjunct professor: *Charles E. Morton*

Associated faculty: *Professor Ronald M. Swartz (Education and Philosophy), Associate professors Marc E. Briod (Education and Philosophy), William Fish (Education and Philsophy)*

Chief adviser: *Richard J. Burke*

Philosophy is one of the oldest yet often least understood of the liberal arts. The philosopher is interested in all aspects of human life, searching for the greatest possible clarity concerning the most fundamental questions. There is no one kind of philosophy; rather, there are many kinds, each with its own value.

Philosophy has always served two functions. The first is speculative, the attempt to formulate illuminating generalizations about science, art, religion, nature, society and any other important topic. The second is critical, the unsparing examination of its own generalizations and those of others to uncover unfounded assumptions, faulty thinking, hidden implications and inconsistencies. The study of philosophy is designed to encourage a spirit of curiosity, a sensitivity toward the uses of words, a sense of objective assessment toward oneself as well as others. Competence in philosophy is solid training for advanced study in such fields as law, government and public administration, as well as the ministry and teaching.

The Department of Philosophy offers programs of study leading to the Bachelor of Arts degree with a major in philosophy, a modified major in philosophy with an international studies minor (South Asian studies program) or a concentration in linguistics or religious studies, and a minor in philosophy.

Requirements for the liberal arts major in philosophy

To earn the Bachelor of Arts degree with a major in philosophy, a student must complete a minimum of 40 credits in philosophy, including:

1. One semester of logic (PHL 102, 202 or 370)
2. One semester of ethics (PHL 103, 316 or 318)
3. Two semesters in history of Western philosophy (PHL 204 and 206)
4. One semester of recent American philosophy (PHL 308, 329, 437, or 475)
5. At least 20 credits in PHL courses numbered 300 or above

A student may substitute other courses for any of the above with the permission of the department chairperson. Students planning to apply for graduate work in philosophy should meet with a faculty member to discuss additional appropriate course work.

Departmental honors

Departmental honors in philosophy require at least a 3.50 grade point average in philosophy courses. Students who think they might qualify for departmental honors should submit an example of their philosophical writing to the department chairperson early in the semester in which

they expect to graduate. This should normally be a substantial paper written in PHL 395, but two or three papers written in other courses will be acceptable. If this work is judged to be of sufficiently high quality, it will be read by the rest of the department, and a conference with the student will be arranged. Departmental honors are thus based upon written and oral achievement in philosophy, as well as general performance in philosophy courses.

Requirements for a modified major in philosophy with an international studies minor (South Asian studies program), linguistics or religious studies concentration

Students with modified majors in philosophy must meet the same requirements as a liberal arts minor in philosophy (see below), except a minimum of 24 credits in philosophy are required (instead of 20) and 12 credits in courses numbered 300 or above (instead of 8). In addition, they must meet one of the following sets of requirements:

1. Major in philosophy with a minor in international studies (South Asian studies program): a minimum of 24 credits in philosophy, including PHL 352. For requirements in international studies.
2. Major in philosophy with a concentration in linguistics: a minimum of 24 credits in philosophy, including PHL 475. For requirements in linguistics.
3. Major in philosophy with a concentration in religious studies: a minimum of 24 credits in philosophy, including PHL 325. For requirements in religious studies.

Requirements for the liberal arts minor in philosophy

To earn a minor in philosophy, students must complete a minimum of 20 credits in philosophy, including:

1. One semester of logic (PHL 102, 202 or 370)
2. One semester of ethics (PHL 103, 316 or 318)
3. One semester of metaphysics/epistemology (PHL 204, 205, 206, 308, 329, 333, 340, 401, 437 or 475)
4. At least 8 credits in courses numbered 300 or above

Departmental course prerequisites

In general, 100-level courses presuppose no prior college experience, 200-level courses presuppose some, 300-level courses require at least one prior philosophy course or junior standing, and 400-level courses are primarily for students majoring in philosophy. However, strict prerequisites have been kept to a minimum to encourage non-majors to take philosophy courses as electives.

Course Offerings

PHL 101 Introduction to Philosophy (4)
Study of the main types and problems of Western philosophy. Readings are chosen to illustrate the development of Western thought from the ancient Greeks to the present. Offered every semester. *Satisfies the university general education requirement in Western civilization.*

PHL 102 Introduction to Logic (4)
The relationship between conclusions and statements given in support of them. In addition to elementary deductive and inductive logic, topics may include analysis of ordinary arguments, argument by analogy and informal fallacies. Offered every semester. *Satisfies the university general education requirement in mathematics, logic and computer science.*

PHL 103 Introduction to Ethics (4)
Major ethical analyses of right and wrong, good and evil, from the ancient Greeks to the present. Appeals to custom, theology, happiness, reason and human nature will be examined as offering viable criteria for judgments on contemporary issues of moral concern. Offered every semester. *Satisfies the university general education requirement in Western civilization.*

PHL 202 Introduction to Symbolic Logic (4)
Formal or symbolic logic is a study of what makes deductive arguments valid, employing symbols to represent sentences, words, phrases, etc. in order to reveal the formal structure of the arguments. Offered every year. *Satisfies the university general education requirement in mathematics, logic and computer science.*

PHL 204, 205, 206 History of Western Philosophy (4 each)
The development of systematic philosophical thought in the Western world from its beginning in the Mediterranean region to 1800 A.D. The three courses are PHL 204, Classical Greek Philosophy, PHL 205, Hellenistic and Medieval Philosophy, and PHL 206, Early Modern Philosophy. Each course may be taken separately, although together they present a continuous development. *Satisfies the university general education requirement in Western civilization.*

PHL 300 Topics in Philosophy (4)
One philosophical topic or problem at an intermediate level of difficulty. Topic to be announced in the *Schedule of Classes* for each semester.
Prerequisite: One philosophy course.

PHL 301 Human Nature (4)
Identical with HRD 301.

PHL 302 Ethics and Personal Crises (4)
Identical with HRD 302.

PHL 307 European Philosophy since Kant (4)
Among the major philosophers included are Hegel, Marx, Nietzsche and Sartre. Several types of Marxism and existentialism will be distinguished and their influence in this country will be discussed. Offered every two years.
Prerequisite: One philosophy course.

PHL 308 Twentieth Century British and American Philosophy (4)
The issues that have dominated Anglo-American philosophy in the twentieth century. The course will trace the history that has led Americans and Britons to look at philosophy in a new way, appropriate to our scientific world-view.
Prerequisite: One philosophy course; PHL 206 recommended.

PHL 310 Philosophy of Rhetoric (4)
The problem of "objectivity," the distinction between persuasion and proof, and the consequences of denying such a distinction. Readings include Plato's *Gorgias*, Aristotle's *Rhetoric*, and modern discussions of rhetoric and society. Offered every other year. Identical with SCN 310.
Prerequisite: Junior standing.

PHL 311 Philosophy of Peace and War (4)
Philosophical issues related to peace and war, including: just war theory, nuclear weapons, international conventions, non-violence as a strategy of conflict resolution. Offered every two years.
Prerequisite: One philosophy course or junior standing.

PHL 312 Aesthetics (4)
The nature of aesthetic experience and aesthetic judgment in the appreciation of nature and art. Major theories of the creation and structure of works of art, and the logic and semantics of aesthetic judgment. Offered every other year.
Prerequisite: One philosophy course, or a course in art, music or literature.

PHL 316 Ethics in Business (4)
Review of basic ethical theory, and application to typical moral problems in business practices and institutions. Offered every year.
Prerequisite: Junior standing.

PHL 318 Ethics and the Health Sciences (4)
Central ethical issues in modern health care and research. Included are the distribution and allocation of health resources, the right to life and death, "informed consent," and eugenics. Offered every year.
Prerequisite: Junior standing.

PHL 319 Philosophy of Law (4)
The nature of law and legal obligation, with emphasis on the relation of law, coercion and morality. Attention is also given to such issues as the nature of legal reasoning, the justifiability of civil disobedience and the justification of punishment. Offered every other year.
Prerequisite: Junior standing; PHL 103 or PS 241 recommended.

PHL 321 Political Philosophy (4)
The meanings of central concepts in political philosophy, such as justice, freedom and authority are examined through readings in classical political philosophers and crucial problems. Offered every other year.
Prerequisite: One philosophy course or junior standing.

PHL 325 Philosophy of Religion (4)
Examination of arguments for and against the existence of God, the nature of religious language, relations between religion and philosophy. Offered every other year. Identical with REL 325.
Prerequisite: One philosophy course or junior standing.

PHL 329 Philosophy of Science (4)
Philosophical problems arising from critical reflection on the sciences. Typical topics: the structure of scientific explanation, the nature of scientific laws and theories, causality and confirmation. Offered every other year.
Prerequisite: One course in philosophy or one in natural science.

PHL 333 Theories of Knowledge (4)
Critical examination of knowledge claims and of the types of justification given in their support. Typical topics: skepticism, empiricism, rationalism, believing and knowing, intuition, limits of knowledge. Offered every other year.
Prerequisite: One philosophy course; PHL 206 recommended.

PHL 340 Metaphysics (4)
Study of selected influential attempts to characterize the basic features of the world. Emphasis on reformulations of metaphysical problems in the light of modern advances in scientific knowledge. Offered every other year.
Prerequisite: One philosophy course; PHL 204 recommended.

PHL 350 Philosophies and Religions of Asia (4)
The major religions of India, China and Japan with emphasis on their philosophical significance. The course will cover Hinduism, Jainism, Confucianism, Taoism and Buddhism, both the ancient traditions and some modern developments. Offered every year. Identical with REL 350.
Prerequisite: One philosophy course or junior standing.

PHL 352 Indian Philosophy (4)
The presuppositions and doctrines of India's major philosophic systems. Realistic, idealistic, pluralistic, dualistic and monistic systems will be considered, with some reference to contemporary developments. Offered every other year.
Prerequisite: PHL 350 or IS 240.

PHL 370 Advanced Symbolic Logic (4)
Standard first-order symbolic logic, emphasizing quantification theory and including identity theory and logical semantics. The logical system is approached both as a formal system and as a theoretical analysis of human reasoning. Offered every other year.
Prerequisite: PHL 102 or 202, or CSE 130, or MTH 012 or equivalent.

PHL 390 Directed Readings in Philosophy (2)
Tutorial on a topic not included in regular courses, primarily (but not exclusively) for majors. Students should consult with the department chairperson before approaching a faculty member with a topic. Graded S/U.
Prerequisite: One philosophy course at Oakland and permission of instructor; junior standing.

PHL 395 Independent Study in Philosophy (4)
Tutorial on a topic not included in regular courses, primarily (but not exclusively) for majors. Students should consult with the department chairperson before approaching a faculty member with a topic. In addition to reading and consultation, the student will write a substantial term paper.
Prerequisite: One philosophy course at Oakland and permission of instructor; junior standing.

PHL 401 Study of a Major Philosopher (4)
A study of the works of one major philosopher. The specific philosopher will vary, but courses on Plato, Aristotle and Kant will be offered every few years. May be repeated for credit.
Prerequisite: One philosophy course; PHL 204, 205, 206, 307 or 308 recommended, whichever is relevant.

PHL 437 Philosophy of Mind (4)
Selected topics or works in the philosophical literature about mind. Some topics are: the nature of psychological explanation, the relation of mind and body, thinking, emotions, concepts, consciousness and remembering. Offered every other year.
Prerequisite: One philosophy or one psychology course; junior standing.

PHL 465 Seminar on a Philosophical Topic (4)
One philosophical topic or problem at an advanced level of difficulty, normally requiring considerable background in philosophy. Topic and prerequisites to be announced in the *Schedule of Classes* for each semester.

PHL 475 Philosophy of Language (4)
Philosophical theories of natural language structure. Emphasis on views about what meaning is and how we are to explain our ability to communicate with one another. Offered every other year. Identical with LIN 475.
Prerequisite: PHL 102 or 202, or LIN 207; junior standing.

PHL 497 Apprentice College Teaching (4)
Open to a well-qualified philosophy student who is invited by a faculty member to assist in a regular college course, usually as preparation for a career as a professor of philosophy.

DEPARTMENT OF PHYSICS

201 HANNAH HALL (313) 370-3416

Chairperson: *Norman Tepley*

Professors emeritus: *Ralph C. Mobley, Paul A. Tipler*

Professors: *Beverly Berger, Michael Chopp, Fredrick W. Hetzel, Abraham R. Liboff, John M. McKinley, Roger J. Ordidge, Norman Tepley*

Associate professor: *W. D. Wallace*

Assistant professors: *David Garfinkle, Gopalan Srinivasan, Uma Devi Venkateswaran*

Adjunct professors: *Carl Bleil, Adrian Kantrowitz, Paul D. Stein, K.M.A. Welch*

Adjunct assistant professors: *Elsa R. Beck, Jack E. Juni, Bryan P. Shumaker*

Clinical professors of medical physics: *Peter M. Corry, Howard J. Dworkin, Harold Portnoy*

Clinical associate professors of medical physics: *Jorge O. Just Viera, Joseph S. Rosenshein*

Clinical assistant professors of medical physics: *Elwood P. Armour, Morris I. Bank, Yong J. Lee, Michael J. Parrott*

Adjunct professor of medical physics: *Michael J. Borrelli*

Adjunct assistant professor of medical physics: *Joseph A. Helpern*

Courses within the Department of Physics are grouped into two categories — preprofessional career programs and experiences in science for students with broad interests in contemporary human culture. The latter are strongly recommended for students planning any of a wide range of careers, including law, business, criminology, art history, music, government, education and journalism. High school students intending to major in physics should refer to the *Admissions* section of the catalog for specific preparation requirements.

Programs of study lead to the Bachelor of Science degree with majors in physics, medical physics and engineering physics, Bachelor of Arts degree with a major in physics, Master of Science degree in physics, and Doctor of Philosophy degree in biomedical sciences with specialization in medical physics.

The Bachelor of Science in physics is intended for students who plan to become professional scientists. It qualifies students for graduate studies in physical sciences or research positions in government and industry. Students pursuing this degree should consult with faculty members on different available specialties.

The Bachelor of Arts in physics is primarily designed for students who desire a broader, less professionally specialized background in physics. The minor in physics is available for students who want to supplement their work in other fields with an introduction to physics. A secondary teaching minor in physics is available.

The Bachelor of Science in medical physics is based on a group of physics courses plus relevant biology, chemistry and mathematics courses. In their senior year, these students take "Physics of Radiology" and "Physics of Nuclear Medicine." In addition, these students are placed in hospitals as medical physics interns, where they assist the resident medical physicist in providing clinical medical physics support and thereby gain direct experience in the clinical environment. (Interested students should consult with the medical physics adviser for specific information and counseling.) A limited number of upper-level internships are available in medical physics. Students wishing to take a hospital internship are urged to declare their intentions as early as possible.

The Bachelor of Science in engineering physics, which is offered jointly with the School of Engineering and Computer Science, is intended for well-qualified students who seek a broad education in physics and mathematics along with basic preparation in engineering.

Advising

Chief adviser: *W.D. Wallace*

High school students intending to major in physics should refer to the *Admissions* section of the catalog for specific preparation requirements.

Advisers in the various physics fields are professors Beverly Berger (astronomy), Michael Chopp (medical physics), Abraham R. Liboff (biophysics), John M. McKinley (engineering physics, geophysics), Gopalan Srinivasan (industrial physics, electronics), and W. D. Wallace (teaching minor). Independent research projects are available in each area.

Requirements for the liberal arts major in physics, B.A. program

To earn the Bachelor of Arts degree with a major in physics, students must complete:

1. A minimum of 32 credits in physics, with at least 22 credits in courses numbered above 200.
2. 20 additional credits in chemistry, mathematics and physics, but not CHM 300.

Requirements for the major in physics, B.S. program

To earn the Bachelor of Science degree with a major in physics, students must complete:

1. 20 required credits in physics (PHY 151, 152, 158, 317, 351, 371).
2. A minimum of 22 elective credits in physics at or above the 200 level, including at least 2 credits of laboratory course work. PHY 361 and PHY 381 are strongly recommended for students planning graduate work in physics.
3. MTH 154, MTH 155, MTH 254 and either MTH 256 or APM 257.
4. 10 credits of chemistry at a level not below CHM 144, but not CHM 300.

Requirements for the major in medical physics, B.S. program

To earn the Bachelor of Science degree with a major in medical physics, students must complete:

1. PHY 151, 152, 158, 317, 318, 341, 347, 351, 371, 372, 381, 441, 442, 443 and 444.
2. MTH 154, 155, 254, STA 226 and APM 257.
3. CHM 144, 145, 149 plus 4 additional credits at a level not below CHM 144 (CHM 201 may be taken for credit, but not CHM 300).
4. BIO 200, 205 and 207.

Secondary Teacher Education Program (STEP): Physics

The Secondary Teacher Education Program (STEP) at Oakland University is an extended program of study leading to certification. Students in this program should complete the requirements for a B.A. or B.S. degree in physics as listed below.

1. PHY 151, 152, 158, 317, and 371 (16 credits)
2. 12 credits chosen from: PHY 325, 331, 341, 351, 361, 366, 372, 381, 421
3. 4 credits chosen from: PHY 306, 318, 347, 490
4. MTH 154, 155, and APM 257 (11 credits)
5. CHM 144, 145, and 149
6. 4 credits of biology at or above the level of BIO 190
7. 4 credits of earth science: PHY 106, 107, 307 or 308
8. 4 credits relating science, technology, and society: AN 300, ENV 308, ENV 311, ENV 312, PHY 115, PHY 127.

A program in STEP must include a 20-hour secondary teaching minor and a sequence of undergraduate course work in education to include SED 300, FE 345, RDG 538 and SED 427 (11 credits). Extended study including SED 428, SED 455, SE 501 and FE 602 (26 credits) is also required. Further details on program and admission requirements and procedures can be found in the School of Education and Human Services portion of the catalog and by consulting advisers in the Department of Physics and the School of Education and Human Services advising office (472 O'Dowd Hall, 370-4182).

Requirements for the major in engineering physics, B.S. program

Coordinators: *John M. McKinley (Physics), Hoda Abdel-Aty-Zohdy (Engineering)*

To earn the Bachelor of Science degree with a major in engineering physics (128 credits), students must complete:

1. MTH 154, 155, 254; and APM 257.
2. CHM 144 and 145 (or CHM 164 and 165).
3. PHY 151, 152, 158, 317, 351, 361 and 371, plus one of the following: PHY 331, 366, 381 or 472.
4. CSE 132 and 171; EE 222 and 326; ME 241; and SYS 317 and 325.
5. A professional option typically consisting of two courses plus a related engineering design elective course.
6. At least 7 to 8 credits from the following list: MTH 256; APM 263; PHY 318, 331, 366, 372, 381, 418, 472, 482; EE 345, 351, 378, 384; ME 331, 361; or any 400-level EGR, EE, ME or SYS courses.
7. Free electives (7 to 8 credits), which may be used to satisfy writing proficiency. For limitations on free electives.

Students in this program are not required to complete the college distribution requirement of the College of Arts and Sciences. For further information about this program, including professional options, see the section of this catalog for the School of Engineering and Computer Science, Engineering Physics program.

In addition to the previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.0 in the mathematics, science, engineering and computer science courses taken to meet program requirements.

Departmental honors

Departmental honors may be awarded to students on the basis of high academic achievement and either independent research or meritorious service to the Department of Physics.

Requirements for the liberal arts minor in physics

To earn a minor in physics, students must complete a minimum of 20 credits in physics, including PHY 101-102 or 151-152, 158 and at least 8 credits in physics courses numbered 300 or above.

Requirements for the secondary teaching minor in physics

To earn a secondary teaching minor in physics, students must complete PHY 101-102 or 151-152, 158 and 10 credits in physics approved by the teaching minor adviser by the end of their sophomore year.

Placement in Physics 151

Students planning to take PHY 151 must take a placement test *before* registering for this course. Students who do not pass this test must complete PHY 101 with a passing grade of 2.0 before registering for PHY 151.

Course Offerings

PHY 100 Physics Problem Lab (0)
Techniques for solving problems in PHY 101, 102, 151, 152. Offered fall and winter.
Corequisite: Concurrent enrollment in any of PHY 101, 102, 141, 151, 152.

PHY 101 General Physics I (4)
Mechanics, heat, mechanical waves and sound. Calculus is not required. Offered fall and winter.
Prerequisite: High school algebra and trigonometry or equivalent. Concurrent enrollment in PHY 100 is required fall and winter. *Satisfies university general education requirement in natural science and technology.*

PHY 102 General Physics II (4)
Electricity and magnetism, light, relativity, atomic and nuclear physics. Offered fall and winter.
Prerequisite: PHY 101. Concurrent enrollment in PHY 100 is required fall and winter.

Each of the following courses is designed for nonscience majors.

PHY 104 Astronomy: The Solar System (4)
The sun, planets, space travel, the search for extraterrestrial life. Offered fall only. *Satisfies university general education requirement in natural science and technology.*

PHY 105 Astronomy: Stars and Galaxies (4)
Nature and evolution of stars, the Milky Way and other galaxies, cosmology. Offered winter only. *Satisfies university general education requirement in natural science and technology.*

PHY 106 Earth Sciences I (4)
The earth as a planet. Topics include: origin, history, orbit, gravity, rocks and minerals, earthquakes, the interior and the theory of continental drift. Offered fall only. *Satisfies university general education requirement in natural science and technology.*

PHY 107 Earth Sciences II (4)
The surfaces of the earth, including the atmosphere and oceans. Topics include: climate, meteorology, continental evolution, weathering, glaciers, wind and the energy resources of the earth. Offered winter only. *Satisfies university general education requirement in natural science and technology.*

PHY 115 Energy (4)
Basic physical principles of energy, sources, transmission and distribution. Political, economic and ecological considerations.
Prerequisite: High school algebra.

PHY 125 The Physics of Music (4)
Lectures and experiments on the nature of vibrations, waves and sound as applied to musical instruments and scales, voice, hearing, room acoustics and electronic music. Offered fall only. *Satisfies university general education requirement in natural science and technology.*
Prerequisite: High school algebra.

PHY 127 Human Aspects of Physical Science (4)
Primarily for the student wishing to explore the interaction of the physical and social sciences. Format varies to reflect the impact of physics on contemporary life, particularly on politics, economics and behavior, as well as environment and well-being. Offered winter only. *Satisfies university general education requirement in natural science and technology.*
Prerequisite: High school algebra.

The following courses are designed primarily for the physics major and for majors in the other sciences and engineering.

PHY 151 Introductory Physics I (4)
Classical mechanics and thermodynamics. For science, mathematics and engineering students. Offered fall and winter. *May be used in place of PHY 101 to satisfy the general education requirement in natural science and technology.*
Prerequisite: Departmental approval, physics placement test (or passing grade in PHY 101) and MTH 154. Concurrent enrollment in PHY 100 is required fall and winter.

PHY 152 Introductory Physics II (4)
Sound, light, electricity and magnetism. Offered fall and winter.
Prerequisite: PHY 151. Corequisite: MTH 155. Concurrent enrollment in PHY 100 is required fall and winter.

PHY 158 General Physics Laboratory (2)
Elementary experiments in mechanics, heat, sound, electricity and optics. Offered fall and winter.
Prerequisite: PHY 101 or 151. Corequisite: PHY 102 or 152.

PHY 290 Introduction to Research (2 or 4)
Independent study and/or research in physics for students with no research experience.
Prerequisite: Written agreement of a physics faculty supervisor.

PHY 304 Astrophysics I (4)
Application of elementary physics to the study of planets, stars, galaxies and cosmology. Offered every other year in fall only.
Prerequisite: PHY 152 or PHY 102, and MTH 155.

PHY 305 Astrophysics II (4)
Continuation of PHY 304. Offered every other year in winter only.
Prerequisite: PHY 304.

PHY 306 Observational Astronomy (2)
A lecture/laboratory course using the Oakland University observatory and providing basic training in astronomical techniques.
Prerequisite: PHY 158; or PHY 104 or 105 and permission of instructor.

PHY 307 Geophysics (4)
The application of physics concepts to the study of the earth, gravity and its anomalies, geomagnetism, earth-sun energy, geochronology and seismic wave propagation. Offered every other year in fall only.
Prerequisite: PHY 152 or PHY 102, and MTH 155. PHY 106 highly recommended.

PHY 308 Physical Oceanography (4)
Physical oceanography and meteorology; composition and structure of the atmosphere and oceans. Interactions of sea water with the atmosphere, the continents and man. Offered every other year in winter only.
Prerequisite: PHY 152 or PHY 102, and MTH 155. PHY 107 highly recommended.

PHY 317 Modern Physics Laboratory (2)
Optics and atomic physics experiments. Offered fall only.
Prerequisite: PHY 158. Corequisite: PHY 371.

PHY 318 Nuclear Physics Laboratory (2)
Nuclear physics experiments. Offered winter only.
Prerequisite: PHY 158. Corequisite: PHY 372.

PHY 325 Biophysical Science I (4)
Lecture course emphasizing the physics of living systems: thermodynamics in biology, information theory, theories of aging, biomolecular structure, nerve conduction, radiation biology. Offered fall only.
Prerequisite: PHY 152 or PHY 102, and either MTH 122 or MTH 154.

PHY 326 Biophysical Science II (4)
Lecture course presenting application of the physical laws to operation of modern biophysical instruments; the electron microprobe, ultracentrifuge, spectrometer, laser light scattering, optical and x-ray diffraction and acoustic probe. Offered winter only.
Prerequisite: PHY 152 or PHY 102, and MTH 155.

PHY 331 Optics (4)
Geometrical optics, optical instruments, wave theory of reflection, refraction, interference, diffraction and polarization of light. Offered winter only.
Prerequisite: PHY 152 or PHY 102, and MTH 155. Corequisite: MTH 254.

PHY 341 Electronics (4)
Electronics for scientists, circuit theory, transistors, power supplies, linear amplifiers, oscillators. Offered winter only.
Prerequisite: PHY 158 and MTH 155, and either PHY 152 or PHY 102. Concurrent enrollment in PHY 347 is recommended.

PHY 347 Electronics Laboratory (2)
Circuits and electronics experiments. Offered winter only.
Corequisite: PHY 341.

PHY 351 Intermediate Theoretical Physics (4)
Topics and techniques common to intermediate physics courses. Includes analytical and numerical (computer) solution techniques, DIV, GRAD, CURL and Fourier analysis. Offered fall only.
Prerequisite: PHY 152 or PHY 102, and MTH 155.

PHY 361 Mechanics I (4)
Applications of Newton's laws to particles, systems of particles, harmonic oscillators, central forces, accelerated reference frames and rigid bodies. Offered fall only.
Prerequisite: PHY 152 or PHY 102, and MTH 254.

PHY 366 Vibrations and Waves (4)
Oscillations; mechanical waves in one, two and three dimensions; sound.
Prerequisite: PHY 152, MTH 155.

PHY 371 Modern Physics (4)
Introduction to relativity, kinetic theory, quantization and atomic physics. Additional topics chosen from physics of molecules, solids, nuclei and elementary particles. Offered fall only.
Prerequisite: PHY 152 or PHY 102, and MTH 155; concurrent enrollment in PHY 317 is recommended.

PHY 372 Nuclear Physics (4)
Radioactivity, interaction of radiations with matter, accelerators, nuclear reactions, fission and fusion. Offered winter only.
Prerequisite: PHY 102 or 152, and MTH 155; concurrent enrollment in PHY 318 is recommended.

PHY 381 Electricity and Magnetism I (4)
Maxwell's equations and the experimental laws of electricity and magnetism. Potential theory, boundary conditions on the electromagnetic field vectors, field energy. Dielectrics, conductors and magnetic materials. Offered winter only.
Prerequisite: PHY 351 and MTH 254. APM 257 desirable.

PHY 400 Undergraduate Seminar (1)
Graded S/U.

PHY 405 Special Topics (2, 4 or 6)
Prerequisite: Permission of department.

PHY 418 Modern Optics Laboratory (2)
Laboratory studies employing sophisticated laser, spectrometer and photon counting techniques and equipment including atomic absorption spectroscopy, intensity fluctuation spectroscopy, atomic and molecular fluorescence and Brillouin scattering. Offered winter only.
Prerequisite: PHY 317 and PHY 371. Also PHY 331 or permission of instructor.

PHY 421 Thermodynamics (4)
The zeroth, first and second laws of thermodynamics with applications to pure substances. Introduction to the kinetic theory of gases and to statistical mechanics. Offered winter only.
Prerequisite: PHY 361 and APM 257.

PHY 441 Physics of Radiology I (2)
Physical principles underlying the practice of radiology. Offered fall only.
Prerequisite: Departmental approval and PHY 371, 381 and 347.

PHY 442 Physics of Radiology II (2)
A continuation of PHY 441. Offered winter only.
Prerequisite: PHY 441.

PHY 443 Physics of Nuclear Medicine I (2)
Physical principles of diagnostic and therapeutic applications of radio-nuclides. Offered fall only.
Prerequisite: Approval of department and PHY 371, 381 and 347.

PHY 444 Physics of Nuclear Medicine II (2)
A continuation of PHY 443. Offered winter only.
Prerequisite: PHY 443.

PHY 445 Medical Instrumentation (2)
Detailed examination of the scientific instrumentation used in modern medical diagnostic and therapeutic practice. Offered winter only.
Prerequisite: Approval of department, PHY 371, 381 and 347.

PHY 470 Relativity (4)
Special relativity in mechanics and electromagnetism. Introduction to general relativity and gravitation. Offered fall only.
Prerequisite: PHY 361 or 371 or 381.

PHY 472 Quantum Mechanics I (4)
Principles of nonrelativistic quantum mechanics, Schrodinger wave equation, expectation values of energy, position, momentum and angular-momentum operators, spin, perturbation theory, identical particles. With applications to atomic systems. Offered winter only.
Prerequisite: PHY 351, 361, 371 and APM 257.

PHY 482 Electricity and Magnetism II (4)
Multipole fields, solutions of Laplace and Poisson equations, electromagnetic waves in insulators and conductors, radiation, and the derivation of the laws of optics from Maxwell's equations. Offered fall only.
Prerequisite: PHY 381, APM 257 and MTH 256.

PHY 490 Independent Study and Research (2, 4 or 6)
Prerequisite: Four credits of 300-level physics and written agreement of a physics faculty supervisor.

PHY 497 Apprentice College Teaching (2)
Directed participation in teaching selected undergraduate physics courses. May be repeated for a maximum of 4 credits. Graded S/U.
Prerequisite: Permission of instructor.

DEPARTMENT OF POLITICAL SCIENCE

420 VARNER HALL (313) 370-2352

Chairperson: *William A. Macauley*

Profesors emeritus: *Edward J. Heubel, Roger H. Marz*

Professors: *Sheldon Appleton, Thomas W. Casstevens, Robert J. Goldstein, Vincent B. Khapoya, James R. Ozinga, Carl R. Vann (Health Behavioral Sciences and Political Science)*

Associate professor: *William A. Macauley*

Assistant professors: *John Klemanski, John Piskulich, Martha T. Zingo*

Adjunct assistant professor: *Gerald W. Hall*

Instructor: *C. Michelle Piskulich*

Chief adviser: *Vincent B. Khapoya*

Internship director: *John Piskulich*

Political science offers a concentrated and systematic study of politics at all levels of government and in many different cultural and national settings. Policy making, law, political behavior, administration, international politics, foreign governments and theories and philosophies of government are among the many topics covered in these courses. The general educational aim is to increase students' awareness and understanding of the broad realm of politics and government. Many students electing this major wish to prepare for careers in public service, law, practical politics or the teaching of government and social studies.

The Bachelor of Arts degree with a major in political science is the department's broadest program and is appropriate for students with an interest in public affairs or students who intend to enter law school or graduate school. The department also offers a major in public administration leading to the Bachelor of Science degree. This program is designed to provide appropriate analytical skills and prepare students for direct entry into public service or for specialized graduate programs in public administration and public policy. The Master of Public Administration degree is also offered by the department (see the *Oakland University Graduate Catalog*). The Master of Public Administration degree is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA).

Requirements for the liberal arts major in political science, B.A. program

To be admitted to major standing, students must complete the following core program: PS 100, 131, 303 and 304 with minimum grade of 2.0 in each course and with an average grade in the four courses of 2.50 or above.

To remain in good standing, students must maintain an average of 2.00 in their remaining political science courses. The major requires a minimum of 40 credits in political science, distributed as follows:

1. The core program (14 credits: PS 100, 131, 303 and 304). PS 303 and 304 should be taken in the sophomore year if possible and no later than the junior year.
2. At least one 4-credit course must be selected from each of the three fields of political science: American politics (PS 301, 302, 305, 307, 323, 324, 342, 343, 350, 353, 402, 403, 440, 441 and 450); comparative and international politics (PS 314, 318, 329, 330, 331, 332, 333, 334, 335, 337,410, 413 and 430); political theory and political thought (PS 320, 321, 371, 372, 373, 377 and 480) for a total of 12 credits.
3. The remaining 14 credits in political science are electives, with the following restrictions: only 4 credits of PS 110 and no more than 12 credits of PS 390 and 490 will be accepted in the major.

Requirements for the liberal arts major in public administration and public policy, B.S. program

To be admitted to major standing, students must complete the following core program: PS 100, 131, 303 and 304 with a minimum grade of 2.0 in each course and with an average grade in the four courses of 2.50 or above.

To remain in good standing, students must maintain an average of 2.00 in their remaining major and corequisite courses. The major requires a minimum of 56 credits, distributed as follows:

1. The core program (14 credits: PS 100, 131, 303 and 304). PS 303 and 304 should be taken in the sophomore year if possible and no later than the junior year.
2. The sequence of departmental courses (26 credits). Required are: PS 257, 350, 353, 453, 454 and 458. Enrollment in PS 458 (8), the Public Affairs Internship, must be preceded by consultation with the director of internships. In those cases where the internship requirement is waived, the student must elect an alternative 8 credits of political science, subject to approval of the department's chief academic adviser.
3. The corequisites (16 credits). The following courses are required: ACC 200, STA 225, and ECN 200 and 201 (ECN 210 — 6 credits — is acceptable in lieu of 200 and 201).

For students contemplating graduate school, MTH 141 and 122 are strongly recommended.

Departmental honors

Departmental honors will be awarded competitively to selected students from among those who have attained an overall grade point average of at least 3.30 and a minimum grade point average of 3.70 for courses in political science. No more than 25 percent of the students for each graduation will be awarded honors in political science and public administration and public policy.

Requirements for a major in political science with other concentrations

Students in political science may pursue a regular major in political science with a number of interdepartmental concentrations. These include, among others, American studies, applied statistics, Michigan studies, social justice and corrections, and women's studies.

Recommended courses for prelaw students

It is recommended that political science majors interested in law school elect the law-related courses given by the department: PS 241 (Law and Politics); PS 341 (Constitution and Civil Liberties); PS 342 (The Judicial Process); or PS 343 (The Supreme Court and Constitutional Politics). For advice in planning for law school, contact the department's prelaw adviser, Assistant Professor Martha Zingo. The student should also read the Prelaw Studies section of this catalog.

Legal Assistant Program political science credit

In cooperation with Continuing Education, the Department of Political Science sponsors courses that prepare students for the legal assistant field. Students are required to take 8 foundation courses and 3 legal specialty courses, selected according to interest or career goals. Completion of the course work and an internship as specified by Continuing Education leads to a diploma awarded by that unit.

A student majoring in political science may offer up to 8 credits of this course work toward the 40 credits required for the major. The courses may also be taken as electives by students in other programs. Courses approved to date by the Committee on Instruction are listed below. For specific details, consult the director of the legal assistant program located in the Continuing Education Office.

PS 344a (CE 2506) Substantive Law Contracts: (1)
PS 344b (CE 2507) Substantive Law: Torts (1)
PS 345a (CE 2510) Legal Research and Writing I (1)
PS 345b (CE 2511) Legal Research and Writing II (1)

PS 346	(CE 2520)	Real Property Transactions (1)
PS 347	(CE 2525)	Estates and Trusts (1)
PS 348	(CE 2530)	Corporations (1)
PS 447a	(CE 2550)	Probate Administration (1)
PS 447b	(CE 2560)	Taxation of Estates and Trusts (1)
PS 447e	(CE 2568)	Estate Planning and Documents (1)
PS 449a	(CE 2540)	Litigation I: Case Preparation before Trial (1)
PS 449b	(CE 2541)	Litigation II: Case Preparation before Trial (1)
PS 449d	(CE 2547)	Litigation III: Anatomy of a Lawsuit (1)
PS 491		Special Topics for Legal Assistant (1)
PS 492	(CE 2599)	Ethics/Internship (2)

Requirements for the liberal arts minor in political science

To earn a minor in political science, students must complete a minimum of 20 credits in political science, including PS 100 or PS 131 and at least 8 credits at the 300-400 level.

Course Offerings

PS 100 Introduction to American Politics (4)
The decision-making process in the American national government and the ways in which parties, groups, and individuals work to produce public policy in Congress, the Presidency and the courts. *Satisfies the university general education requirement in social science.*

PS 110 Contemporary Political Issues (2 or 4)
Selected topics dealing with current political issues or public policy problems. The particular topic will be announced at the time of offering. Designed for the general student. May be repeated for credit with different topics.

PS 115 U.S. Foreign Policy (4)
Foreign policy issues and challenges confronting the U.S. in the nuclear age in light of the historical evolution of American diplomacy and in light of the limitations imposed upon foreign policy makers by public opinion and the exigencies of domestic politics. *Satisfies the university general education requirement in social science.*

PS 131 Foreign Political Systems (4)
Analysis of contemporary politics and governmental systems of selected countries; types chosen range from established constitutional democracies and totalitarian systems to movements and regimes of new developing nations. Offered fall and winter. *Satisfies the university general education requirement in social science.*

PS 203 The Politics of Race and Ethnicity (4)
A study of racial and ethnic groups and their role in the political process in the U.S. Emphasis will be placed on the political experience and the struggle for equal rights by major minority groups such as Blacks, Hispanics and Native Americans.

PS 241 Law and Politics (4)
A broad survey of the function of law and legal systems in the political order. The student will be exposed to the classic legal, historical, anthropological and comparative treatments of the subject.

PS 250 Politics of Survival (4)
An examination of environmental, regulatory and energy related political issues that challenge human survival both nationally and globally.

PS 257 Public Affairs Careers Orientation (2)
Planning for public service careers; the varieties of public service careers and the alternative of pursuing advanced degrees are explored. Examples and practical problems from agency work are examined through case studies and presentations by practitioners and professional administrators.

PS 300 American Political Culture (4)
A study of the main themes in American culture and the ways in which they affect the political beliefs, attitudes, opinions and behaviors of Americans. Key themes include individualism, the drive for success, racial attitudes, the American sense of a special mission in the world, and American beliefs about democracy. (This course may not be taken for credit by students receiving credit for AMS 300.)
Prerequisite: PS 100.

PS 301 American Presidency and the Executive Process (4)
A study of presidential politics, decision making and leadership in the American political system.
Prerequisite: PS 100.

PS 302 Legislative Process and Public Policy (4)
A study of legislative behavior and decision making, emphasizing the problems of public policy development in the American political system.
Prerequisite: PS 100.

PS 303 Research Methods and Statistics (4)
A study of research design, measurement of political variables and data analysis. Not open to students who have completed PS 222. Concurrent enrollment in PS 304 is required.
Prerequisite: One course in political science.

PS 304 Computer Techniques (2)
Introduction to the computing environment at the university; microcomputer packages in word-processing, electronic spreadsheet analysis and business graphics; statistical packages on the mainframe computer. Laboratory exercises will be coordinated with materials in PS 303. Not open to students who have completed PS 220 or PS 223. Concurrent enrollment in PS 303 is required.

PS 305 Politics of the Local Community (4)
Study of local governments, political forces, trends in metropolitan and suburban politics, and problems of planning in an age of urbanization.
Prerequisite: PS 100.

PS 307 State Politics (4)
Comparative analysis of the variations and similarities of the political systems of the 50 states, the policy-making structures, political participation, and contemporary public policy issues.
Prerequisite: PS 100.

PS 311 Women and Politics (4)
Examines the role of women in politics including political participation and representation. Additional topics will include women and public issues (such as affirmative action and comparable worth) as well as an introduction to feminist political thought. Identical with WS 311.

PS 314 International Politics (4)
Interdisciplinary study of concepts and hypotheses basic to the understanding and analysis of political and economic relations and conflict among nations, states and other institutions in the international system. Not open to students who have completed PS 213.

PS 318 Foreign Policies of Communist Systems (4)
Relations since 1917 between communist states and the Western world as well as relations among communist states.
Prerequisite: PS 131.

PS 320 Laboratory in Empirical Methods (4)
Topics include social science data management, two or three batch and conversational statistical packages, some computer programming, some statistics not covered in PS 303, and different modes of empirical political science research.
Prerequisite: PS 303.

PS 321 Systematic Political Analysis (4)
A study of selected formal (i.e., logical, mathematical or statistical) models in political science. An introduction to the methodology of social science research, with emphasis on student research projects.
Prerequisite or co-requisite: a course in elementary statistics or PS 303.

PS 323 The American People and Their Presidents (4)
Study of the relationships among public attitudes toward the presidency and the political system, voting behavior in presidential elections, and presidential policies and leadership.
Prerequisite: PS 100.

PS 324 Political Parties and Elections (4)
The study of electoral systems, political parties, and the voting behavior of individuals and groups, with special attention to U.S. political experience.
Prerequisite: PS 100.

PS 329 European Political Systems (4)
An analysis of politics within and between nations in Europe. Selected institutions and processes are examined in detail. A comparative point of view is emphasized.
Prerequisite: PS 131.

PS 330 Politics of Development (4)
An examination of the various approaches and theories used in comparative political research, including theories of political economic development and social change.
Prerequisite: PS 131 and PS 303.

PS 331 Politics in Canada and the Commonwealth (4)
An analysis and comparison of politics, parties, parliament, politicking, and public policy in Canada and selected countries of the Commonwealth.

PS 332 Politics of the Middle East and North Africa (4)
The cultural and historical factors that influence contemporary politics of the area will be emphasized. Topics include religion, social structures, economic problems, the impact of the West and the Arab-Israeli conflict.

PS 333 African Politics (4)
Examination of politics of selected African states. Primary focus is on political development. Attention is given to traditional and colonial politics as well as to individuals, groups and institutions that make up the present political process.

PS 334 Political Systems of Southern Asia (4)
Examination of the elements of political life in India, Bangladesh and Pakistan. The cultural, historical, social and economic factors that influence contemporary political institutions, and the issues and processes by which political conflicts are resolved will be studied.

PS 335 Politics of Latin America (4)
Analysis of Latin American political systems and the historical, social and economic factors underlying them. The major countries are studied intensively, and a comparative approach is used to examine the variations from democracy to dictatorship and the political instability that characterizes the area.

PS 337 The Soviet Political System (4)
A descriptive analysis of the Soviet society as a political system: its origins, institutions and political behavior. Trends and developments in the system will be assessed, and comparisons with other political systems will be undertaken.

PS 341 Constitution and Civil Liberties (4)
An analysis of theories of civil liberties and the constitutional and political conflicts over these issues.
Prerequisite: PS 100 or PS 241.

PS 342 The Judicial Process (4)
A study of judicial behavior and decision making in federal courts with an emphasis on the role of courts in developing public policies.
Prerequisite: PS 100 or PS 241.

PS 343 The Supreme Court and Constitutional Politics (4)
Survey of American constitutional law and the role of the Supreme Court in the American political system.
Prerequisite: PS 100 or PS 241.

PS 350 Public Administration (4)
Study of government in action, with special attention to policy formulation, organization, personnel administration, supervision, coordination, administrative control and accountability.
Prerequisite: PS 100.

PS 353 Public Policy Analysis and Program Evaluation (4)
Examines the political, economic and social factors in development, implementation and impact of public policies; the roles of interest groups, political parties, bureaucratic institutions and legislative bodies in the policy process at federal, state, and local governmental levels.
Prerequisite: PS 100 and either PS 303 or permission of instructor.

PS 359 Public Policy and Health Care (4)
An examination of the status and evolution of public policies relating to health and health care, the policy-making processes in health care and the various implications of trends in health care policy.
Identical with HBS 359.
Prerequisite: PS 100.

PS 371 American Political Thought (4)
The writings of prominent American thinkers and statesmen whose ideas have influenced the development of the American polity will be considered. Selected texts by European thinkers may also be examined with a view to their influence on America.
Prerequisite: PS 100.

PS 372 Western Political Thought I (4)
The development of Western political philosophies and ideas during the period from 600 B.C. to A.D. 1500. Major philosophers and thinkers (such as Socrates, Plato, Aristotle, Jesus, Augustine and Aquinas) are studied in the context of the significant political, economic and religious factors of their eras.

PS 373 Western Political Thought II (4)
The development of Western political philosophies and ideas during the period from A.D. 1500 to the present. Major philosophers and thinkers (such as Machiavelli, Luther, Calvin, Hobbes, Locke, Rousseau, Hegel and Marx) are studied in the political, economic and religious context of their eras.

PS 377 Communism (4)
The development of revolutionary socialism from early Marxism to the present. The course analyzes the relevance of Marxism to a variety of contemporary revolutionary situations. *Satisfies the university general education requirement in Western civilization.*

PS 390* Independent Study (2 or 4)
Readings not normally covered in existing course offerings. Directed on an individual basis.
Prerequisite: Permission of department and instructor; form available in 420 Varner Hall.

PS 413 International Law (4)
An examination of the principles and organization of modern international law. Attention is given to the growing fields of ocean resources, outer space, environmental protection and information law.
Prerequisite: PS 314.

PS 453 Public Budgeting (4)
The budgeting process in complex institutions, with special reference to various modern budgetary systems. Stresses use of control over flow of funds as an instrument in policy control.
Prerequisite: PS 350 and either PS 303 or STA 225.

PS 454 Public Personnel Administration (4)
Study of the procedures, techniques and problems of personnel administration in public agencies; evolution of the modern civil service system, merit principle, and responses to collective bargaining and equal opportunity programs.
Prerequisite: PS 350 and either PS 303 or STA 225.

PS 458 Public Affairs Internship (4 or 8)
Supervised student internships with governmental, political and other public agencies; reports and analyses relating to agency required. Applicants must seek departmental approval at the beginning of the semester prior to that of the internship.
Prerequisite: PS 257 and permission of the internship director; form available in 420 Varner Hall.

From time to time, the department offers advanced seminars in which a topic or problem is studied in depth, and in which significant individual student research is presented for analysis and criticism. The seminar titles refer to the broad fields of political science within which the problem falls; the precise problems to be studied will be announced by the department when the seminars are offered. All seminars require permission of the department before registration. Offered every semester.

PS 402, 403	**Seminar in American Politics (4 each)**
PS 410	**Seminar in International Relations (4)**
PS 420	**Seminar in Political Behavior (4)**
PS 430	**Seminar in the Comparative Study of Political Systems (4)**
PS 440, 441	**Seminar in Public Law (4 each)**
PS 450	**Seminar in Public Policy (4)**
PS 460	**Seminar in Public Administration: Strategies and Policies (4)**
PS 480	**Seminar in Political Theory (4)**
PS 490*	**Special Topics or Directed Research (2, 4 or 8)**

Prerequisite: Permission of the instructor; form available in 420 Varner Hall.

*Students are limited to 8 credits of independent study (PS 390 or 490) in any one semester, and may offer no more than 12 credits toward fulfillment of major requirements.

DEPARTMENT OF PSYCHOLOGY

111 PRYALE (313) 370-2300

Chairperson: *Lawrence G. Lilliston*

Professors emeritus: *Edward A. Bantel, David C. Beardslee*

Professors: *Daniel N. Braunstein, Harvey Burdick, Ranald D. Hansen, Algea O. Harrison, Donald C. Hildum, Dean G. Purcell, Keith E. Stanovich, Harold Zepelin*

Associate professors: *Max Brill, I. Theodore Landau, Lawrence G. Lilliston, David G. Lowy, Ralph Schillace, David W. Shantz, Robert B. Stewart, Jr.*

Assistant professor: *Frank Schieber*

Visiting assistant professor: *Christine H. Hansen*

Adjunct assistant professor: *Ruth Nathan*

Chief adviser: *I. Theodore Landau*

The Department of Psychology offers undergraduate programs leading to the Bachelor of Arts degree. The psychology curriculum is structured to meet the needs of four types of students interested in majoring in psychology: students who plan to find employment after obtaining the bachelor's degree, students who plan to go to graduate school in psychology, students who plan to enter a field other than psychology that requires further formal training and students who have a general interest in psychology. A pamphlet, "Majoring in Psychology at Oakland University," is available in the department office. Students planning to major in psychology should obtain a copy of this pamphlet, which offers suggested programs of study.

Requirements for the liberal arts major in psychology

To earn the Bachelor of Arts with a major in psychology, students must complete a minimum of 40 credits in psychology, including PSY 100, PSY 250, PSY 251 and four psychology courses with numbers from 350 to 450. Students planning to attend graduate school should complete one of the experimental courses (PSY 400, 410, 411, or 412). PSY 399 may not be counted toward the major.

Departmental honors

Departmental honors are conferred upon graduates who have taken at least six psychology courses at Oakland University, including PSY 251 and a 400-level experimental course, and achieved a grade point average of 3.50 or above in psychology courses. The student must also do honors-level work in PSY 494.

Requirements for a modified major in psychology with a linguistics concentration

A modified major in psychology with a concentration in linguistics is available. The requirements in psychology are a minimum of 24 credits including PSY 100, PSY 250, PSY 251 and at least two 300-level courses. For additional information, see the linguistics section of the catalog.

Requirements for the liberal arts minor in psychology

To earn a minor in psychology, students must complete a minimum of 20 credits in psychology, including one introductory course (PSY 100 or PSY 130), a methods course (PSY 250) and three other psychology courses, two of which must be at the 300 level or above.

Course Offerings

PSY 100 Foundations of Contemporary Psychology (4)
An introduction both to basic principles and recent formulations in psychology. Topics include the central psychological processes of attending, perceiving, learning, thinking, remembering, and study of social behavior and the development and organization of personality. Required of psychology majors. *Satisfies the university general education requirement in social science.*

PSY 130 Psychology and Society (4)
Examination of relationships among people and the effects of these relationships upon them. Analysis of social functions and roles; development and change of attitudes, beliefs and values; and development of personality in relation to the social milieu. *Satisfies the university general education requirement in social science.*

PSY 200 through 209 Topics in Psychology (4 each)
Offered occasionally on special topics of current interest that are not listed among regular offerings.
Prerequisite: See individual listings in *Schedule of Classes.*

PSY 220 Abnormal Psychology (4)
The psychodynamics of abnormal behavior, clinical types, methods of investigation and principles of psychotherapy.
Prerequisite: PSY 100 or 130.

PSY 235 Social Psychology (4)
Overview of traditional and current trends in social psychology. Attention is given to developing theoretical approaches to attitudes, interpersonal processes and social perception.
Prerequisite: PSY 100 or 130.

PSY 250 Introduction to Research Design (4)
General introduction to design, function and interpretation of research in the social sciences. Aimed at providing necessary preparation to evaluate the empirically based content of psychology. Required of psychology majors.
Prerequisite: PSY 100 or 130.

PSY 251 Statistics and Research Design (4)
The principal statistical procedures employed in social science research. An introduction to descriptive statistics, probability and inferential statistics necessary to carry out and interpret social science research. Two years of high school mathematics (some algebra) are recommended.
Prerequisite: PSY 250.

PSY 252 Statistical Analysis with Computers (4)
The principal computer packages used by social science researchers in analyzing data. A study of MINITAB serves to review basic concepts and introduce the logic of structuring data sets. The remainder of the course will focus on the BMDP and SPSS packages.
Prerequisite: PSY 251.

PSY 270 Life-Span Developmental Psychology (4)
A survey of the principal cognitive, social and behavioral processes that operate across the life-span.
Prerequisite: PSY 100 or 130.

PSY 271 Child Development (4)
Theory and principles of child development from birth to puberty. Selected topics include: maturational processes, learning and motivation, intelligence, self concept and child-rearing practices.
Prerequisite: PSY 100 or 130.

PSY 300 through 309 Topics in Psychology (2 or 4 each)
Offered occasionally by faculty wishing to explore topics of current interest not listed among regular offerings, either on their own initiative or at the request of a group of students.
Prerequisite: See individual listings in *Schedule of Classes.*

PSY 310 Coping Strategies in the Normal Personality (4)
Characteristics of healthy personality in the following dimensions: need gratification, reality contact, interpersonal relationships and growth.
Prerequisite: PSY 100 or 130.

PSY 311 Tests and Measurement (4)
Theories of measurement and evaluation. Examination of construction and interpretation of tests of ability, achievement, interests and special attitudes. Objective tests of personality.
Prerequisite: PSY 100 or 130.

PSY 312 Psychopathology of Childhood (4)
The psychopathology of children and adolescents, emphasizing dynamic and cognitive-perceptual-motor variables.
Prerequisite: PSY 100 or 130.

PSY 313 Psychology of Exceptional Children (4)
Psychological approaches to those children with some exceptional condition, including the gifted, retarded, sensory disabilities, emotional disorders and physical disabilities. Consideration of developmental aspects, personality variables, assessments and psychological interventions.
Prerequisite: PSY 100 or 130.

PSY 314 Behavior Modification (4)
The theory and practice of behavioral psychology and behavior modification as it has been developed from Darwin, Pavlov, Skinner, Bandura and others.
Prerequisite: PSY 100 plus two other psychology courses.

PSY 324 Dehumanization (4)
Survey of research and literature on the effects of removing an individual's responsibility for the outcome of personal behavior. Topics include bystander apathy, over-obedience, conformity, etc.
Prerequisite: PSY 100 or 130.

PSY 325 Psychology of Women (4)
Examines gender differences resulting from the socialization of girls and women and the psychological impact of life events experienced exclusively or differentially by women. Topics include role conflicts, gender stereotypes, achievement, and employment. Identical with WS 325.
Prerequisite: PSY 100 or 130.

PSY 326 The Psychology of Social Issues (4)
Psychology's contribution to understanding selected issues of current social concern such as urban areas, jury selection, effects of television on violence, etc.
Prerequisite: PSY 100 or 130.

PSY 331 Psychology of Adulthood and Aging (4)
Psychological change, from young adulthood to death. Topics include potentials for psychological growth and sources of crisis, changes in intellectual processes, attitudes toward aging, retirement, and the needs of the aged.
Prerequisite: PSY 100 or 130.

PSY 332 Work with the Elderly I (4)
Introduction to community and institutional work with the elderly. Field placement is combined with readings and lectures on psychosocial services for the elderly.
Prerequisite: PSY 331 (may be taken concurrently with instructor's consent).

PSY 335 Psycholinguistics (4)
Identical with ALS 335.

PSY 336 Psychology of Adolescence and Youth (4)
The transition to adulthood, as influenced by physiological change, intellectual growth, and social attitudes. Topics include the quest for identity, juvenile delinquency, drug use, the youth culture, relationships between generations, and vocational choice.
Prerequisite: PSY 100 or 130.

PSY 337 Group Behavior (4)
Group structure, function, and process. Focus on how individuals affect the behavior of people in groups; how the group, in turn, affects the behavior of the individual. Topics include leadership, cohesion, group therapy, crowds and mobs.
Prerequisite: PSY 100 or 130, and 235.

PSY 350 Motivation (4)
The nature of physiological and behavioral mechanisms that control an organism's reaction to the demands of its environment.
Prerequisite: PSY 100.

PSY 351 Learning, Memory and Thinking (4)
Approaches to learning, memory and thinking processes. Includes conditioning, problem solving, verbal behavior, storage systems and organization.
Prerequisite: PSY 100.

PSY 352 Sensation and Perception (4)
Approaches to the basic sensory systems and perceptual processes.
Prerequisite: PSY 100 and 250 or equivalent, or permission of instructor.

PSY 353 Cognitive Psychology (4)
The information processing approach to problems in pattern recognition, selective attention, mental operations, short- and long-term memory, the psychology of reading, problem-solving and probabilistic reasoning.
Prerequisite: PSY 100 and 250.

PSY 354 Animal Behavior (4)
Comparative psychological, ethological and sociobiological viewpoints on behavior of animals. Emphasis will be on vertebrate species including humans. Discussion of reproductive, aggressive and social behaviors, learning, communication, etc. Stresses an evolutionary perspective.
Prerequisite: PSY 100 or an introductory biology course.

PSY 355 Physiological Psychology (4)
Biological bases of behavior of humans and related mammalian species: basic neuroanatomy and neurophysiology, motivation, emotion, learning and memory, sleep and dreams, sensory-motor mechanisms, brain stimulation, psychopharmacology, hormones, and behavior.
Prerequisite: PSY 100 or an introductory biology course.

PSY 356 Sleep and Dreams (4)
A review of facts and theories regarding sleep and dreams with demonstrations of research techniques. Topics include psychological and biological viewpoints on sleep, dreams, dream interpretation and sleep disorders.
Prerequisite: PSY 100.

PSY 358 History and Systems of Psychology (4)
How psychology came to be as it is. The beginning to the great experiments and the schools of psychology; the schools to World War II; World War II to the present. Researchers, experiments, theories.
Prerequisite: PSY 100 and two psychology courses other than PSY 251.

PSY 359 Social Cognition (4)
The theory and research explicating thinking processes underlying social phenomena such as impression formation, persuasion, conformity, compliance, stereotyping and causal perception. Areas of focus include attitude formation and change, attribution theory, the role of affect in cognition, schema theory and theories of nonverbal behavior.
Prerequisite: PSY 235 and 250.

PSY 361 Psychology of Emotion (4)
Understanding of human emotion from both a historical and theoretical viewpoint. Contemporary theoretical positions will be compared in terms of the roles cognition, behavior and psychological changes play in the emotional experience.
Prerequisite: PSY 250 plus two other psychology courses numbered 210 or above.

PSY 372 Work with the Elderly II (4)
Field work is combined with independent readings in gerontology.
Prerequisite: PSY 332 and 250 or its equivalent, and instructor's consent.

PSY 376 Socialization in the Family (4)
Some areas of research and theory on socialization processes. Areas of focus: attachment and separation, conscience development, sex-role identity, ego-identity, etc. Role of principal agents, e.g., family, peers, school.
Prerequisite: PSY 271, 331, or 336.

PSY 379 Theories of Development (4)
The principal theoretical perspectives influencing developmental psychology today. A review and comparison of these frameworks leading to a discussion of how each deals with selected current issues in developmental psychology.
Prerequisite: PSY 271, 331, 336, or permission of instructor.

PSY 380 Theories of Personality (4)
Major theories of human personality development and principles of personality theory building.
Prerequisite: PSY 100 and two other psychology courses.

PSY 399 Field Experience in Psychology (4)
The application of psychological concepts and methods in a work setting. Includes job placement with a classroom component, readings, and discussion of relevant literature. Does not count towards the major. May not be repeated for credit.
Prerequisite: PSY 250 and 16 additional credits in psychology, of which at least 8 must be at the 300-400 level.

PSY 400 Experimental Psychopathology (4)
Basic philosophy of science; issues in design and methodology of psychological research with application to abnormal behavior. Experience in data collection.
Prerequisite: PSY 220 and 251.

PSY 410 Experimental Social Psychology (4)
Theory and techniques of survey research, field experiments, laboratory experiments, and field studies. Experience in data collection; independent project required.
Prerequisite: PSY 235 and 251.

PSY 411 Experiments in the Basic Processes (4)
Issues in learning, perception, thinking, physiological psychology, and animal behavior, with independent research project.
Prerequisite: PSY 251, and 351, 352, or 353.

PSY 412 Experimental Developmental Psychology (4)
Issues in design and methodology of psychological research with application to the developmental area. Independent project required.
Prerequisite: PSY 251 and 271 or 331 or 336.

PSY 430 Advanced Social Psychology (4)
Critical study of selected areas in social psychology such as attribution theory.
Prerequisite: Permission of instructor.

PSY 441 Advanced General Psychology (4)
Current frontiers of knowledge and new methodology in the range of psychology. For senior majors who plan to attend graduate school.
Prerequisite: Permission of instructor.

PSY 451 Advanced Topics in Clinical Psychology (4)
Critical study of selected topics in clinical psychology such as theories of psychotherapy, advanced psychopathology, etc.
Prerequisite: PSY 220 and 380.

PSY 470 Apprentice College Teaching (4)
Supervised participation in teaching undergraduate psychology courses. Discussion of teaching objectives and methods. May be repeated for a total of 8 credits. Only 4 credits may be offered to fulfill major requirements.
Prerequisite: Permission of instructor.

PSY 480 through 485 Readings and Research Projects (2 or 4 each)
Individual readings or laboratory research on a topic agreed upon by a student and a member of the psychology faculty. Not more than 8 credits of readings and research project may be counted towards fulfillment of the major in psychology.
Prerequisite: Permission of instructor.

PSY 490 through 493 Advanced Topics in Psychology (2 or 4)
These courses will be offered occasionally by faculty wishing to explore special topics of current interest not listed among regular offerings, either on their own initiative or at the request of a group of students. Especially for majors, but qualified nonmajors will be admitted.
Prerequisite: See individual listings in schedule of classes.

PSY 494 Honors Independent Studies (4)
Independent honors research projects in clinical, developmental, experimental and social psychology, respectively.
Prerequisite: Permission of instructor.

PSY 496 Senior Honors Seminar (4)
Basic concepts and issues in the field of psychology, with representative topics such as mind-body, heredity-environment, learning-instinct, theories, models and paradigms, the nature of verification and measurement, and the politics of psychology.
Prerequisite: PSY 251 and two 300-level psychology courses and a grade point average of 3.50 in psychology.

DEPARTMENT OF RHETORIC, COMMUNICATIONS AND JOURNALISM

317 WILSON HALL (313) 370-4120

Chairperson: *Jane Briggs-Bunting*

Professors: *Jane Briggs-Bunting (director, Journalism Program), Donald C. Hildum (director, Communication Arts Program), Neal Shine, Ronald A. Sudol*

Associate professors: *Rose Cooper, Wilma Garcia, (director, Developmental Study Program), Barbara Hamilton (director, Freshman Rhetoric Program), Alice Horning, Sharon Howell, Margaret B. Pigott, Roberta Schwartz*

Assistant professors: *Wallis May Andersen, Van Hillard, David L. Lau*

Visiting assistant professor: *Katherine L. Dahlstrom*

Special instructors: *Bernadette Dickerson, Margaret Kurzman*

Adjunct associate professor: *William W. Connellan*

Adjunct assistant professor: *James Llewellyn*

Lecturers in rhetoric: *Anne Becker (supervisor, Internships), Catherine Breidenbach, Barbara Dobson, Carl Dull, Tenicia Gregory, Catherine Haar, Martha Hammel, Monifa Jumanne, Anna Mae Powell, Linda Purrington, Leba Rautbort, Jeanie Robertson, Carole Royer, Carole Terry, Derri Thomas, Nancy Watterson, Edward Wolff, Helen Woodman, Helen Zucker, Jack Zucker*

Lecturers in communication arts: *Susan Baker, Nanne Derby, Shaye Dillon, Jean Dohanyos, Janet McKenney, Robert Parent, Donald Watson*

Lecturers in journalism: *Stephen Friedman, William Gallagher, Leola Gee, Joe Grimm, Nigel Hampton, Karen Hermes-Smith, Thomas Houston, Kelly Kolhagen-Crawford, Anita Lienert, Kim Madeleine, Dane Maralason, Ned McGrath, James McClear, Bill McGraw, Patricia Mills, William Mitchell, Rene Murawski, Brownson Murray, Joseph Paonessa, Gary Schafer, Richard Smith, Willard St. John, Steve VandenBrook, Linda Witan, Charles Yoakum*

The Department of Rhetoric, Communications and Journalism offers programs of study leading to the degree of Bachelor of Arts in Journalism or Communication Arts, with the opportunity to concentrate in several areas within each major. Courses are available in communication theory, public and interpersonal communication, print and broadcast journalism, public relations, advertising, oral interpretation and mass media.

The department serves the non-speech major and the general university student. Communication and journalism training can enhance almost any career or life. There are many specialized careers that welcome students with communication knowledge and writing skills, e.g., journalism, media, law, teaching. The department also serves the general university student by providing the composition courses required by the university.

Departmental honors

All communication arts and journalism majors with a university grade point average of 3.00 or above are considered candidates for departmental honors. Honors are awarded to those candidates with the highest averages in major courses. The exact criterion varies from year to year, in the vicinity of 3.50.

Rhetoric Program

The rhetoric program is designed to help students acquire the writing, reading and thinking skills necessary to perform college-level academic work. While the emphasis in composition courses is on coherent and effective writing, other modes of written communication, as well as library search techniques, research and annotation, are included in the writing curricula. In addition, the program offers courses in reading, study skills and tutorial instruction.

Students are placed in rhetoric writing courses according to the results of pre-enrollment placement testing. Unless exempted, students must enroll in the course sequence assigned, which in most cases will include a two-course sequence in the form and content of composition (RHT 100 and RHT 101). These courses are designed so that students who complete the assigned sequence with a grade of 2.0 or higher in both RHT 100 and RHT 101 will fulfill the university's requirement of writing proficiency for graduation. *Students may not repeat the placement examination.* (See *Undergraduate degree requirements.*)

Credit-bearing developmental courses (those below the 100 level but above 050) are offered. Students enrolled in these courses should be in close contact with their advisers to ensure that they do not exceed the specific limitation of 16 credits earned below the 100 level counting toward completion of the baccalaureate degree.

Course Offerings

RHT 045 Communication Skills (6)
A small group course introducing new students to the basic language arts skills of reading, writing and speaking needed for success in the university. Graded S/U. Credits earned may not be used to satisfy minimal graduation requirements in any academic program.
Prerequisite: Placement through Special Programs.

RHT 060 Supervised Study (1 or 2)
One seven-week course (for one credit) or one 14-week (for 2 credits) course in tutorial instruction focusing on academic skills. Graded S/U.

RHT 063 Tutorial in English for Foreign Students (1)
A course for non-native speakers of English designed to provide tutorial assistance in grammar and composition. May be repeated for credit. Graded S/U.

RHT 075 Developmental Writing I (4)
A small-group course in basic composition skills, including techniques for idea generation, organization of written work, and mastery of writing mechanics, as well as developing fluency and a positive self-image for the writer. Placement by diagnostic testing, referral, or student's decision. Graded S/U.

RHT 076 Reading Skills (4)
For students who need to improve their reading comprehension. Small group instruction. Initial diagnosis of reading difficulty and an individual program of study. Graded S/U.

RHT 080 Developmental Writing II (4)
A continuation of RHT 075 to serve students who need more small-group instruction before proceeding to RHT 100 and/or RHT 101. Graded S/U.

RHT 090 Grammar and Composition for Foreign Students (4)
A course for foreign students covering the basic syntax of English and the composition of short expository papers. Graded S/U.

RHT 091 Reading English for Foreign Students (4)
A course designed to aid foreign students in the effective reading of the English language. Short composition exercises are included. Graded S/U.

RHT 100 Composition I (4)
Explores the formal and functional elements of expository prose, with emphasis on the process of writing. Students investigate effective syntactic and rhetorical patterns, incorporating these patterns into the composition of several short essays. A grade of 2.0 or better must be achieved to advance to RHT 101.
Prerequisite: Placement by testing.

RHT 101 Composition II (4)
A course emphasizing the process of writing in complex rhetorical situations with focus on organizational patterns and the development of logic, coherence, and unity. Also includes fundamentals of investigation, research, and annotation. A grade of 2.0 or better must be achieved to satisfy the university writing proficiency requirement.
Prerequisite: Placement by testing or a grade of 2.0 or higher in RHT 100.

RHT 103 Effective Study Skills (2 or 4)
Designed to improve skills in the following areas: note taking, memory and concentration, vocabulary building, preparing for and taking exams, and analytical reading.

RHT 105 Efficient Reading (2 or 4)
A seven- or fourteen-week course for students who understand basic material and have a primary need for more efficient reading habits. Topics include skimming/scanning techniques, adjustment of rate, patterns of organization, drawing inferences and conclusions before and during reading, and proper use of textbooks.

RHT 110 Introduction to Critical Reading (4)
For students who understand literal reading content but who have difficulty with critical comprehension. Develops sophisticated reading skills for practical prose. Recommended for upper-level students contemplating graduate school.
Prerequisite: Completion of the Oakland University writing proficiency requirement.

RHT 320 Peer Tutoring in Composition (4)
Peer tutoring theories and pedagogies, and practical experience in teaching. Work divided between classroom and tutoring assignments. Particularly valuable for majors in the humanities, education, psychology, human services, and related fields.
Prerequisite: Completion of the writing proficiency requirement.
Recommended: A grade of 3.5 or better in RHT 101 or its equivalent.

RHT 335 Communication Skills for Human Services Professionals (4)
Oral and written communication skills for human services and training and development professionals. Emphasis on oral presentation, development of promotion and training techniques and experience in workshops and group discussions.
Prerequisite: RHT 101 or satisfaction of university writing proficiency requirement; completion of 60 credit hours.

Communication Arts Program

Communication Arts combines theory and practice in a liberal arts major emphasizing how people analyze and make responsible choices in communication contexts. Students acquire critical perspectives in order to evaluate different communication approaches. In accomplishing their own purposes, students, as communicators, also are responsible for their effects on other people and for their role as participants in a community. This responsibility requires that they appreciate and respect human differences among cultures, social groups, genders, and individuals, and that they create a voice for building personal and public relationships.

Students are expected to take the initiative to select courses and acquire experience related to their professional interests. No matter what career paths graduates may elect, the department regards the promotion of responsible choices in communication as its primary goal.

Requirements for the liberal arts major in communication arts

The major in communication arts consists of a minimum of 40 credits in courses labeled SCN, JRN or the THA (theatre) courses listed below. SCN 201 and SCN 303 are required for all areas of specialization within the major. Students should choose, in consultation with an adviser, two of six specializations within the major. The student is required to take 12 credits in each of two of the following groupings: speaking, interpersonal, rhetoric, non-verbal, mass communication, and performance. The courses in each area are as follows:

Speaking: SCN 280, SCN 281, SCN 308, SCN 401, JRN 338, THA 210

Interpersonal: SCN 202, SCN 304, SCN 305, SCN 374, SCN 402, SCN 403, THA 310

Rhetoric: SCN 207, SCN 220, SCN 301, SCN 310, SCN 311, SCN 318

Nonverbal: SCN 114, SCN 115, SCN 317, SCN 376, JRN 330, JRN 401, THA 110, THA 213

Mass communication: SCN 285, SCN 371, SCN 373, JRN 200, JRN 240, JRN 300, JRN 310, JRN 311, JRN 312, JRN 313, JRN 320, JRN 321, JRN 331, JRN 332, JRN 333, JRN 334, JRN 335, JRN 340, JRN 341, JRN 342, JRN 343, JRN 344, JRN 402, JRN 403

Performance: THA 110, THA 211, THA 213, THA 310, THA 330, THA 400, THA 410

The remaining 8 credits, to make up the minimum of 40, will be selected from any specialty and/or from internships, independent studies, practica, workshops and apprenticeships. At least 20 credits of the total must be at the 300 or 400 level, including at least 4 credits at the 400 level.

The following theatre arts courses may be counted toward the liberal arts major in communication arts, the modified major with a concentration in linguistics, the liberal arts minor, and the secondary teaching minor in speech: THA 110, THA 210, THA 211, THA 310, THA 320, THA 321, THA 323, THA 330, THA 400, THA 401 and THA 410. Course descriptions can be found in the Department of Music, Theatre and Dance section of this catalog.

Requirements for the modified major in communication arts with a linguistics concentration

To earn a communication arts major with a concentration in linguistics, students must complete 24 credits in SCN, JRN courses or THA courses (from the list above) and 20 credits in linguistics. SCN 303 and SCN 201 or SCN 202 are required. For linguistics requirements, see the Department of Linguistics section of this catalog.

Requirements for the liberal arts minor in communication arts

To earn a minor in communication arts, students must complete 20 credits in SCN, JRN or THA courses (from the list above), including SCN 201 or SCN 202 and at least 12 credits at the 300 or 400 level. No more than 4 credits in independent study, internship or apprentice college teaching may be counted toward the minor.

Requirements for the secondary teaching minor in speech

To earn a secondary teaching minor in speech, students must complete 20 credits in SCN, JRN or THA courses (from the list above), including SCN 201. Any student with voice or articulation problems that would handicap his or her performance as a speech teacher must include THA 210 in his or her program.

Course Offerings

SCN 114 Introduction to American Sign Language (4)
Conversational AMESLAN, nonverbal communication, body and facial expression integrated with a basic sign vocabulary, a survey of the various sign systems, and an examination of the psychological, cultural and linguistic aspects of the deaf community.

SCN 115 American Sign Language (4)
A continuation of SCN 114.
Prerequisite: SCN 114.

SCN 201 Public Speaking (4)
Theory and practice in public address: adaptations required by particular goals, audience and occasions, and classroom interactions.

SCN 202 Group Dynamics and Communication (4)
Group dynamics, discussion and problem solving; influences of group structure, norms, roles, leadership and climate on the processes of group communication and collaborative decision making.

SCN 207 Semantics (4)
Identical with LIN 207. *Satisfies the university general education requirement in language.*

SCN 220 Public Speaking on Public Issues (4)
The development, presentation and defense of speeches addressing public issues, including advanced concepts of audience analysis and persuasion, and the use of rhetorical strategies and aids.
Prerequisite: SCN 201.

SCN 280 Broadcast Announcing (4)
Techniques of speaking before a microphone, editing, reading copy and news broadcasting. Experience includes recording and critique of various styles of delivery.
Prerequisite: THA 210.

SCN 281 Broadcast Laboratory (2)
Announcing or other broadcast performance on campus radio station. May be repeated for a total of 4 credits. Graded S/U.
Prerequisite: SCN 280 (may be taken concurrently).

SCN 285 Introduction to Broadcasting (4)
A survey of public and commercial radio and television, including their public service, educational and religious functions; and the history, economics, influence and social control of broadcasting.

SCN 301 Persuasion (4)
Analysis of persuasion in current society, psychological bases of persuasion, ethical considerations, and distinctions between debate and persuasive argument.
Prerequisite: SCN 201.

SCN 303 Communication Theory (4)
Communication theory in its broadest sense, related to individual learning, knowledge, and group interaction.
Prerequisite: Completion of 32 hours.

SCN 304 Communication in Organizations (4)
Communication theory and practice within organizational systems.

SCN 305 Interpersonal Communication (4)
Elements, purposes and patterns of face-to-face communication and their effects; experience in interviewing, decision making and tutoring.
Prerequisite: One SCN course.

SCN 308 Forensics Laboratory (2)
Practice for forensic festival or competitive events such as public address and oral interpretation. May be repeated for up to 6 credits.
Prerequisite: SCN 201.

SCN 310 Philosophy of Rhetoric (4)
Identical with PHL 310.

SCN 311 Rhetoric and Public Address (4)
Introduction to the history and theory of rhetorical criticism and public address, contrasting Aristotle's rhetoric with contemporary theories.
Prerequisite: SCN 201.

SCN 317 Nonverbal Communication (4)
Analysis and use of that substantial part of communication other than symbolic language, to enable the student to take an active and productive role in personal interaction.

SCN 318 Argumentation and Debate (4)
Theories of argumentation from the classical to the contemporary period combined with debating experience. Propositions of fact, value and policy are distinguished and related to the construction and selection of argument. Debate experience will focus on the national intercollegiate proposition.
Prerequisite: SCN 201.

SCN 371 Forms and Effects of Mass Communication (4)
Identical with SOC 371.

SCN 373 Social Control of Mass Media (4)
Identical with SOC 373.

SCN 374 Cross Cultural Communication
Identical with ALS 374 and AN 374.

SCN 376 Introduction to Television Production (4)
The essential elements of television as a medium, its capabilities and limitations. Practical experience in studio and/or field work.

SCN 380 Special Topics in Communication (2 or 4)
Various topics in communication theory and practice chosen by department faculty. May be repeated under different subtitles.
Prerequisite: SCN 201.

SCN 401 Phonetic Theory (4)
Identical with LIN 401.

SCN 402 Small Groups (4)
Identical with SOC 402.

SCN 403 Communication Networks (4)
The patterns of contact and information transfer in human groups, ranging from the sociometric patterns of small groups, to the formal and informal networks of organizations and the large-scale exchanges of mass societies.
Prerequisite: SCN 303.

SCN 471 Workshop in Contemporary Communication (4)
A bridge between academic learning and professional applications in speech communication forms and media. Included in the practicum-seminar format of the workshop are field work, observation and lecture-demonstrations with professionals in various job settings.
Prerequisite: Permission of instructor.

SCN 480 Special Topics Seminar (4)
Group study of topics of special interest chosen by department faculty and students. May be repeated for credit with the instructor's permission.
Prerequisite: Three SCN courses.

SCN 490 Independent Study (2 or 4)
Special research projects in speech communication. May be repeated for a maximum of 8 credits.
Prerequisite: Junior or senior standing, 12 previous credits in the major, permission of instructor, and completion of course application form.

SCN 491 Internship (4)
Experience working with professionals in various performing arts and mass communication settings. May be repeated once in a different setting for up to 8 credits.
Prerequisite: Junior or senior standing and permission of instructor. (Permission will normally require completion of at least one writing course beyond RHT 101.)

SCN 497 Apprentice College Teaching (2 or 4)
Assisting in teaching an undergraduate course in speech communication, and discussions with the supervising faculty member on the principles, methods and problems of such teaching.
Prerequisite: Junior standing and permission of instructor.

Journalism Program

Requirements for admission to the journalism major

To be admitted to major standing in journalism, students must complete:

1. RHT 100 and RHT 101 (or otherwise satisfy the writing proficiency requirement) and JRN 200 with an average grade of 3.00 or above.
2. 20 credits of corequisite courses with an average grade of 3.00 or above.
3. An introductory two-semester sequence in a modern language or American Sign Language at the university level; one semester of a modern language at the second-year level or above; or two courses numbered 120 or above in mathematical sciences or computer science.

Requirements for the liberal arts major in journalism

To earn the Bachelor of Arts degree with a major in journalism, students must complete:

1. A minimum of 24 credits in journalism, including JRN 200, JRN 300, JRN 403 and JRN 404 and any two of the following: JRN 310, JRN 311, JRN 312, JRN 320, JRN 321, JRN 332, JRN 333 or JRN 340.
2. 8 credits from the following for an emphasis in print or broadcast journalism: SCN 201, SCN 207, SCN 285, SCN 301, SCN 303, SCN 311, SCN 371, SCN 373, SCN 403; or for an emphasis in advertising: JRN 341 and JRN 342 or JRN 343, plus an advertising internship (JRN 404); or for an emphasis in public relations: JRN 334 and JRN 335 or 336, plus a public relations internship (JRN 404).
3. Corequisites (36 credits) as follows (these courses, where appropriate, may also satisfy general education or college distribution requirements):
   a. 8 credits from HST 101, HST 102, HST 114, HST 115, HST 223, HST 321 or HST 354.
   b. 12 credits from ENG 100, ENG 105, ENG 111, ENG 224, ENG 241, ENG 303, ENG 306, ENG 312, ENG 315, ENG 322, ENG 332, ENG 356, ENG 357 or ENG 369.
   c. 8 credits from PS 100 and PS 110, PS 241, PS 305, PS 372, PS 373 or PS 377.
   d. 4 credits from ECN 150 or ECN 200.
   e. 4 credits from SOC 100, AN 101 or AN 102.
   f. AMS 202 may be substituted for any one of the above courses in history; AMS 203 for any of the above courses in English; or AMS 204 for any of the above courses in political science.

Requirements for the liberal arts minors in journalism, advertising or public relations

A minor in journalism requires a minimum of 24 credits in JRN courses, including JRN 200, JRN 300 and JRN 404.

A minor in advertising requires a minimum of 24 credits in JRN courses, including JRN 200, JRN 340, JRN 341, JRN 342 and JRN 404. The internship (JRN 404) must be taken in advertising for that minor. (JRN 343 may be substituted for JRN 342.)

A minor in public relations requires a minimum of 24 credits in JRN courses, including JRN 200, JRN 300, JRN 333, JRN 334 and an internship (JRN 404) in public relations. Additional course work to comprise the minimum of 24 credits must be selected from the following: JRN 313, JRN 330, JRN 335, JRN 336 and JRN 403.

Communication arts majors may not count credits toward the major and any of these minors simultaneously. Journalism majors may not minor in advertising or public relations.

Course Offerings

JRN 190 Journalistic Style (4)
Training in the style of newswriting with a discussion of basic reporting skills, writing of leads, familiarization with the Associated Press style, basic proofreading and copy editing skills.
Prerequisite: RHT 100.

JRN 200 Newswriting (4)
Training in the practical aspects of news gathering, interviewing and basic newswriting techniques; a discussion of the various journalism media. Some typing skills required.
Prerequisite: Completion of RHT 101 or writing proficiency requirement.

JRN 240 Journalism Laboratory (2)
Work in on-campus publications under the direction of an instructor; may be repeated once.
Prerequisite: JRN 200.

JRN 300 Newspaper Editing (4)
Principles and practices of the newspaper copydesk: copy reading, headline writing, makeup, and typography; preparing copy for the printer; some attention to new and developing devices in the print shop, such as those involving the computer.
Prerequisite: JRN 200.

JRN 310 Advanced Newswriting (2 or 4)
Gathering information through wide reading and interviewing, writing objective in-depth news reports, and background on current social, political and economic issues.
Prerequisite: JRN 200.

JRN 311 Public Affairs Reporting (4)
Practical training in the news coverage of local governments including police protection, fire control and the courts. Discussion of federal and state coverage of stories of public interest.
Prerequisite: JRN 200 and PS 100.

JRN 312 Feature Writing (2 or 4)
Practice in writing newspaper and magazine nonfiction features, such as human interest stories and profiles. The course will enable students to develop further their reportorial skills for careers in print journalism. A study of the purposes, styles, types and techniques of the feature story.
Prerequisite: JRN 200.

JRN 313 Magazine Writing and Freelancing (2 or 4)
Writing magazine-length nonfiction articles, with some discussion of the differences between newspaper feature stories and magazine pieces, how to write and sell freelance pieces, legal liabilities and rights of the freelance writer including a discussion of the U.S. copyright laws.
Prerequisite: JRN 312.

JRN 320 Editorial Writing (2)
Preparing and writing newspaper opinion and commentary usually found on the editorial page; forms and techniques of editorials and the editorial page.
Prerequisite: JRN 200.

JRN 321 Reviewing: Books, Theatre, Movies (2)
Writing newspaper reviews of the literary, visual and performing arts from recent publications, live productions, films and television. Students will be required to purchase tickets and attend various performances.
Prerequisite: JRN 200, JRN 312 and one of the following: ENG 100, ENG 111, ENG 224.

JRN 330 News Photography (2)
Fundamentals of black-and-white photographic production; practice in taking still pictures of people and events for use in newspapers and news magazines; darkroom laboratory work in developing photos.
Prerequisite: JRN 200.

JRN 331 Media Management (2)
Business, corporation and legal problems in the front-office operation of weekly and daily newspapers; industrial and employee magazines; radio and television stations.
Prerequisite: JRN 200.

JRN 332 Radio-Television News (2 or 4)
Fundamentals and techniques of preparing news for broadcasting, especially the different demands of electronic journalism from those of the print media.
Prerequisite: JRN 200.

JRN 333 Public Relations and the Media (2 or 4)
A study of the function of agency, industrial, business and institutional relations with the public through newspaper, radio, television and other media, especially concerning press information; preparation of copy; some attention to employee publications.
Prerequisite: JRN 200.

JRN 334 Media Relations (2 or 4)
A study of the work of the public relations specialist in handling clients, promoting them in the various media and serving other client needs with emphasis on development of press packages, speech writing and organization of press conferences.
Prerequisite: JRN 333.

JRN 335 Video for Public Relations (2 or 4)
Understanding the elements involved in producing corporate videos, including an introduction to the technology of video, the applications of video to public relations needs and development of the video "treatment" for client presentation.
Prerequisite: JRN 333.

JRN 336 Public Relations in the Corporate Setting (2 or 4)
The study of the work of the public relations specialist within a corporation including legislation, media, internal communications, speech writing and annual reports. In addition, discussion of corporate structure and legal incorporation requirements is also included.
Prerequisite: JRN 333.

JRN 338 Advanced Broadcasting (4)
A practical application of skills learned in basic broadcasting classes. Students will produce a weekly newscast. The program, which airs on the (cable) education channel, is completely student produced; may be repeated once.
Prerequisite: JRN 332.

JRN 340 Introduction to Advertising (4)
Advertising in print and electronic media from the standpoint of marketing, its social and legal environment, and strategy decisions in the profession.
Prerequisite: JRN 200.

JRN 341 The Advertising Medium (4)
Further study of the advertising industry, including trends, design, marketing strategy and the technical problems of planning a product campaign.
Prerequisite: JRN 340.

JRN 342 Case Studies in Advertising (4)
The study of actual case histories of various companies and projects as well as the analysis of problems within a market. An assigned case study is required.
Prerequisite: JRN 340 and JRN 341.

JRN 343 Direct Approaches in Advertising (2 or 4)
The study of the effect of direct mail, circular and similar forms of advertising on ad agencies, manufacturers, newspapers, magazines and television and strategies for the future.
Prerequisite: JRN 340.

JRN 344 Advertising Copywriting (4)
The planning, research and writing that goes into promotion of a company, product or person as part of an advertising campaign.
Prerequisite: JRN 340.

JRN 401 Advanced Photojournalism (4)
Photography in the news media including work in use of 35mm SLR cameras, darkroom techniques, and a brief discussion of marketing for publication.
Prerequisite: JRN 330.

JRN 402 Ethical Issues in the Media (2 or 4)
A study of professional ethics with an emphasis on print journalism, though helpful and applicable to electronic journalism as well. Discussion format where students analyze a series of factual problems that arise in daily media operations.
Prerequisite: JRN 200 or junior standing.

JRN 403 Law of the Press (4)
State and federal laws dealing with libel, contempt of court, right of privacy, copyright and other legal matters affecting newspapers, radio and television, and other media.
Prerequisite: JRN 300, or pre-law student.

JRN 404 Journalism Internship (4)
A full- or part-time internship on a weekly or daily newspaper, radio or television station, or with a public relations or advertising office for one semester. Open only to students in the journalism program, usually in the senior year. May be repeated once in a different medium.
Prerequisite: JRN 200 and three other JRN courses.

JRN 480 Special Topics in Journalism (2 or 4)
Various specialties offered to students. Subjects change from semester to semester, with some opportunity for independent study. May be repeated under different subtitles.
Prerequisite: JRN 200.

JRN 490 Independent Study (2 or 4)
Individual research projects in journalism.
Prerequisite: Junior or senior standing, 12 previous credits in the major, permission of instructor and completion of the course application form.

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

529 VARNER HALL (313) 370-2420

Chairperson: *Jacqueline R. Scherer*

Professor emeritus: *Nahum Z. Medalia*

Professors: *Peter J. Bertocci, Judith K. Brown, James Dow, Jacqueline R. Scherer*

Associate professors: *William Bezdek, Harry Gold, Gary Shepherd, Richard B. Stamps, Donald I. Warren*

Assistant professors: *Carolyn Campbell, Albert J. Meehan*

Adjunct professors: *James D. Bannon, Robert M. West*

Adjunct assistant professor: *Anthony R. Tersigni*

Chief advisers: *Gary Shepherd (Sociology), Peter J. Bertocci (Anthropology)*

The Department of Sociology and Anthropology offers two separate majors leading to a Bachelor of Arts degree. Sociology is the scientific study of society and is of particular interest for students who wish to examine important social problems. Undergraduate anthropology includes course work in both cultural and physical anthropology. In sociology and anthropology, students are required to study research techniques and acquire skills in theoretical analysis. Both majors are designed to allow maximum flexibility enabling students to pursue their own intellectual interests.

Students may also select a combined major in both disciplines. The department is also developing an extended program in industrial sociology that will focus on human and industrial relations. The department actively participates in the following concentrations: archaeology, human and industrial relations, social justice and corrections, social service, urban studies and women's studies.

Requirements for the liberal arts major in sociology and anthropology

To earn a Bachelor of Arts in Sociology,* students must complete SOC 100, SOC 202, SOC 204, SOC 381 or 400, and one anthropology course (either AN 101 or AN 102), plus at least 22 additional credits in sociology (of which 4 may be taken in anthropology) for a minimum of 40 credits.

To earn a Bachelor of Arts in Anthropology,* students must complete AN 101, AN 102 and SOC 100, plus at least 28 additional credits in anthropology for a minimum of 40 credits (of which 4 may be taken in sociology). LIN 301 may be substituted for one departmental course.

To earn a Bachelor of Arts with a combined major in Sociology/Anthropology,* students must complete a minimum of 18 credits in sociology and 20 credits in anthropology; these must include SOC 100, SOC 202, SOC 204, AN 101 and AN 102 and either SOC or AN 400.

*No more than 8 total credits counted toward the major may be taken in SOC/AN 190, 392, 399 or 480.

Requirements for modified majors in sociology and/or anthropology with a linguistics concentration

To earn a modified major in sociology with a concentration in linguistics, students must complete a minimum of 26 credits in sociology, including SOC 100, SOC 202, SOC 204, SOC 400 or 381, and a minimum of 20 credits in linguistics.

To earn a modified major in anthropology with a concentration in linguistics, students must complete AN 101 and AN 102, plus a minimum of 12 additional credits in anthropology and 20 credits in linguistics.

For additional information, see the Department of Linguistics section of the catalog.

Requirements for a liberal arts minor in sociology or anthropology

To earn a minor in sociology, students must complete SOC 100 plus a minimum of 16 additional credits in sociology, 12 of which must be at the 300-400 level. To earn a minor in anthropology, students must complete AN 101 and AN 102 plus a minimum of 12 credits in anthropology courses at the 300-400 level.

Departmental honors

To earn departmental honors in sociology, students must have taken at least 20 of their major credits at the 300-400 level, have taken a minimum of 20 credits of their sociology major course work at Oakland University, have received a grade point average (GPA) of 3.60 in major course work, and receive recommendations from two departmental faculty members.

To earn departmental honors in anthropology, students must have taken at least 16 credits in the major at the 300 level or above, have taken a minimum of 20 credits of their anthropology major course work at Oakland University, have received a GPA of 3.60 in major course work, and receive recommendations from two departmental faculty members.

Course Offerings

ANTHROPOLOGY

AN 101 Human and Cultural Evolution (4)
Introduction to physical anthropology and archaeology as applied to human and cultural evolution. Stress placed on human adaptation to environment. *Satisfies the university general education requirement in social science.*

AN 102 Culture and Human Nature (4)
Introduction to cultural and social anthropology with emphasis on the continuing human adaptation to the environment and especially the interactions among culture, society and natural environment. *Satisfies the university general education requirement in social science.*

AN 190 Current Issues in Anthropology (4)
Designed for the general student, this course examines issues of current interest in anthropology. Topic will be announced at the time of offering.

AN 222 Introduction to Anthropological Archaeology (4)
Introduces the field of anthropological archaeology through examination of theory, data collection methods and techniques, and interpretive strategies used to understand human histories, life-ways and cultural processes.

AN 251 Peasant Society and Culture (4)
The peasant as a social type, the peasant's role in the making of great civilizations, and forces for change in peasant societies, especially in the non-Western world.
Prerequisite: AN 102.

AN 271 Magic, Witchcraft and Religion (4)
Anthropological theories of magic, witchcraft and religion: human interaction with beings, creatures, and forces that manifest extraordinary powers; folk beliefs of nonliterate people; and transformation of social systems by religious movements. Identical with REL 271.
Prerequisite: AN 102 or sophomore standing.

AN 282 The Prehistoric Origins of Civilization (4)
The development and spread of culture in the period before written history, using archaeological evidence from Neolithic Old World and New World sites. Cultural evolution from early farming and settlement to the rise of complex civilization.
Prerequisite: AN 101.

AN 300 Culture, Society and Technology (4)
Technology has played a critical role in all human evolution. This course provides a historical overview of the ways in which culture has shaped technology and how technology changes cultures. It emphasizes the impact of technology on modern cultures, especially technology emanating from the Western industrial revolution. *Satisfies the university general education requirement in social science.*

AN 302 Field Research Techniques (4)
Training in: research information storage and retrieval; field research instrumentation (photography, cinematography, video and audio recording, field computers); use of archives and data banks; plus participant observation, ethnomethodology and semantic analysis.
Prerequisite: AN 102 or SOC 100.

AN 305 Anthropological Perspectives on the Life Cycle (4)
Socialization from infancy to old age will be considered with examples drawn from a variety of non-industrial societies as well as the literature on primates. Theories of human development across cultures will be viewed in light of this evidence. Identical with WS 305.
Prerequisite: AN 102 or WS 200.

AN 307 Culture and Society Through Film (4)
The systematic study of selected peoples from different cultures through the ethnographic film and appropriate readings, lectures and discussions. Students learn to evaluate cultural data according to various anthropological concepts and methodologies. *Satisfies the university general education requirement in social science.*
Prerequisite: Junior standing or permission of instructor.

AN 310 Psychological Anthropology (4)
Theories of psychological anthropology on culture and personality and psychological phenomena viewed in relationship to culture and from a cross-cultural perspective.
Prerequisite: AN 102.

AN 315 Studying Our Culture: Technique and Analysis (4)
The different ways that people in different cultures and subcultures have of seeing their experiences. The anthropologist's methods of studying and analyzing these differences. Includes field work practice.
Prerequisite: AN 102 or SOC 100 or PSY 100.

AN 322 Subsistence and Technology in Nonindustrial Society (4)
Technologies of different cultures; implications for the individual, society and cultural survival; ecology of tribal, peasant and industrial cultures with emphasis on subsistence technology of non-Western cultures. Identical with ENV 322.
Prerequisite: AN 102.

AN 331 Racial and Ethnic Relations (4)
Identical with SOC 331.

AN 333 Medical Anthropology (4)
Interaction between biological, ethnopsychiatric and sociocultural environments in health, illness, and treatment. Includes historical, organizational, demographic, ecological and other problems in health care delivery.
Prerequisite: AN 102 or SOC 100 or PSY 100 or HBS 200.

AN 337 Women's Lives in Cross-Cultural Perspective (4)
Anthropological literature will be used to examine cultural variation in rituals and customs affecting women's lives. Female life-cycle events and the division of labor by sex will be studied in relation to the position of women in different societies. Identical with WS 337.
Prerequisite: AN 102 or WS 200.

AN 361 Peoples and Cultures of India (4)
A survey of contemporary society and culture on the Indian subcontinent, with focus on India, Pakistan and Bangladesh; emphasis on social structure, folk religion and the problems of socio-cultural change.
Prerequisite: AN 102 or IS 240.

AN 362 Peoples and Cultures of China (4)
An anthropological study of China, stressing the variety of cultural and ecological adaptations characteristic of that complex society.
Prerequisite: AN 102 or IS 210.

AN 370 Archaeology of Mesoamerica (4)
The pre-Hispanic culture of Mexico and Guatemala, the Aztecs and Mayas, and their neighboring and derivative cultures. Detailed discussion of the major archaeological sites.
Prerequisite: AN 101 or 102.

AN 371 Peoples and Cultures of Mexico and Central America (4)
Anthropological studies of Indian and Mestizo societies in Mexico and Guatemala, including their separate socio-economic patterns and their integration into a dualistic social system.
Prerequisite: AN 102 or IS 250.

AN 372 Indians of South America (4)
A survey of the native South Americans. Includes warriors of the jungles, peasants and herders of the mountains, nomads of the plains and forests, and subsistence fishermen of the southern coasts.
Prerequisite: AN 102 or IS 250.

AN 373 Ethnography of Communication (4)
Identical with ALS 373.

AN 374 Cross-Cultural Communication (4)
Identical with ALS 374/SCN 374.

AN 375 Language and Culture (4)
Identical with ALS 375.

AN 380 Archaeology of North America (4)
The evolution of native North American cultures (including Mesoamerica) from 50,000 B.C. to 1500 A.D., with emphasis on the ecological factors in the development of culture areas.
Prerequisite: AN 101.

AN 381 Peoples of North America: Indians and Inuit (Eskimos) (4)
The culture of certain North American societies and their adaptation to Western contact.
Prerequisite: AN 102.

AN 382 Advanced Physical Anthropology (4)
The emergence and diversification of the human species in relation to the morphology and ecology of both modern and fossil man, including physical and physiological variation (sex, race and age), climatic adaptation and population genetics.
Prerequisite: AN 101.

AN 383 Methods in Anthropological Archaeology (4)
Instruction and field research, including site location, excavation and artifact analysis, and conservation. May be repeated once for credit.
Prerequisite: AN 101.

AN 391 Primate Behavior (4)
Various bio-social factors which aid the nonhuman primates in their adaptation to the environment, implications for human behavior, classroom discussions and field studies.
Prerequisite: AN 101 or 102 or PSY 100 or SOC 100 or HRD 301.

AN 392 Current Problems in Anthropology (2 or 4)
Seminar in which a topic or problem is studied in depth. Each seminar requires independent readings and writing.
Prerequisite: Permission of instructor.

AN 399 Field Experience in Anthropology (4)
Field experience in anthropology with faculty supervision. An academic project related to the departmental discipline which incorporates student performance in an occupational setting. May not be repeated for credit.
Prerequisite: 16 credits in anthropology, of which at least 8 must be at the 300/400 level, and permission of instructor.

AN 400 Theories of Society and Culture (4)
Acquaints students with the major theoretical foundations of modern anthropology. Identical with SOC 400.
Prerequisite: AN 102 or SOC 100.

AN 401 Social Anthropology (4)
Examines social structure and social organization in anthropological perspective. Entails the study of economic, political, religious and kinship systems in the social life of man.
Prerequisite: AN 102.

AN 410 Human Adaptation (4)
This course examines current theory on the cultural and biological adaptation of human groups to natural and social environments. Identical with ENV 410.
Prerequisite: AN 322 or ENV 322.

AN 420 Clinical Anthropology (4)
This course explores cross-cultural explanations of illness and "deviant" behavior from both patients' and healers' perspectives, using case studies, films and the guest presentations of practitioners. It stresses the anthropological contribution to therapeutic strategies in the treatment of physical and mental illness.
Prerequisite: Three sociology or anthropology courses.

AN 430 Systems of Wealth and Power in Anthropological Perspective (4)
Concepts and methods of political and economic anthropology, emphasizing the interrelated state of political and economic phenomena, with particular reference to preindustrial, non-Western societies.
Prerequisite: AN 102.

AN 440 Anthropology of Law (4)
The mechanisms of social control and legal institutions in non-Western, preliterate societies. Topics include the varying types of moral order and the problem of legal enforcement in stateless societies.
Prerequisite: AN 102.

AN 480 Independent Study and Research (2 or 4)
A tutorial in which the student will pursue a course of reading and research with the instructor. May be repeated only once for credit.
Prerequisite: Permission of instructor.

AN 497 Apprentice College Teaching (2 or 4)
Supervised participation in teaching an undergraduate course in anthropology, combined with readings and discussion of teaching objectives and methods appropriate for anthropological presentation. May be taken only once for credit toward a major.
Prerequisite: Senior anthropology major and permission of instructor.

SOCIOLOGY

SOC 100 Introduction to Sociology (4)
Introduction to the basic concepts of sociology relating to the study of man as a participant in group life. Particular attention is given to culture, socialization and personality development, and class. *Satisfies the university general education requirement in social science.*

SOC 190 Current Issues in Sociology (4)
Designed for the general student, this course will examine issues of current interest in sociology. The topic will be announced at the time of the offering.

SOC 202 Introduction to Methods of Social Research (4)
The collection, organization, analysis and interpretation of social data; elementary techniques of understanding and using quantitative evidence in sociological research.
Prerequisite: SOC 100.
Corequisite: SOC 204.

SOC 203 Social Statistics (4)
Interpretation of social data by quantification and statistical reasoning.
Prerequisite: Two years of high school mathematics.

SOC 204 Using Computers in Social Research (2)
This two-credit laboratory course provides students with hands-on experience in computing activity, including mainframe and microcomputers, and is designed to show how computers are used in social research. Statistical software packages will be used.
Corequisite: SOC 202.

SOC 205 Current Social Problems (4)
This course presents sociological approaches to analyzing social problems. Particular attention is given to evaluation of the causes and consequences of social problems, as well as of their proposed solutions.

SOC 206 Self and Society (4)
Examines the reciprocal relationship between the individual and the group. Emphasizes the social roots of human nature, the self, social interaction, definitions of reality, socialization and social character. *Satisfies the university general education requirement in social science.*

SOC 240 Sociology of Crime and Punishment (4)
An introduction to the study of crime and the system of criminal justice in the United States. Provides an overview of different theories of crime, the production of crime statistics, types of offenses, the role of the police, courts and correctional agencies and public policy. The course also includes a comparison of street crime with white-collar crime.
Prerequisite: SOC 100. *Recommended for all students in the social justice and corrections concentration.*

SOC 301 Social Stratification (4)
The concepts of class, caste and race in relation to social conflict and social integration. Students will study these problems in a cross-cultural perspective, emphasizing comparative materials.
Prerequisite: SOC 100.

SOC 305 Sociology of Religion (4)
An analysis of the social components of religious experience, meaning and behavior; emphasis on the relationship between organized religions and other social institutions and such processes as conversion, commitment, sectarianism, accommodation and secularization. Identical with REL 305.

SOC 310 Introduction to Canada (4)
An interdisciplinary study of the peoples of Canada and their traditional and modern civilizations. Identical with IS 310.

SOC 314 The Social Context of Social Work (4)
A study of the social work profession and the social context of welfare policies; the relationships between social structure and the development of social work practice; and public and private welfare organizations.
Prerequisite: SOC 100 or two courses in psychology or human resource development.

SOC 315 Social Welfare Policies (4)
Survey of the development of social welfare programs in the U.S. and internationally. Issues related to the problems of poverty, policy analysis and program evaluation related to social welfare in the U.S. and other countries are examined.
Prerequisite: SOC 100 or 314.

SOC 322 Sociology of Law (4)
An investigation of law and legal institutions from a comparative perspective, including the uses of law, the development of legal institutions, the role and organization of legal professionals, social influences on law, and the capacity of law to affect social behavior.
Prerequisite: SOC 100.

SOC 323 Juvenile Delinquency and its Social Control (4)
Nature and types of juvenile delinquency, the relation of juvenile delinquency to the stress of adolescence and the specific social situation, methods of preventing delinquency or its recurrence.
Prerequisite: SOC 240.

SOC 324 Work and the Law (4)
Identical with LE 324.

SOC 327 Police and Society (4)
A study of police techniques and problems, of deviant citizen-police relations, and of social control in a field where power is high and visibility is relatively low. Topics include the defenses against corruption and the containment concept of police.

SOC 328 Sociology of Health and Medicine (4)
The sociological study of medicine and the uses of sociology in medicine, definitions of health and illness, disease and death, health care occupations, medical malpractice, the organization of health services, and trends in health and medicine.
Prerequisite: SOC 100.

SOC 331 Racial and Ethnic Relations (4)
A study of racial, ethnic and religious groups, particularly those of the U.S., emphasizing their historical development, problems of adjustment and assimilation and contemporary problems and trends. Identical with AN 331.
Prerequisite: SOC 100.

SOC 335 The Family (4)
A comparative and historical study of the family. Identical with WS 335.
Prerequisite: SOC 100 or WS 200.

SOC 336 Sociology of Gender (4)
The impact of ideological and technological change on the statuses, occupations and relationship of males and females. Identical with WS 336.
Prerequisite: SOC 100 or WS 200.

SOC 338 Moral Socialization (4)
The cultural, social and psychological dimensions of "morality"; how moral agreements are reached, and how they are communicated to group members; how individual members incorporate these agreements into their personal values and behaviors.

SOC 345 Urban Sociology (4)
The social structure, culture and ecology of early and contemporary urban communities; institutional responses to the problems of modern urban life.
Prerequisite: SOC 100.

SOC 346 Communities (4)
This course focuses on the forms and functions of local communities, including neighborhoods and social networks. Both theoretical and applied implications of these structures for community organization and development are explored.
Prerequisite: SOC 100.

SOC 350 The Transformation of the Workplace (4)
A study of how high technology, computers, and a shift in the economic base of employment are transforming work in contemporary society, why this is happening, and the social, psychological, political and cultural impact of change in the workplace.
Prerequisite: SOC 100.

SOC 352 Women and Work (4)
A sociological study of women's domestic and labor market activity in historical context, with emphasis on understanding the causes and consequences of sex segregation. Identical with WS 352.
Prerequisite: SOC 100 or WS 200.

SOC 353 Seminar in Socio-Technical Systems (4)
This seminar introduces students to the growing field of inquiry that integrates the social and technical dimensions of work. Issues within the immediate, primary workplace, and the organization and social system that are related to the workplace are examined.
Prerequisite: One social science methods course.

SOC 354 Quality of Work Life (4)
Can small groups in large organizations promote the personal growth of employees and achieve corporate goals of productivity? The use and abuse of quality circles, the tension between personal development, corporate culture, and the ideology of worker/management relations.
Prerequisite: SOC 100.

SOC 357 Industrial Sociology (4)
The relationship between industrial and business organizations and the community; the study of occupations, labor unions, informal work groups, and the character of American occupational life.
Prerequisite: SOC 100.

SOC 359 Human Factors in Quality Control (4)
Focuses on ways to attain quality in societies based on mass production. Examines underlying social principles and specific industrial practices which encourage quality production, particularly in large-scale manufacturing and service industries which are bureaucratically organized.
Prerequisite: One social science course; two years of high school math recommended.

SOC 371 Forms and Effects of Mass Communication (4)
Techniques of disseminating ideas and information through the mass media; evaluation of the effect of mass media on values of individuals, and policies of institutions. Identical with SCN 371.
Prerequisite: SOC 100 or sophomore standing.

SOC 373 Social Control of Mass Media (4)
The major sociological factors which control the informational content of the mass media; differences between the structures and processes of control in the print and electronic sectors of the media. Identical with SCN 373.
Prerequisite: SOC 371.

SOC 376 Sociolinguistics (4)
Identical with ALS 376.

SOC 381 Theories of Modern Organizations (4)
Modern society is based upon organizational life. Topics include: theories of human organization, as well as the study of bureaucracies, features of organizations and the effects of organization on American culture.

SOC 392 Current Problems in Sociology (2 or 4)
Seminar in which a topic is studied in depth. Each seminar requires independent readings and writing.
Prerequisite: Permission of instructor.

SOC 399 Field Experience in Sociology (4)
Field experience in sociology with faculty supervision. An academic project related to the departmental discipline which incorporates student performance in an occupational setting. May not be repeated for credit.
Prerequisite: 16 credits in sociology, of which at least 8 must be at the 300/400 level, and permission of instructor.

SOC 400 Theories of Society and Culture (4)
Acquaints students with the major theoretical foundations of modern sociology. Identical with AN 400.
Prerequisite: SOC 100 or AN 102.

SOC 401 Survey and Interview Techniques (4)
Acquaints students with field interview techniques, questionnaire design, scaling and index construction, experimental and quasi-experimental designs, plus program evaluation research techniques.
Prerequisite: SOC 100.

SOC 402 Small Groups (4)
The study of small group relations and the informal understandings, codes and conventions which they generate. Considers dynamics of individuality, leadership, conformity and esprit de corps in a group setting. Identical with SCN 402.
Prerequisite: SOC 100.

SOC 403 Computer Packages in Social Science (4)
Principles of packaged programs, with practice in data editing and analysis with SPSS (Statistical Package for the Social Sciences) and BMDP. Comparative merits of different packages.
Prerequisite: SOC 203 or equivalent.

SOC 408 Population Dynamics (4)
Historical analysis of world population growth, focusing on relationships among population size, population policy, and social and economic development.
Prerequisite: SOC 100.

SOC 425 Corrective and Rehabilitative Institutions (4)
Problems of interaction within the institution are analyzed, e.g., between inmate, guard, supervisor and rehabilitation specialist; development of inmate subcultures; dynamics of crisis (e.g., riots); and equilibrium.
Prerequisite: SOC 240.

SOC 430 Internship in Social Justice and Corrections (4 or 8)
Field placement and supervision of students in police, prison and parole organizations and agencies.
Prerequisite: Enrollment in social justice and corrections concentration and written permission of instructor.

SOC 437 Sociology of the Courts (4)
The roles of judges, court officers, jury and attorneys are described and analyzed in the context of their professional matrix.
Prerequisite: SOC 100 and SOC 240.

SOC 455 Contemporary Work Roles, Careers and Labor Markets (4)
The social dimensions of occupational specialization in modern society. The impact of social and technological labor market changes in the supply and demand for workers in various occupations. Industrial and professional career patterns are studied in relationship to values, status, prestige, life style, occupational satisfaction and job-related stress.
Prerequisite: SOC 100.

SOC 460 Political Sociology (4)
Sociological factors which influence distribution of power within a society: political communication, maintenance of political consensus, the revolution process, the structure of political parties, and the emergence of new states.
Prerequisite: SOC 100.

SOC 465 Sociological Perspectives on Aging (4)
Recent sociological perspectives on aging: topics include status of persons approaching and past retirement age, family and community roles and relations, and occupational and political participation.
Prerequisite: SOC 100 and junior standing or above.

SOC 480 Independent Study and Research (2 or 4)
Directed individual reading and research.
Prerequisite: Permission of instructor.

SOC 497 Apprentice College Teaching (2 or 4)
Supervised participation in teaching an undergraduate course in sociology, combined with readings and discussion of teaching objectives and methods appropriate for sociological presentation. May be taken only once for credit toward a major.
Prerequisite: Senior sociology major and permission of instructor.

BIOCHEMISTRY PROGRAM

Coordinator: *Kathleen H. Moore (Chemistry)*

Biochemistry Committee: *Arthur W. Bull (Chemistry), Denis M. Callewaert (Chemistry), John D. Cowlishaw (Biological Sciences), Esther M. Goudsmit (Biological Sciences), Virinder K. Moudgil (Biological Sciences), Michael D. Sevilla (Chemistry), Satish K. Walia (Biological Sciences)*

This interdepartmental program offers a Bachelor of Science degree with a major in biochemistry. The biochemistry program is based on faculty resources and research facilities in the departments of Biological Sciences and Chemistry. The curriculum is designed to prepare students for a career in biochemical research, graduate study in biochemistry or molecular biology, or professional education in medicine or dentistry.

The specialized research facilities for cellular and analytical biochemistry at Oakland University include tissue culture facilities, an ultracentrifugation laboratory, isotope laboratories with beta and gamma counters, equipment for gas and high pressure liquid chromatography, and GC/MS, UV-vis, fluorescence, NMR, EPR, laser Raman, and atomic absorption spectrometers and other state-of-the-art computerized biochemical instrumentation.

Undergraduate students in the biochemistry program have access to faculty research laboratories and are encouraged to participate in various ongoing research programs such as studies in metabolism, gene expression, hormone action, immunochemistry, molecular biology, and radiation biochemistry. The minimum requirement for a B.S. in biochemistry is 124 credits, including course work in biological sciences (16 credits), chemistry (32 credits), and biochemistry (12 credits) as detailed below. No more than 8 credits of course work used to fulfill the requirements of a major or minor in biology or chemistry may be used to fulfill the requirements of a major in biochemistry.

Admission to major standing

Students may apply for major standing after completion of 18 credits of chemistry and at least 8 credits of biology from the requirements listed below, with a grade point average (GPA) of at least 2.50 in those courses. The biochemistry committee must approve major standing and a detailed plan of study at least three semesters prior to graduation.

Requirements for the Bachelor of Science degree in biochemistry

Students wishing to select the biochemistry major should prepare a detailed plan of study in consultation with a member of the Biochemistry Committee. To earn the Bachelor of Science degree with a major in biochemistry, students must complete:

1. Sixteen or more credits of biology chosen in consultation with the biochemistry program coordinator from the following courses: BIO 190, BIO 200, BIO 319, BIO 320, BIO 321, BIO 322, BIO 323, BIO 324, BIO 341, BIO 345, or BIO 393.
2. Thirty-two credits of chemistry, including CHM 144, CHM 145 (or CHM 164, CHM 165), CHM 149, CHM 203, CHM 204, CHM 209 (or CHM 234, CHM 235, CHM 237), CHM 225, CHM 342, and CHM 343.
3. Twelve or more credits of biochemistry including BCM 453, BCM 454, and CHM 457 and additional credits selected from the following courses: BIO 407, BIO 408, BIO 423, BIO 439, BIO 440, BIO 441, CHM 458, CHM 553, CHM 581, or BCM 490.
4. Corequisites in mathematics (MTH 154 and MTH 155) and physics (PHY 151 and PHY 152). Statistics (STA 226) is a recommended elective.
5. Admission to major standing as described above at least three semesters prior to graduation.

Course Offerings

BCM 453 Biochemistry I (3)
First course in a comprehensive biochemistry sequence. Structure and function of proteins, carbohydrates, and lipids. Enzyme mechanisms, kinetics, and regulation. Bioenergetics and catabolism. Identical with CHM 453.
Prerequisite: CHM 204 or CHM 235.

BCM 454 Biochemistry II (3)
Metabolic pathways and control. Nucleic acid structure, function, and processing, including regulation of gene expression. Selected topics in molecular physiology. Identical with CHM 454.
Prerequisite: BCM/CHM 453.

BCM 490 Biochemistry Research (1, 2, 3 or 4)
Laboratory experience in biochemical research requiring at least four hours of work per week per credit. May be repeated for credit. Graded S/U.
Prerequisite: Permission of instructor.

ENVIRONMENTAL HEALTH PROGRAM

Director: *Paul Tomboulian (Chemistry)*

Designed to integrate applied scientific specialties within the broad field of environmental health, the environmental health curricula prepare students for a variety of professional opportunities in government as well as the private sector, and for graduate study in such fields as toxic substance management, public health, toxicology, industrial hygiene and environmental planning.

Graduates of the program should be able to identify and evaluate a broad range of environmental problems. In addition, they should be able to offer solutions, anticipate hazards and prevent future problems. Studies include such areas as health and safety in the work place, toxic substances, air resources, water resources, and public policy.

Requirements for the B.S. degree

To earn a Bachelor of Science degree with a major in environmental health, students must complete:

1. An introductory prerequisite core of a minimum of 38 credits, to be completed with a 2.00 average before major standing is awarded, including BIO 200, CHM 144 (or 164), CHM 145 (or 165), CHM 149, CHM 225, PHY 151, PHY 152 (or, for students not considering graduate work, PHY 101 and PHY 102) and 8 credits in mathematics above MTH 121 or MTH 141, usually including STA 225. MTH 154 is strongly recommended (MTH 155 is recommended for students considering graduate education).
2. Major standing to be awarded three semesters before graduation.
3. A program of a minimum of 50 credits in advanced courses, including ENV 308 plus courses required by one of the three options. At least 36 credits must be in courses at the 300 level or above, and 30 credits must be in approved courses numbered 350 and above. Except for ENV courses, no more than 24 credits in any one course rubric (such as BIO, CHM, etc.) may be used to fulfill the major. At least 16 of the credits taken at the 300 level or above must be taken at Oakland University.
4. Completion of one of the specializations described below. Students desiring to complete two specializations must take 16 credits of non-duplicative course work.

Specialization in occupational health and safety

Based upon an extensive curriculum planning study, this option combines environmental and occupational health perspectives in scientific and technical courses designed to provide preprofessional training for careers relating human health and safety factors to working conditions. Students learn to recognize, evaluate and control actual and potential environmental hazards, especially undesirable occupational health and safety conditions and practices. The option emphasizes environmental and occupational toxicology.

Required course work includes BIO 207 or BIO 321, CHM 203-204, ENV 355, ENV 386, ENV 387, ENV 388, ENV 474, ENV 484 and IHS 311. Recommended electives include ENG 382, ENV 364, ENV 372, ENV 373, ENV 452, ENV 461, ENV 470, ENV 486, BIO 407 or CHM 453, BIO 301, PS 353, HST 302 and IHS 312.

Specialization in environmental and resource management

This option emphasizes the wise use of resources, especially as they affect human health and well-being. Program electives offer training for a variety of field and laboratory opportunities

in industry and government, including planning, resource management, environmental protection and public policy.

Required course work includes the core, plus the following: ENV 355, ENV 461, BIO 301, PHY 107 and PHY 158.

Recommended electives include CHM 203-204, BIO 207 or BIO 321, BIO 303, BIO 311, BIO 307 or BIO 319, BIO 327, BIO 333, BIO 373, BIO 375, BIO 377, BIO 407, BIO 481, ENG 382, ENV 311, ENV 322, ENV 372, ENV 373, ENV 386, ENV 474, ENV 484, PS 302, PS 305, PS 350, PS 353, EGR 407 and HST 384.

Specialization in toxic substance control

This option is designed to provide training for professional opportunities in environmental toxicology, environmental health chemistry, and toxic substance management. The major focus is on toxicological principles and their applications to the production, distribution and release of toxic substances, especially as they may cause environmental problems. Risk assessment, problem solving and legislative compliance are emphasized.

Required course work includes the core plus BIO 301, CHM 203-204, BIO 325 or CHM 453, ENV 461, ENV 484 and ENV 486.

Recommended electives include BIO 207 or BIO 321, BIO 341, BIO 375, BIO 377, CHM 454, CHM 581, ENG 382, ENV 364, ENV 372, ENV 373, ENV 386, ENV 387, ENV 388, ENV 474, and PS 353.

Requirements for the liberal arts minor in environmental health

The following 19 credits are required for this minor: ENV 308, ENV 355, ENV 372 or 373, ENV 461, ENV 484, and ENV 486. An approved Concentration/Minor Authorization Form must be filed three semesters prior to graduation.

Course Offerings

ENV 308 Introduction to Environmental Studies (4)
Survey of a broad range of environmental issues from a scientific viewpoint. Basic ecological and thermodynamic principles with applications to air, water and land pollution; human demography and food supplies; alternative futures. *Satisfies the university general education requirement in natural science and technology.*
Prerequisite: Sophomore standing.

ENV 311 Global Environmental Pressures (4)
An interdisciplinary approach to selected problems of environmental stress in major ecosystems of the world. Emphasis is on the Third World's natural resources, in relation to their export to the industrialized societies. May be used in lieu of one of the College of Arts and Sciences' distribution categories.

ENV 312 Energy and the Environment (4)
Basic facts of energy: sources, forms, the roles it plays, and its ultimate fate. Includes study of laws limiting energy utilization, energy flow patterns, effects of energy use on the environment, and analyses of current energy-related problems.
Prerequisite: Sophomore standing; mathematics proficiency at the MTH 011 level.

ENV 322 Subsistence and Technology in Nonindustrial Society (4)
Identical with AN 322.

ENV 350 Selected Topics (1, 2, 3 or 4)
Technical studies in special areas; topics vary with semester. May be repeated for credit.
Prerequisite: Junior standing and permission of instructor.

ENV 355 Environmental Health Practice (3)
Survey of environmental health activities from public health perspective: vector control and prevention, sanitation practice, solid waste management, air pollution control, environmentally related diseases and their prevention.
Prerequisite: Junior standing in environmental health.

ENV 364 Hazardous Materials Emergency Response (3)
Review of standard operating procedures when dealing with responses to hazardous materials incidents. Planning procedures, policies, and application of procedures for incident levels, personal protective equipment, decontamination, safety, communications, and governmental reporting are stressed.
Prerequisite: Junior standing in environmental health.

ENV 372 Air Chemistry (3)
Technical evaluation of the nature and composition of the earth's atmosphere, both in its natural state and as it has been affected by man. Some discussion of air pollution control will be included.
Prerequisite: CHM 145 (or 165).

ENV 373 Water Resources (3)
Analysis of natural water systems, introductory hydrology, the chemistry of eutrophication, and wastewater systems. Emphasis is on applications, including water pollution abatement and management strategies.
Prerequisite: CHM 145 (or 165) and junior standing.

ENV 386 Principles of Occupational Health I (3)
Recognition, evaluation and control of chemical and physical stresses in the workplace which may adversely affect human health.

ENV 387 Principles of Occupational Health II (3)
Selected subjects of current interest in occupational and environmental health and review of occupational health programs at local industrial companies through site visits.

ENV 388 Occupational Health Control Methods (3)
Theory and practice in the control of occupational health hazards including personal protective equipment, noise, radiation, ventilation, and engineering design.

ENV 390 Directed Studies (1, 2, 3, 4 or 6)
Studies in special areas, often individually arranged. May be repeated for credit. Preparation of study plan and instructor's approval are required before registration. Graded S/U.

ENV 410 Human Adaptation (4)
Identical with AN 410.

ENV 452 Industrial Environmental Control (3)
Problems of air and water pollution, solid waste management, hazardous material handling, and emergencies examined from an industrial viewpoint. Chemical engineering solutions to environmental problems, practical aspects and compliance with regulations.
Prerequisite: Junior standing in environmental health, CHM 145 (or 165), MTH 154.

ENV 461 Environmental Law and Policies (3)
Legislative and legal perspectives on environmental and occupational health issues. Special emphasis on current laws and regulations, as well as their impact on the groups regulated.
Prerequisite: Junior standing.

ENV 470 Environmental Health Internship (2)
Supervised practical experiences in a variety of environmental health settings. Graded S/U.
Prerequisite: Senior standing in environmental health and permission of instructor.

ENV 474 Evaluation of Occupational Health Hazards (3)
Sampling and analysis of occupational health hazards and evaluation of the effectiveness of industrial hygiene control methods in laboratory and field locations.

ENV 484 Environmental Toxicology (3)
Principles of toxicology applied to a variety of biological systems: exposure, toxokinetic, and toxodynamic phases; dose-effect relationships; factors influencing toxicity. Environmental partitioning, pathways, transformations, and fate.
Prerequisite: BIO 190, BIO 200; CHM 204 or 235; biochemistry desirable.

ENV 486 Toxic Substance Control (3)
Quantification and management of toxic substances, including production, use, distribution, exposure, and control. Risk assessment and regulatory strategies will be emphasized.
Prerequisite: BIO 190, BIO 200; CHM 203 or 234.

OTHER ACADEMIC OPTIONS

Concentration in American Studies

Coordinator: *Jane D. Eberwein (English)*

Committee: *Sheldon L. Appleton (Political Science), Carlo Coppola (International Studies, Modern Languages), James W. Dow (Anthropology), Robert J. Goldstein (Political Science), Roy A. Kotynek (History), Bruce J. Mann (English), David W. Mascitelli (English), Janice Schimmelman (Art History), Richard B. Stamps (Anthropology), Ronald A. Sudol (Rhetoric)*

The American studies concentration provides both a broad understanding of the American experience and an introduction to the practice of focused interdisciplinary study. The concentration is taken in addition to a departmental major. By electing departmental courses with an American focus in two or three areas outside the major and framing the concentration with two interdisciplinary American studies courses, students may expect to gain a coherent sense of the national experience and appreciate the various contributions of different academic disciplines.

Although not a vocationally directed program, the American studies concentration should be of particular interest to students preparing for careers in law, government and journalism, and those planning graduate work in American studies or any of its contributing disciplines.

Concentration requirements include AMS 300, AMS 401, one course in anthropology (preferably AN 315), one American history course at the 300 level, and three electives from the courses listed as electives in the current catalog. No more than two electives may be taken from any one department's offerings, and at least one must represent a field or fields outside the student's major. (Those majoring in anthropology or history should be aware that no more than 8 credits may be counted toward both the major and a concentration.) Students interested in pursuing this concentration should file a plan of study with the coordinator.

Recommended departmental electives

Art and Art History: AH 350, 355
English: ENG 224, 302, 317, 320, 322, 324, 332, 341, 342
History: HST 114, 115, 218, 221, 292, 302, 303, 304, 306, 307, 310, 312, 313, 314, 315, 316, 317, 318, 319, 321, 323
Linguistics: LIN 303
Music: MUS 347, 348
Political Science: PS 100, 115, 203, 301, 302, 305, 307, 323, 324, 342, 343, 371
Sociology/Anthropology: SOC 100, 205, 301, 315, 331, 357; AN 315, 380, 381

Course Offerings

AMS 300 American Culture (4)
An interdisciplinary approach to American culture through examination of several pervading themes (such as manifest destiny, the American dream of success, and tensions between individualism and community). May be used in lieu of one of the College of Arts and Sciences' distribution categories.
Prerequisite: Writing proficiency (may be waived by the concentration coordinator in the case of foreign students).

AMS 401 Senior Project (4)
Either an independent research project or an internship in American studies. Plans for this project must be developed with the concentration coordinator the semester before the student registers for this course. Prerequisite: AMS 300.

Concentration in Applied Statistics

Committee: *Keith A. Berven (Biological Sciences), William E. Bezdek (Sociology and Anthropology), Gerard R. Joswiak (Computer Services), Anandi P. Sahu (Economics), Robert M. Schwartz (Education), Ronald E. Olson (Health Sciences), Mohamed A. Zohdy (Engineering)*

The University Committee on Applied Statistics sponsors this interdisciplinary concentration in applied statistics, which is available to all university undergraduates. This concentration focuses on the application and interpretation of statistical procedures in the pursuit of empirically based knowledge. In order to be certified by the committee as having fulfilled the concentration requirements, students must complete at least 16 credits in statistics, including:

1. One course at the introductory level (QMM 250, PSY 251, SOC 203, STA 226 or SYS 317)
2. STA 322
3. STA 323 or 324
4. One 400-level course in the student's major. This course must meet the approval of the University Committee on Applied Statistics.

Students who wish to take this concentration must develop a program in consultation with a committee member.

Concentration in Archaeology

Coordinator: *Richard B. Stamps (Anthropology)*

Committee: *Carl F. Barnes, Jr. (Art History), Gottfried Brieger (Chemistry), James W. Dow (Anthropology), Richard Redding (Anthropology)*

The concentration in archaeology prepares students for graduate study in archaeology. It is also helpful for students interested in an interdisciplinary approach to human cultural development viewed from historical, aesthetic and scientific perspectives. A minimum of 28 credits are required for this program:

1. AH 100, AN 101 and 222
2. One of the following: AH 312, AH 314, AN 282, AN 370, AN 371 or AN 380
3. 8 credits in field methods (AN 383)
4. At least 4 elective credits. The following courses are recommended for those who wish to expand their background: AH 322, AH 326, HST 261, HST 306, HST 367 and PHY 107.

Students are reminded that professional conservation work requires knowledge in botany and chemistry.

Minor in Computer Science

Coordinator: *Subramaniam Ganesan (Computer Science and Engineering)*

The minor in computer science is offered by the School of Engineering and Computer Science and is available to students within the College of Arts and Sciences. Many combinations are feasible.

With a major in mathematics, physics, chemistry or biology, a student may wish to emphasize numerical and scientific computing aspects of computer science. With a major in English, modern languages, history, philosophy, psychology, sociology or anthropology, a student may wish to take courses that emphasize non-numerical and symbolic data processing, and language translation.

With a major in economics, a student may wish to take courses oriented toward application of computers in management data processing. For specific requirements, see the School of Engineering and Computer Science portion of the catalog.

Concentration in Energy Studies

Coordinator: *Gottfried Brieger (Chemistry)*

The concentration in energy studies provides students with an interdisciplinary approach to energy issues, examined from the perspective of anthropology, biology, chemistry, economics, engineering, physics and political science. It serves as a foundation for additional specialized study in any of these fields. This concentration requires a minimum of 28 credits, distributed as follows:

1. Core — all of the following: AN 322, ENV 312, PHY 115 and PS 250
2. Advanced option — one of the following: AN 410, ME 454
3. Practicum — all of the following: EGR 106, EGR 108 and EGY 390 (4 or 8 credits)

Course Offering

EGY 390 Energy Projects (4 or 8)
Laboratory or field work under the direction of a faculty supervisor approved by the concentration coordinator on a current energy-related issue resulting in a comprehensive project and report.
Prerequisite: Concentration courses EGR 106 and EGR 108 are recommended prior to enrollment.

Concentration in Environmental Studies

Coordinator: *Paul Tomboulian (Chemistry)*

The concentration in environmental studies introduces students to modes of thought and action relative to environmental issues. Students learn to identify and evaluate alternative solutions to environmental problems. Short- and long-range implications of human activities are analyzed, especially as they affect resources and public policy.

Concentrations are available in conjunction with cooperating departments. Requirements for the concentration are a minimum of 28 credits in environmental studies and related courses including ENV 308 or ENV 311, to be planned and approved beforehand. Courses must be selected from at least three different rubrics, and must include at least 20 credits of work at the 300 level or above. An approved Concentration/Minor Authorization Form must be filed three semesters prior to graduation. Courses in environmental studies are listed under the Environmental Health Program.

Related courses in many departments are often suitable for an environmental studies concentration. These include, but are not limited to: AN 300, BIO 301, BIO 303, BIO 311, BIO 327, BIO 373, BIO 375, BIO 377, EGR 407, ENV 322, HST 384, PHL 318, PHY 107, PHY 115, PS 250, PS 350 and PS 353. Consult the program coordinator for details.

Concentration in Film Aesthetics and History

Coordinator: *Brian F. Murphy (English)*

Committee: *Bonnie Abiko (Art and Art History), Peter J. Bertocci (Anthropology), Robert T. Eberwein (English), Donald C. Hildum (Communications), Harriet E. Margolis (English), Sally M. Silk (Modern Languages and Literatures)*

The interdisciplinary concentration in film aesthetics and history, sponsored by the departments of Art and Art History, Center for International Programs, English, Modern Languages and Literatures, Rhetoric, Communications and Journalism, and Sociology/Anthropology offers multiple perspectives for examining theoretical and critical issues of film as art and com-

munication. The introductory courses explore the operation, function and construction of film. The history courses examine narrative and technical developments with emphasis on major directors, genres and trends. The theoretical courses are concerned with the uniqueness of film, its relation to other forms of verbal and plastic arts, and special approaches needed for analysis and enjoyment.

The range of viewing experiences and the variety of approaches to the medium provide an excellent preparation for students seeking employment in advertising, publishing, journalism, visual media or teaching, as well as those who wish to pursue film studies on the graduate level.

A minimum of 28 credits is required, including CIN 150, ENG 250, ENG 392; two courses chosen from among CIN 300, CIN 301 and CIN 302; and two courses chosen from AH 367, AN 307, CIN 450, LIT 251 and SCN 303. In special circumstances, CIN 499 may be substituted for one of the above courses with permission of the concentration coordinator.

Course Offerings

CIN 150 Introduction to Film (4)
Introduction to the art of film by examination of the filmmaking process, study of narrative and non-narrative film, and exploration of film's relation to society. *Satisfies the university general education requirement in arts.*

CIN 300 History of Film: The Silent Era (4)
Survey of directors and films important in shaping film history: Griffith, Eisenstein, Chaplin, Maurnau, Pabst, Lang and others.

CIN 301 History of Film: The Sound Era to 1958 (4)
Examination of significant directors, genres and movements: Welles, Hitchcock, Renoir, DeSica and others; the western, gangster film, musical; neorealism, film noir.

CIN 302 History of Film: The New Wave and Beyond (4)
Study of film since 1959: New Wave directors such as Truffaut, Godard, Resnais; major artists such as Fellini, Bergman, Kubrick; experimental films and new developments.

CIN 450 Topics in Film (4)
Examination of specialized subjects in film such as: The War Film, Alfred Hitchcock's Films, The New Wave, The Japanese Cinema. Topics to be selected by instructor.
Prerequisite: Permission of instructor or one course in film.

CIN 499 Independent Study (4)
Study on an independent basis for students with demonstrated interest in film. A proposed course of study must be submitted to the prospective instructor in the semester before the independent study is to be taken.
Prerequisite: One course in film.

Concentration in Folklore and Popular Culture

Coordinator: *Mark E. Workman (English and Folklore)*

Committee: *Jane M. Bingham (Education), Marc E. Briod (Education), Judith K. Brown (Anthropology), Roy Kotynek (History)*

Folklore is traditional, artistic behavior; it is engaged in by even the most intellectually and technologically sophisticated among us, and it encompasses all modes of expression. Popular culture borrows from folklore its formulas of production as well as much of its content. The concentration in folklore and popular culture provides an introduction to the materials and methods of inquiry into these subjects, and encourages students to pursue further the extensive social and cultural ramifications of folklore and popular culture into related areas of study.

The program is of potential relevance to students in all areas of the humanities, social sciences and education. It will be of benefit to them both in their studies at Oakland University and as preparation for careers in the media, human services, teaching or graduate work in any of the fields related to the concentration.

This concentration requires a minimum of 28 credits, including ENG 214 and 302. A minimum of 8 credits must be taken at the 300-400 level, and no more than 8 credits from the student's major will count toward the concentration. A current list of approved electives, which must be selected in consultation with the concentration coordinator, follows: ALS 375, AN 251, AN 271, AN 310, AN 333, CIN 150, ENG 220, ENG 211, ENG 304, ENG 312, ENG 313, ENG 314, HST 222, HST 292, HST 346, IS 386, MUS 347, RDG 332 and SCN 371.

Concentration in Gerontology

Committee: *Elinor B. Waters (Continuum Center), Harold Zepelin (Psychology)*

The multidisciplinary concentration in gerontology, which is co-sponsored by the College of Arts and Sciences and the School of Education and Human Services, provides students an opportunity to gain an understanding of aging as a process in personal, cultural and social contexts. It adds another dimension to career preparation for students who plan to obtain graduate degrees in helping professions such as nursing, clinical psychology and social work. It also offers essential background and introductory experience to students holding bachelor's degrees who wish to seek employment in agencies that provide services for the elderly.

The concentration requires a minimum of 28 credits, 16 in required core courses and 12 in elective courses. The advanced core course, a multidisciplinary seminar on aging (GRY 400), will bring students into contact with diverse disciplines that have an interest in aging. Students in Arts and Sciences majors must choose one elective (4 credits) from HRD courses.

Requirements for the concentration in gerontology consist of the following:

1. Core — PSY 331 and SOC 465
2. Research methods course: PSY 250 or SOC 202/204
3. Required advanced course: GRY 400
4. Electives: HRD 369 or HRD 490, HRD 431, HRD 451, HRD 452, PSY 332, PSY 372, SOC 314/514 or SOC 315/515, and GRY 480

Course Offerings

GRY 400 Multidisciplinary Seminar on Aging (4)
Presentations of research and reviews of the literature, bringing together contributions from biology, the health care professions, the humanities, political science, psychology and sociology.
Prerequisites: Completion of two core courses and a research methods course.

GRY 480 Research in Gerontology (4)
Individually designed experience in research on aging, beginning with reviews of the literature and culminating in data collection or formulation of a research proposal.
Prerequisite: Completion of two core courses and a research methods course.

Concentration in Human and Industrial Relations

Coordinator: *Jacqueline R. Scherer (Sociology)*

The concentration in human and industrial relations requires a minimum of 28 credits and is to be taken in conjunction with a full major in any department of the university. It is basically a social scientific approach to the workplace in which research, analysis and social criticism are linked together in the examination of changing work patterns.

The following requirements apply to the concentration:

1. 12 credits chosen from: AN 300, SOC 350, SOC 352, SOC 357, SOC 381
2. ECN 150 (or ECN 200 or ECN 210)
3. HST 302
4. Two electives from the following: HST 210, HST 304, LE/SOC 324, LE 326, PHL 316, PSY 350, SCN 304, SOC 354, SOC 455, SOC/AN 480.

Concentration in Michigan Studies

Coordinator: *Richard B. Stamps (Anthropology)*

Committee: *John B. Cameron (Art History), Gottfried Brieger (Chemistry)*

The concentration in Michigan studies is an integrated program of courses that provides both a broad introduction to and a focused interdisciplinary study of Michigan. Each student is required to take MC 100 "Life in Michigan," which serves to integrate the various disciplinary offerings.

The concentration requires completion of a minimum of 26 credits, including MC 100, to be selected from the following course offerings. No more than 8 credits from the student's major may be counted toward the concentration.

Course Offerings

MC 100 Life in Michigan (2)
An introduction to Michigan history and politics, fine art and archaeology, geology and environment, flora and fauna, climatology, and industry and economic development.

Students will select the remaining 24 credits from the following courses (4 credits each, except for ENV 373, 3 credits).

AH 355	**Michigan Architecture**
AH 399	**Field Experience in Art History**
AN 383	**Methods in Anthropological Archaeology**
AN 399	**Field Experience in Anthropology**
BIO 373	**Field Botany**
HST 218	**History of Michigan**
HST 302	**American Labor History**
HST 399	**Field Experience in History**
PS 305	**Politics of the Local Community**
PS 307	**State Politics**
PS 458	**Public Affairs Internship**

Concentration in Preprofessional Studies in Medicine, Dentistry and Optometry

Coordinator: *Egbert W. Henry (Biological Sciences)*

Committee: *Gottfried Brieger (Chemistry), Denis M. Callewaert (Chemistry), Robert W. Jarski (Health Sciences), Virinder K. Moudgil (Biochemistry), John R. Reddan (Biological Sciences), Robert L. Stern (Chemistry), Nalin J. Unakar (Biological Sciences), Barry S. Winkler (Eye Research Institute)*

The concentration in preprofessional studies in medicine, dentistry and optometry is intended for students who wish to pursue careers in medical, osteopathic or dental professions. Students are expected to complete a concentration consisting of the following:

1. 20 credits of biology, including laboratories
2. 20 credits of chemistry, including laboratories and two semesters of organic chemistry
3. 8 credits of mathematics
4. 10 credits of physics, including laboratories

In chemistry, mathematics and physics courses, students should opt for sequences that are more rigorous in academic content. The concentration provides the minimum requirements for admission to various medical, osteopathic and dental schools in Michigan and elsewhere. The committee strongly recommends the following additional courses for better preparation for the Medical College Aptitude Test (MCAT) and medical school curriculum:

1. Science: genetics (BIO 341), developmental biology (BIO 323, 324), biochemistry (BIO 325 and 326 or CHM 453, 454, 457 and 458) and physiology (BIO 321 or BIO 207).
2. Humanities: vocabulary and etymology (ALS 102) and/or RHT 103, 105 and 110. RHT 105 and 110 are suggested for improving reading comprehension skills in preparation for the MCAT.

Students intending to pursue a career in the optometric profession are advised to take the following courses:

1. 20 credits of biology, including laboratories
2. 20 credits of chemistry, including laboratories and two semesters of organic chemistry
3. 12 credits of mathematics
4. 10 credits of physics, including laboratories
5. 4 credits of introductory psychology, 8 credits of English and 8 credits of social science

This concentration does not constitute a major. Students must elect a major from those offered by the university. Interested students should consult the advisory committee for counseling and assistance in planning their academic programs.

Concentration in Religious Studies

Coordinator: *Leonardas V. Gerulaitis (History)*

The religious studies concentration offers a series of courses on religion, both Western and Eastern, traditional and contemporary. These courses do not seek to confirm or attack any particular religious point of view; they are taught in the same scholarly and objective spirit as other university courses and aim at understanding a pervasive human phenomenon. They are grouped into two types: historical studies and systematic studies.

The program currently offers a concentration in religious studies that consists of at least 20 credits in religion, which may be taken jointly with a modified major (24 credits) in philosophy or with a full major in any other department of the College of Arts and Sciences.

Students wishing to make religion the focus of an independent major will receive the support of the Committee of Religious Studies. Interested students should see the concentration coordinator for further information.

In addition to the religion courses, several collateral courses are suggested: ENG 312, HST 325 and PHL 205. Courses with REL 200 numbers require only sophomore standing; courses with REL 300 numbers require one previous course in religious studies at Oakland University, unless identical with departmental courses having different prerequisites.

Course Offerings

HISTORICAL STUDIES

REL 200 Topics in the Historical Study of Religion (4)
The topic varies. Samples include: the New Testament, medieval mysticism, early Buddhism, the Protestant Reformation, Christ and Caesar, eighteenth and nineteenth century attacks on religion. May be repeated for credit.

REL 202 The Jewish Tradition (2 or 4)
Selected ideas and institutions in the development of Judaism from its pre-exilic roots to the present. Offered in cooperation with the Jewish Chautauqua Society.

REL 203 The Christian Tradition (4)
Study of the most important Christian ideas and institutions from Jesus to the present.

REL 211 The Bible as Literature (4)
Identical with ENG 211.

REL 304 The Islamic Tradition (4)
Selected ideas and institutions in the history of Islam.

REL 307 American Religious History (4)
Identical with HST 307.

REL 350 Philosophies and Religions of Asia (4)
Identical with PHL 350.

SYSTEMATIC STUDIES

REL 227 Psychology of Religion (4)
Basic data of religious experience in relation to motivation, cognitive structure, and personality; problems of religious symbolism, verbal and nonverbal; dynamics of religious movements; growth, propagation, and preservation of orthodoxy; varieties of reform.

REL 229 Religion and Literature
Study of a few masterpieces of world religious literature, such as Greek tragedy, Hindu epic, Dante and Milton, with an attempt to generalize about the use of religious themes in literature and about literature as an expression of religious belief.

REL 271 Magic, Witchcraft and Religion (4)
Identical with AN 271.

REL 291 Religion and Contemporary Moral Problems (4)
Investigation of the theological and ethical reasons for the emergence of a new attitude toward moral questions. Protestant, Catholic, Jewish and secular viewpoints on some of these: love, sex, civil disobedience, criminal punishment, violence, war, suicide and death.

REL 305 Sociology of Religion (4)
Identical with SOC 305.

REL 325 Philosophy of Religion (4)
Identical with PHL 325.

REL 390 Directed Readings in the Study of Religion (4)
Individual study of a topic not covered by regular courses, with guidance of a faculty tutor. May be repeated for credit.
Prerequisite: Permission of concentration coordinator.

Concentration in Social Justice and Corrections

Coordinator: *Jay Meehan (Sociology)*

The concentration in social justice and corrections requires at least 28 credits and is to be taken in conjunction with a full major in any department of the college. It provides career-oriented education for students interested in law, in the social forces producing delinquency and crime, in the evaluation of social planning for crime prevention and control, and in the operation of police organizations and correctional institutions.

A student must be formally admitted to the program and meet the following requirements:

1. 12 credits chosen from PHL 319, PS 241, PS 342, SOC 240*, SOC 327, SOC 437
2. 12 credits from PHL 321, PS 343, PSY 220, SOC 322, SOC 323, SOC 425
3. 4 credits of SOC 430

*Students are strongly advised to take this course at the beginning of their concentration.

The internship is designed to give students practical experience in the criminal justice or legal system. The student's particular interests guide the internship selection process. An internship usually involves work in an agency for 20 hours per week and meeting with the internship adviser on a regular basis. Students who qualify may receive paid internships. A term paper on some aspect of the internship experience is required in order to receive course credit. The internship is a valuable learning experience and should be taken toward the end of the concentration.

Concentration in Social Services

Coordinator: *Jacqueline R. Scherer (Sociology)*

The concentration in social services requires a minimum of 28 credits and is available to students throughout the university, regardless of major. It is primarily designed for students who intend to pursue graduate studies in social services or who are interested in the analysis of social programs and social welfare policies. The social and psychological dimensions of service delivery are explored as they relate to professional development and the integration of theoretical and applied approaches to problem solving.

The following requirements apply to the concentration in social services:

1. SOC 314 and 315
2. Two of the following: PSY 220, 311, 331 or 332
3. Field experience: PSY 399, SOC 399 or equivalent course
4. Statistics: SOC 203 or equivalent course
5. One elective from the following: HI 361, HRD 331, PSY 336, SOC 328, SOC 331, SOC 335, or SOC 465/565

Students are requested to enroll formally in the program by completing an application at the Department of Sociology and Anthropology office.

Concentration in Urban Studies

Coordinator: *Harry Gold (Sociology)*

Committee: *De Witt S. Dykes (History), Oded Izraeli (Economics)*

The urban studies concentration is designed to provide a comprehensive interdisciplinary understanding of modern urban civilization and to develop an appreciation of some of the problems and policy issues confronting contemporary American urban communities. It is also designed to introduce some of the technical skills that are a prerequisite to the successful pursuit of career opportunities in a variety of urban-oriented public and private service or administrative organizations.

The concentration provides a carefully selected group of required core courses drawn from several departments, allows a relatively broad choice of electives and provides an interdisciplinary seminar designed to help integrate the knowledge and skills acquired in the program.

Students wishing to pursue the concentration in urban studies must submit an advising plan to the concentration adviser and make application to the concentration coordinator to be admitted to the program. One course in statistics and/or methodology offered by a social science department or a statistics course offered by the Department of Mathematical Sciences is a prerequisite to the program. To earn the urban studies concentration, students must complete a minimum of 28 credits, distributed as follows:

1. Core — three of the following four courses: ECN 309, HST 223, PS 305, SOC 345
2. Electives — four of the following courses (none of the courses may overlap with courses in the student's major and no more than two courses may be taken in a single department): AH 363, HRD 331, HRD 364, HST 302, PS 307, PS 350, PS 353, PSY 326, SOC 315, SOC 331

3. Internship — although an urban internship or field experience is not required as part of the concentration, it is strongly suggested that students complete such a course in their major department or another program in the university.

Concentration in Women's Studies

Committee: *Linda Benson (History), Barbara Hamilton (Rhetoric), Susan Haworth-Hoeppner (Sociology), Linda Hildebrand (Library), Barbara Mabee (Modern Languages), Hoda Abdel-Aty-Zohdy (Engineering)*

The women's studies concentration explores the contributions of women through their work and lives, to the arts, the sciences and society. The concentration opens areas of study and research related to women that arise from the various academic disciplines and from women's experience, uniting and clarifying core concepts and ideas.

Students working toward a women's studies concentration discover information and generate questions that lead to an understanding of the present position of women in society and to the formulation of theories that may explain, predict and improve that position. This interdisciplinary concentration is a humanistic complement to any conventional academic major.

A minimum of 28 credits are required for the concentration in women's studies, distributed as follows:

1. WS 200 (4 credits)
2. Three women's studies courses (12 credits) with numbers of 300 and above, excluding WS 399 and WS 400. The content and instructor for WS 301, "Special Topics," and WS 401, "Advanced Topics in Women's Studies," change from semester to semester; therefore, students may receive credit for more than one WS 301 and 401 class provided they are cross-listed with different courses. The student can receive credit toward the concentration for a course taken under the departmental rubric if it is cross-listed with women's studies during that semester; a student may not receive double credit for the same course taken under the WS rubric and the departmental rubric.
3. Three additional women's study courses (12 credits) or approved women's studies electives; a list of women's studies electives for the current semester is available in the *Schedule of Classes* or from the concentration coordinator.

Course Offerings

WS 101 Introductory Topics in Women's Studies (4)
Course content varies.

WS 200 Introduction to Women's Studies (4)
Core course provides an overview of women's studies theories and methods. Strictly interdisciplinary and comparative in approach, offering a general education in women's studies literature, history, economics and culture. May be used in lieu of one of the College of Arts and Sciences' distribution categories.

WS 201 Topics in Women's Studies (4)
Course content varies.

WS 224 History of American Families (4)
Identical with HST 224.

WS 300 Women in Transition (4)
Focuses on life experiences unique to women. Major issues include identity and independence, marriage, childbirth, adulthood and aging.

WS 301 Special Topics in Women's Studies (4)
Course content varies. Representative topics have included: gender, ethnicity, and representation; black women in America; women in German literature and culture.

WS 305 Anthropological Perspectives on the Life Cycle (4)
Identical with AN 305.

WS 311 Women and Politics (4)
Identical with PS 311.

WS 325 Psychology of Women (4)
Identical with PSY 325.

WS 335 The Family (4)
Identical with SOC 335.

WS 336 Sociology of Gender (4)
Identical with SOC 336.

WS 337 Women's Lives in Cross-Cultural Perspective (4)
Identical with AN 337.

WS 339 History of Women: Modern Europe (4)
Identical with HST 339.

WS 351 Women in Art (4)
Identical with AH 351.

WS 352 Women and Work (4)
Identical with SOC 352.

WS 399 Field Experience in Women's Studies (4)
Field experience in women's studies with faculty supervision. An academic project involving field work or community activism around an issue of importance in women's studies. May not be repeated for credit. Prerequisite: WS 200 and 12 credits in women's studies or approved women's studies electives.

WS 400 Directed Research in Women's Studies (2, 4)
Directed individual study and advanced scholarly research in women's studies.
Prerequisite: Approval of faculty adviser and women's studies coordinator.

WS 401 Advanced Topics in Women's Studies (4)
Course content varies. Representative topics include research methods in women's studies.

WS 481 Gender Socialization in Schools (4)
Identical with EED 481 and CIL 561.

Prelaw Studies

Students planning to attend law school after graduation should major in a field in which they have both interest and aptitude; the actual field is less important for admission than the overall success of the student in college training as measured by the cumulative grade point average and scores on the Law School Admission Test (LSAT).

Rather than mastery of any particular subject matter, law schools require of incoming students certain basic skills, particularly the ability to think logically and to express oneself orally and in writing in a coherent and precise manner. No one academic discipline possesses a monopoly on development of these abilities. The best advice to students planning legal careers is to develop strong writing skills and to plan undergraduate course study with an eye toward long-term plans within the legal profession.

Although there is no formal prelaw curriculum at Oakland University because no set of specific courses is necessary for admission to, or success in, American law schools, the attention of students interested in law is drawn to courses in five categories. None of these courses is in any sense required, or even strongly recommended, for all prelaw students, yet the experience of many lawyers and law students suggests that they will be helpful to some.

I. The first category consists of courses that develop fundamental abilities of reasoning and communication. Introductory courses in all of the liberal arts disciplines (humanities and natural and social sciences) serve this purpose. Particularly relevant are courses that develop thinking and writing capabilities. These include: ENG 380, PHL 102 and PHL 103.

II. A second group, devoted to oral communication, includes: SCN 201, SCN 220, SCN 301, and THA 110.
III. A third group features law in relationship to other disciplines. The university offers many courses placing law and legal institutions in such a context. These include: AN 440, ECN 378, HST 303, PHL 319, PS 241, PS 342, PS 343, SOC 322, SOC 324 and SOC 437.
IV. A fourth group of courses has to do with business operations, an aspect of the practice of law that is often overlooked. The increase in numbers and competition within the bar have placed unprecedented emphasis on business skills. These courses include: ACC 200, MIS 300 and MKT 302.
V. A fifth group, substantive law courses, may be of special interest to students who do not have a definite intention of applying to law school but who wish to be better informed about the law, to experience the special style of legal instruction or to gather enough information to make a final decision about a legal career. These courses include: ENV 461, JRN 403 and MGT 424.

Students considering law school are warned against overemphasizing law-related courses in their undergraduate training. Law schools virtually never give credit, either for placement or for graduation, for such courses and are inclined to believe such students are too narrow in their education. Undergraduate education is a distinct and vital part of one's professional training and should never be regarded simply as a way station before beginning one's "real" work. It must be emphasized that none of the courses listed here is required of, or restricted to, prelaw students.

Liberal Arts Minor in Science

Coordinator: *David J. Downing (College of Arts and Sciences)*

The liberal arts minor in science requires at least 27 credits for the two-science minor, or 29 credits for the three-science minor, selected from courses in biological sciences, chemistry and physics.

Students who elect a single discipline minor in either biology, chemistry or physics are not eligible for the science minor, nor are students who are majoring in biochemistry, biology, chemistry, computer science, engineering, environmental health, industrial health and safety, medical physics, medical technology, nursing, physical therapy or physics.

Two-science minor

1. Complete at least two of the following course sequences: BIO 190, 195 and 200; CHM 144, 145 and 149 (or CHM 164, 165 and 149); or PHY 101, 102 and 158 (or PHY 151, 152 and 158).
2. Complete at least 8 additional credits from either one science or split between the two sciences. Biology and chemistry courses numbered lower than BIO 190 and CHM 144, respectively, do not apply to the science minor (nor do CHM 201, 241, 497 and BIO 300).

Three-science minor

Complete the following: BIO 190, 195 and 200; CHM 144, 145 and 149 (or CHM 164, 165 and 149); and PHY 101, 102 and 158 (or PHY 151, 152 and 158).

HONORS COLLEGE

212 VARNER HALL (313) 370-4450

Director: *Brian F. Murphy (English)*

Council: *Donald C. Hildum (Rhetoric, Communications and Journalism), Vincent B. Khapoya (Political Science), Kathleen H. Moore (Chemistry), Sally Silk (Modern Languages and Literatures), one sophomore, one junior and one senior Honors College student*

The Honors College has been established by the faculty of the College of Arts and Sciences for highly motivated students seeking an unusually challenging undergraduate education. It offers a specially designed general education and additional requirements, in conjunction with a departmental major from the College of Arts and Sciences or one of the professional schools.

Students currently admitted to or enrolled at Oakland University may apply directly to the Honors College for admission; others must apply for admission to Oakland University as well. Application forms are available at the Honors College office.

Courses with the HC prefix are open only to students who have been accepted to the Honors College.

Requirements and Procedures

Departmental majors

Each student must complete a departmental major in the College of Arts and Sciences or a prescribed course of study in the School of Business Administration, the School of Engineering and Computer Science, the School of Health Sciences, the School of Education and Human Services or the School of Nursing.

A student who is not pursuing a standard major (for example, a student with an independent major) may be accepted to the Honors College if the Honors College Council determines that the student's program is of sufficient breadth, depth and coherence.

General education requirements of the Honors College

1. The student must successfully complete RHT 101 or its equivalent.
2. The student must successfully complete at least four Honors College core courses, chosen from HC 201, 202, 203, 204, 205, 206, 207 or 208.
3. The student must successfully complete at least one 4-credit course in each of the four general education areas not covered by the HC core courses taken. A student may meet this requirement by successfully completing relevant university general education courses, departmental courses that count towards a major, additional HC core courses or a combination of these.
4. The student must successfully complete a senior colloquium, HC 401.
5. The student must attain second-year foreign language proficiency.

Note: Honors College requirements replace university general education and college distribution requirements. Students should not attempt to fulfill both sets of requirements.

Advanced standing

The student shall apply for advanced standing in the Honors College, normally by the end of the fourth semester. Following receipt of the application, the Honors College Council will interview the applicant. The interview will be of a general nature, but will deal, in part, with material studied in the Honors College core courses the student has completed.

After the interview, the council may admit the student to advanced standing, grant the student conditional advanced standing or ask the student to withdraw from the Honors College. A student who is granted conditional advanced standing will be given reasons for this status.

Generally, a student will not be considered for admission to advanced standing, or for removal of conditional status, later than the fourth week of the semester following that in which the student completes 80 credits.

Independent project

Each Honors College student must successfully complete a major creative or scholarly work under the supervision of a faculty member. All independent projects must be approved by the Honors College Council prior to proceeding with work. Independent project proposals should be submitted to the council before students complete their junior year. The project must be approved within the first four weeks of the semester following that in which the student completes 96 credits.

The student may receive departmental or Honors College independent study credit for all or part of this work. The student may, but is not required to, register for HC 490.

The project must be independently designed and completed.

Completed independent project reports are due no later than the week following the middle week of the semester in which the student intends to graduate.

Grade point average and graduation honors

A grade point average of at least 3.30 is required for graduation.

Honors College students may receive departmental and university honors upon graduation.

Course Offerings

HC 201 through 208 Honors College Core Courses (4 each)
Introduction to ways of thinking characteristic of a modern university. HC 201 deals with the arts, HC 202 with literature, HC 203 with language, HC 204 with western civilization, HC 205 with international studies, HC 206 with social science, HC 207 with mathematics, logic or computer science and HC 208 with natural science or technology. Offered every other year.

HC 300 Special Topics (2, 4)
Special problems and topics selected by the instructor.
Prerequisite: Open to Honors College students only.

HC 401 Honors College Senior Colloquium (4)
Discussion of a broad topic of traditional concern or an issue of particular current significance. Offered annually.

HC 490 Independent Study (2, 4)
Supervised instruction in the Honors College independent project. May be repeated for credit. Offered each semester.

SCHOOL OF BUSINESS ADMINISTRATION

433 VARNER HALL (313) 370-3282

Dean: *George E. Stevens*

Office of the Dean: *John E. Tower, associate dean; Kathleen G. Kazarian, coordinator for academic advising; Carole J. Terry, undergraduate academic adviser; Winfred Robinson, computer facilities administrator; Julie A. Dziekan, administrator, Master of Business Administration program*

Department chairs: *Lizabeth A. Barclay, Management and Marketing; Gadis J. Dillon, Accounting and Finance; Albert L. Lederer, Decision and Information Sciences; Ronald L. Tracy, Economics*

Professors: *Eleftherios N. Botsas, Daniel N. Braunstein, Joseph E. Champagne, Gadis J. Dillon, David P. Doane, Karl D. Gregory, Ronald M. Horwitz, Robbin R. Hough, Oded Izraeli, Sid Mittra, Ravi Parameswaran, Miron Stano, George E. Stevens*

Associate professors: *Lizabeth A. Barclay, Edward J. Farragher, Sherman T. Folland, Augustin K. Fosu, John W. Henke, Albert L. Lederer, J. Austin Murphy, Kevin J. Murphy, R. Mohan Pisharodi, Howard S. Schwartz, John E. Tower, Ronald L. Tracy, Mary P. Van Sell, T. J. Wharton, Floyd G. Willoughby*

Assistant professors: *Mohammed S. Bazaz, Sadik Cokelez, Addington Coppin, Alexsandra Glowacka, Amir M. Hormozi, Sheila M. Jacobs, John Kim, Robert T. Kleiman, Thomas W. Lauer, Donald Mayer, Kevin Nathan, James E. Payne, Eileen Peacock, Sandra S. Pelfrey, Anandi P. Sahu, Barbara A. Theisen, Kenneth M. York*

Special instructor: *David D. Sidaway*

Visiting instructor: *Joseph H. Callaghan*

Adjunct professors: *Rikuma Ito, Paul O. Kingstrom, Diane B. Stricker*

Lecturers: *Frank P. Cardimen, Jr., David W. Essig, Robert J. Forbes, George Kuljurgis, David Medved, David Minkus, Ronald Semaan*

Board of Visitors

The Board of Visitors provides a direct link between the business community and the School of Business Administration. The board is composed of outstanding corporate and professional leaders from the Detroit metropolitan area. Board members assist the faculty on several projects and provide consultation on goals and objectives, curricula designs and research programs.

The board members are:

Thatcher W. Root, Vice President, Prudential-Bache Securities, Incorporated; chairman, Board of Visitors
Joseph A. Campana, President, Automotive Division, Carlson Companies, Inc.
Robert L. Condon, Executive Vice President, Comerica Incorporated
James K. Croll, Sales Vice President, AT&T
Michael W. Grieves, President, Data Systems Network Corporation
William R. Halling, Managing Partner, KPMG Peat, Marwick
John G. Middlebrook, General Manager, Pontiac Motor Division

Kenneth E. Myers, President, William Beaumont Hospital Corporation
Harold A. Poling, Chairman and Chief Executive Officer, Ford Motor Company
Arthur P. Ronan, President, Automotive Operations, Rockwell International Corporation
Alan E. Schwartz, Senior Partner, Honigman, Miller, Schwartz & Cohn
George H. Seifert, Vice President, Corporate Planning and Development, Ameritech Publishing Inc.
Robin W. Sternbergh, Vice President and Area General Manager, IBM
A. Robert Stevenson, Vice President for Public Affairs, K mart Corporation
James R. Wilbert, Partner, Coopers & Lybrand

Role and Mission

The School of Business Administration offers high quality undergraduate and graduate programs which provide graduates with the knowledge and skills to become effective professionals. In support of its mission, the school is committed to recruiting a diverse student body, providing them with high quality educational experiences, and instilling in them a desire for continued learning. The school recognizes that its mission is best achieved by: (1) having a diverse faculty and staff, (2) supporting an intellectual environment conducive to professional growth, (3) participating in the national and international scholarly communities through research and publication, (4) maintaining close relationships with alumni, and (5) interacting effectively with area business and community organizations.

General Information

The School of Business Administration offers undergraduate programs for students interested in obtaining the skills and information needed to manage profit-making businesses, not-for-profit enterprises (e.g., health care institutions, educational institutions, cooperative societies) and governmental units. High school students who intend to pursue a major offered by the School of Business Administration should consult the *Admissions* section of the catalog for specific preparation requirements. Students transferring credits from foreign institutions may be requested to provide documentation of the content and scope of courses they have taken at foreign institutions.

The programs include: Bachelor of Arts, with a major in economics (offered in conjunction with the College of Arts and Sciences; see the Department of Economics section for a description of this program); Bachelor of Science, with majors in accounting, economics, finance, general management, human resources management, management information systems and marketing; and minors in accounting, economics, finance, general business, international management, management information systems, production and operations management, and quantitative methods.

The School of Business Administration offers the Master of Business Administration (MBA) degree for superior students in any major, including business and management. The MBA is a professional program in business designed to prepare students for careers involving problem identification, problem solving, decision making and leadership in any type of organization. It is preferred that students with an undergraduate degree in business or one of the functional areas of management have two years of work experience before entering the MBA program.

Oakland University undergraduates working on majors other than those in the management areas may earn both an undergraduate degree and an MBA by completing an accelerated program. To be eligible, students should have a grade point average in the top 15 percent of students in their major. Students may apply to the program after they have completed 80 undergraduate credits. For more information, see the *Oakland University Graduate Catalog.*

The School of Business Administration is accredited, on both the undergraduate and graduate levels, by the Accreditation Council of the American Assembly of Collegiate Schools of Business (AACSB).

Degree Requirements

The curriculum described shall be followed by students entering the School of Business Administration beginning with the fall 1991 semester. Students enrolled prior to fall 1991 may choose to satisfy either the degree requirements listed in this catalog or those in the catalog of the academic year in which they were initially admitted to pre-business in the School of Business Administration (or any catalog during the interim) provided that catalog is not more than six years old at the time of graduation. Students who transfer to the School of Business Administration after admission to the university or who are readmitted to the university are required to follow the requirements of the catalog in effect at the time they transfer or are readmitted.

To ensure they have met all requirements, students should seek a final program audit from one of the school's academic advisers the semester before the semester in which they plan to graduate. The responsibility for meeting graduation requirements rests with the student.

The business administration program enables students to combine intensive study of a functional area of business with a broad background in management. This combination will allow students to understand and manage changing situations in profit-oriented enterprises or not-for-profit organizations, both public and private. In this program, a general education is combined with rigorous analytical training, enabling students to handle the increasingly complex and changing problems faced by managers.

The business administration program offers students the opportunity to major in general management or in one of the functional areas of business: accounting, finance, human resources management, marketing or management information systems. The program leads to a Bachelor of Science (B.S.) degree. (In addition to the majors listed above, the School of Business Administration offers a Bachelor of Science degree with a major in economics. See below.)

The business administration degree program consists of four parts: general education, the precore, the core and the major. Students in this program must satisfy the specific requirements of each of these parts and must earn a minimum of 128 credits.

Each student must:

1. Complete at least 128 credits.
2. Obtain certification of writing proficiency (see *Undergraduate degree requirements*).
3. Complete the university general education requirement (see *Undergraduate degree requirements*).
4. Complete the precore program and be admitted to major standing (see *Admission to major standing*).
5. Complete the core program and the requirements of one of the majors in the School of Business Administration.
6. Complete at least 32 credits at the 300 level or above.
7. Complete at least 32 credits at Oakland University, of which at least 16 credits must be in courses offered by the School of Business Administration. Of these 16 credits, at least 8 credits must be in the student's major.
8. Take the last 8 credits needed to complete baccalaureate requirements at Oakland University.
9. Earn a cumulative grade point average of at least 2.00 in courses taken at Oakland University and in courses taken in the School of Business Administration.

Requirements for Business Administration Majors

General education requirement

Students in the School of Business Administration must satisfy the university general education requirement (see *Undergraduate degree requirements*). These requirements may be summarized as one course from the approved lists in each of the following categories: arts; literature; language; western civilization; international studies; social sciences (School of Business Administration students cannot use ECN courses to satisfy this requirement); natural science and technology;

and mathematics, logic and computer science (this category is automatically satisfied by the school's precore mathematics requirement).

Precore requirements

As preparation for the various majors of the business administration program, students must successfully complete a program that consists of courses in writing, mathematics, computer use, economics, accounting and statistics.

The required precore courses are:

RHT 100-101	Composition I-II (or complete the writing proficiency requirement in another manner)	0-8
MTH 011-012	Elementary-Intermediate Algebra (if required, based on the math placement test)	0
MTH 121	Linear Programming, Elementary Functions	4
MTH 122	Calculus for the Social Sciences (or MTH 154)	4
CSE 125	Introduction to Computer Use	4
ECN 200	Principles of Macroeconomics	
and ECN 201	Principles of Microeconomics	
or ECN 210	Principles of Economics (a 6-credit course which covers the material of both ECN 200 and ECN 201)	6-8
ACC 200	Introductory Financial Accounting	4
ACC 210	Managerial and Cost Accounting I	4
QMM 250	Statistical Methods	6
		32-42

The freshman and sophomore years of study for students pursuing the business administration program will be devoted to the successful completion of the general education and precore course requirements. Special emphasis should be given during the freshman year to the completion of the university writing proficiency requirement and steady progress in the mathematics sequence. Once sophomore status has been achieved (28 credits), students will begin work on the economics, accounting and statistics requirements.

Admission to major standing in business administration

To be eligible to take 300- and 400-level courses, students must be admitted to major standing in the School of Business Administration. Exceptions to this policy are ACC 310, ENG 382, MKT 302, ORG 330 and all ECN courses.

Admission to major standing is selective. The minimum requirements for consideration are:

1. Student's admissibility to and retention in the university.
2. Completion of the writing proficiency requirement.
3. A minimum grade point average of 2.80 in all courses taken at Oakland University, as well as a cumulative grade point average of 2.80 from all colleges attended including Oakland University.
4. A minimum grade of 2.0 in each of the following precore courses or their equivalents: MTH 121, MTH 122, CSE 125, ECN 200 and ECN 201 (or ECN 210), ACC 200, ACC 210 and QMM 250.
5. Submission of an "Application for Major Standing" for the desired major **during the first month** of the semester in which the student expects to complete the precore requirements.

Core program

Each of the business major programs requires the completion of a common core of courses introducing students to the functional areas of business. The core courses required in all business administration major programs are:

ENG 382	Business and Technical Writing (or ENG 380)	4
ECN 301	Intermediate Microeconomics	3

MKT 302	Marketing	4
ORG 330	Introduction to Organizational Behavior	3
POM 343	Operations Management	4
FIN 322	Managerial Finance I	4
MGT 350	Legal Environment of Business	3
MIS 300	Management Information Systems	3
ORG 331	Introduction to the Management of Human Resources	3
MGT 435	Management Strategies and Policies	4
		35

All courses in the core program require major standing except ENG 382, all ECN courses, ORG 330 and MKT 302. MGT 435 is a course that integrates the material in the core program and may be taken only after students have completed the rest of the core program.

Major programs

Students complete their program by taking 16-24 additional credits specified in their major area. The junior and senior years will be devoted to the successful completion of the requirements of the core and major. Majors from which business administration students may choose are detailed below. Double majors are permitted in all areas except general management. No more than 4 credits of independent study (490 courses) may be used to meet the major elective requirement. Courses numbered 480 may be repeated for credit provided the topics are different.

Requirements for the major in accounting

Major adviser: *David D. Sidaway*

To fulfill requirements for the accounting major, students must be admitted to major standing in accounting, complete the core program, and earn a minimum of 32 credits in the courses specified below, with a grade of 2.0 or better in each course. A grade of 2.0 or better must be achieved in all prerequisite accounting courses before a student may enroll in subsequent accounting courses.

Required precore courses:		**Credits**
ACC 200	Introductory Financial Accounting	4
ACC 210	Managerial and Cost Accounting I	4
		8

Required major courses:		
ACC 310	Intermediate Financial Accounting I	3
ACC 311	Intermediate Financial Accounting II	3
ACC 320	Managerial and Cost Accounting II*	3
ACC 411	Auditing	3
ACC 415	Tax Accounting	3
ACC 418	Computer-based Accounting Systems	3
		18

Electives — Choose 6 credits:		
ACC 401	Advanced Financial Accounting**	
ACC 412	Government and Not-for-profit Accounting	
ACC 413	Regulatory Agencies and the Accounting Profession	
ACC 414	Accounting Theory	
ACC 417	International Accounting	
ACC 420	Advanced Auditing Topics	
ACC 421	Advanced Tax Topics	
ACC 480	Contemporary Accounting Issues	6
		32

*Formerly offered as ACC 410
**Formerly offered as ACC 312

Because of their specific requirements, students who plan to take a professional accounting examination (CPA, CMA or CIA) should discuss their course selection with an accounting faculty member before enrolling in 400-level accounting courses.

Note: Fifth Year Option. Although it is not required, the School of Business Administration suggests that students planning to take the Certified Public Accountant (CPA) examination consider taking an additional 30 credits of study in accounting, as recommended by the American Institute of Certified Public Accountants. During this fifth year, students should take the following 30 credits: 18 credits of 400-level accounting courses (in addition to the courses required for the four-year accounting major), FIN 422, MGT 450 and an additional quantitative methods course.

Requirements for the major in finance

Major adviser: *Robert T. Kleiman*

The major in finance leads to an understanding of the theoretical foundations of finance and develops the specific skills, modes of analysis and institutional background useful to work in the accounting and finance areas of profit-making businesses or not-for-profit enterprises.

To fulfill requirements for the finance major, students must be admitted to major standing in finance, complete the core program and earn a minimum of 23-24 credits, as specified below, with a grade of 2.0 or better in each course. A grade of 2.0 or better must be achieved in FIN 322 before a student may enroll in any subsequent finance course.

Required in the core:		**Credits**
FIN 322	Managerial Finance I	4
Required major courses:		
ACC 301	Financial Reporting and Analysis*	4
ECN 321	Money, Credit and the Economy	4
FIN 421	Investment Analysis	4

*In lieu of ACC 301, students may substitute *both* ACC 310 and 311.

Electives — Choose two courses from the following (some may require additional prerequisites):**

FIN 418	Financial Institution Management and Lending	
FIN 419	International Financial Management	
FIN 420	Real Estate Investment, Financing and Taxation	
FIN 422	Managerial Finance II	
FIN 480	Seminar — Special Topics	7-8
		23-24

**ACC 320, ACC 415, or ACC 418 may be substituted for one finance elective.

Requirements for the major in general management

Major adviser: *Floyd G. Willoughby*

The general management major allows students to take advanced work in several functional areas of business. Students may not earn a double major in general management and another major of the School of Business Administration.

To fulfill requirements for the general management major, students must be admitted to major standing in general management, complete the core program and earn a minimum of 16 additional credits in electives with a grade of 2.0 or better in each course. The electives may be chosen from any area within the School of Business Administration (courses beginning with ACC, ECN, FIN, MGT, MIS, MKT, ORG, POM or QMM) and must be chosen from courses numbered 300 or higher; at least 8 credits must be at the 400-level. No more than 4 credits of independent study (490 courses) may be used to meet the major elective requirement.

Requirements for the major in human resources management

Major adviser: *Lizabeth A. Barclay*

The major in human resources management develops the skills needed to administer the personnel functions of organizations. It is designed primarily for students who intend to pursue careers in administration, personnel management, labor relations or wherever the management of people at work is a central concern.

Emphasis is placed on developing an intensive understanding of the concepts and techniques needed to acquire, develop and utilize an organization's human resources. The program includes broad coverage of such topics as personnel psychology, personnel administration and labor/management relations, in addition to providing basic knowledge of organizational behavior.

To fulfill requirements for the human resources management major, students must be admitted to major standing in human resources management, complete the core program and earn at least 26 credits as specified below, with a grade of 2.0 or better in each course.

Required in the core:		**Credits**
ORG 330	Introduction to Organizational Behavior	3
ORG 331	Introduction to the Management of Human Resources	3
Required major courses:		
ORG 430	Organizational Research Methods	4
MGT 433	Labor-Management Relations	4
ORG 434	Management of Human Resources	4
Electives — Choose two courses, at least one of which must be a 400-level ORG course:		
ORG 431	Leadership and Group Performance	
ORG 432	Motivation and Work Behavior	
ORG 480	Topics in Organizational Management	
MGT 480	Seminar: Current Business Topics	
ECN 468	Labor Economics	
SOC 350	Transformation of the Workplace	
SOC 352	Women and Work	
SOC 354	Quality of Worklife	8
		26

Requirements for the major in management information systems

Major adviser: *David P. Doane*

The major in management information systems specifies a set of courses that will give students more facility with computer languages, with the use of computers in handling information processing in organizations, with systems analysis and with the use of computers in management decision making and support of organizational functions.

To fulfill the requirements for the major in management information systems, students must be admitted to major standing in management information systems, complete the core program and complete at least 29 credits, as specified below, with a grade of 2.0 or better in each course.

Required in the pre-core and core:		**Credits**
CSE 125	Introduction to Computer Use	4
MIS 300	Management Information Systems	3
Required major courses:		
CSE 130	Introduction to Computer Programming	4
or CSE 132	Introduction to Computer Science (Pascal)	
CSE 220	Computer-based Information Systems I (COBOL)	4
MIS 304	Database Management	4
or CSE 345	Database Design and Implementation	
MIS 316	Systems Analysis	4

Electives — Choose two courses, at least one of which is a 400-level MIS course:

MIS 400	Analysis of Complex Systems	
MIS 405	Business Data/Telecommunications	
MIS 407	Projects and Problem Solving	
MIS 421	Advanced Business Applications	
MIS 436	Decision Support Systems	
MIS 444	Simulation in Management	
MIS 480	Advanced Topics in MIS	
ACC 418	Computer-based Accounting Systems	
CSE 221	Computer-based Information Systems II (COBOL)	
CSE 262	Data Structures	6-7
		29-30

Requirements for the major in marketing

Major adviser: *John W. Henke*

The major in marketing develops the specific skills, modes of analysis and background to work in the marketing area of a profit-making business or not-for-profit enterprise.

To fulfill the requirements for the major in marketing, students must be admitted to major standing in marketing, complete the core program and complete a minimum of 24 credits, as specified below, with a grade of 2.0 or better in each course.

Required in the core:		**Credits**
MKT 302	Marketing	4
Required major courses:		
MKT 353	Marketing Management	4
MKT 404	Consumer Behavior	4
MKT 405	Marketing Research	4
Electives — Choose two courses:		
MKT 406	Promotional Strategy	
MKT 420	Distribution Channels Management	
MKT 430	Sales Management/Sales Promotion	
MKT 450	International Marketing	
MKT 470	Industrial Marketing	
MKT 480	Seminar in Marketing	8
		24

Bachelor of Science With a Major in Economics

Major adviser: *Ronald L. Tracy*

The curriculum for the major in economics combines the concepts and tools of economic analysis, a broad general education and courses in other areas of interest to the student. Students learn how economic analysis can be applied to major problems facing individuals, businesses, the nation and the world today.

Besides preparing students for a career in economics, an education in economics is excellent preparation for entry into law school, a graduate school of public administration or an MBA program. Economics is a flexible choice for students seeking a rigorous, well-respected and relevant major without specializing in a narrowly defined area. To be employed as professional economists or economics instructors, students normally will need to attend graduate school and obtain at least a master's degree in economics.

For economics majors, the Bachelor of Science degree offers a more quantitative and business-oriented approach to economics than does the Bachelor of Arts degree, offered through the College of Arts and Sciences (see the Department of Economics section in the College portion of the catalog).

Requirements for the Bachelor of Science degree with a major in economics

To earn the Bachelor of Science degree with a major in economics, students must complete a minimum of 128 credits as follows:

		Credits
English composition:		
RHT 100-101	Composition I-II (or complete the writing proficiency requirement in another manner)	0-8
ENG 382	Business and Technical Writing (or ENG 380)	4
General education requirement:		28

See *Undergraduate degree requirements* and exceptions discussed under *Requirements for Business Administration Majors*.

Cognate courses:		
MTH 011-012	Elementary-Intermediate Algebra (if necessary)	0
MTH 121	Linear Programming, Elementary Functions	4
MTH 122	Calculus for the Social Sciences (or MTH 154)	4
CSE 125	Introduction to Computer Use (or CSE 130 or CSE 132)	4
ACC 200	Introductory Financial Accounting	4
QMM 250	Statistical Methods	6
FIN 322	Managerial Finance I	4
Quantitative methods course — choose one:		
ECN 405	Econometrics	4
QMM 452	Forecasting	
Required core courses:		
ECN 200	Principles of Macroeconomics	
and ECN 201	Principles of Microeconomics	
or ECN 210	Principles of Economics (a 6-credit course that covers ECN 200 and ECN 201)	6-8
ECN 301	Intermediate Microeconomics	3
ECN 302	Intermediate Macroeconomics	4
Electives: 16 additional credits in ECN courses numbered 300 or higher, 8 credits of which must be in courses at the 400-level (excluding ECN 414). No more than 4 credits in ECN 490 may be counted as economics electives.		16
General electives:		27-37
		128

Admission to major standing in economics

Admission to major standing in economics is required before a student may graduate. The minimum requirements for major standing are:

1. Student's admissibility to and retention in the university.
2. Completion of the writing proficiency requirement.
3. A minimum grade point average of 2.80 in all courses taken at Oakland University, as well as a cumulative grade point average of 2.80 from all colleges attended including Oakland University.
4. Completion of the following courses, or their equivalents, with a grade of 2.0 or better in each course: MTH 121, MTH 122, CSE 125 (or CSE 130 or CSE 132), ECN 200 and ECN 201 (or ECN 210), and QMM 250.
5. Submission of an "Application for Major Standing."

Although ECN 301 and ECN 302 are not required for admission to major standing in economics, students must earn a grade of 2.0 or better in them in order to graduate.

Minors

The School of Business Administration offers eight minors for students who want to combine their majors with an introduction to the skills, analytical techniques and institutional material of economics or an area of business.

To earn a minor, students must complete the prescribed courses with a grade of 2.0 or better in each course. School of Business Administration students have priority over majors from outside the school when registering for SBA classes. As a result, many courses have limited space available to nonbusiness majors. Students majoring in programs other than business administration may take SBA courses only if they meet the prerequisites (except major standing) and if there is space in the class. Exceptions to this rule are economics courses (excluding ECN 301 and ECN 321), as they are open to all majors.

All students who are not majors in the School of Business Administration and economics majors in either the School of Business Administration or the College of Arts and Sciences, whether they have applied for a minor or not, are limited to no more than 25 percent of their total degree credits in business courses. The maximum of 25 percent of total degree credits includes courses taken at Oakland University and all previous colleges. Economics (ECN) courses, QMM 250 and QMM 452 are excluded from this requirement. Therefore, students from majors outside the business administration program may not earn more than 25 percent of total degree credits in transfer plus Oakland credits in ACC, FIN, MGT, MIS, MKT, ORG, POM or QMM courses (excluding those noted above).

Any student enrolled in any major in the School of Business Administration may receive any minor offered by the school, other than in the student's major, except for the the minor in general business. The minor in general business is open only to economics majors (B.A. or B.S. program) and students with majors outside SBA. Students not in a major within the School of Business Administration are similarly eligible for multiple minors, but are subject to the 25 percent of total degree credits maximum discussed above. **Transfer students planning to earn a minor must earn at least 12 credits toward the minor at Oakland University; at least 8 of these 12 credits must be in courses at the 300 level or above.**

Minor in accounting

Coordinator: *David D. Sidaway*

The minor in accounting consists of a minimum of the following 20 credits and any prerequisites for these courses: ACC 200, ACC 210 and 12 additional credits in accounting (ACC) courses. This minor is open to all students except accounting majors.

Minor in economics

Coordinator: *Ronald L. Tracy*

The minor in economics consists of a minimum of 18 semester credits in economics courses. A student must take ECN 150 or ECN 210 or both ECN 200 and ECN 201 and any prerequisites for these courses. In addition, a student must earn at least 12 additional credits (16 credits if ECN 150 was taken) in economics (ECN) courses in order to fulfill the 18 credit requirement (excluding ECN 414). This minor is open to all students except economics majors.

Minor in finance

Coordinator: *Robert T. Kleiman*

The minor in finance consists of a minimum of the following 22 credits and any prerequisites for these courses: ACC 200, QMM 250, FIN 322 and 8 additional credits in finance (FIN) courses. This minor is open to all students except finance majors.

Minor in general business

Coordinator: *Floyd G. Willoughby*

The minor in general business consists of a minimum of 19-23 credits, described as follows, and any prerequisites for these courses: ECN 210 or both ECN 200 (or ECN 150) and ECN 201,

ACC 200, ORG 330 and 6-8 additional credits in 300- and 400-level electives (ACC, FIN, MGT, MIS, MKT, ORG, POM or QMM courses) offered by the School of Business Administration. Economics (ECN) 300- and 400-level courses are not acceptable electives for this minor. This minor is open to all majors including the B.A. and B.S. in economics, but students majoring in other programs offered by the School of Business Administration are not eligible.

Minor in international management

Coordinator: *Eleftherios N. Botsas*

The minor in international management consists of a minimum of 18 credits, described as follows, and any prerequisites for these courses: ECN 210 or both ECN 200 and ECN 201, ECN 373, MGT 423 and one course chosen from ECN 326, ECN 342, ECN 350, FIN 419 and MKT 450. Proficiency in a foreign language is not required but is highly recommended. This minor is open to all majors.

Minor in management information systems

Coordinator: *Sheila M. Jacobs*

The minor in management information systems consists of the following 19 credits and any prerequisites for these courses: CSE 125, CSE 130 or CSE 132 or CSE 220, MIS 300, MIS 304 and MIS 316. This minor is oipen to all students except MIS majors.

Minor in production and operations management

Coordinator: *T.J. Wharton*

The minor in production and operations management consists of a minimum of 20 credits, described as follows, and any prerequisites for these courses: CSE 125 or CSE 130 or CSE 132, QMM 250 or STA 226, POM 343, and any two courses chosen from POM 441, POM 445, POM 448, POM 480 and QMM 452. This minor is open to all majors.

Minor in quantitative methods

Coordinator: *David P. Doane*

The minor in quantitative methods consists of a minimum of 19 credits, described as follows, and any prerequisites for these courses: CSE 130 or CSE 132, QMM 250 or STA 226, and any three courses chosen from QMM 452, QMM 440, POM 448, MIS 444, ECN 405, STA 323, STA 324. This minor is open to all majors.

Policies and Procedures

Transfer policy

Evaluation of transfer courses is a two-part process: general education and composition courses are evaluated by the Academic Records Office; business courses are evaluated by the School of Business Administration. Credit for specific SBA courses is authorized for courses of similar content and level taken at other accredited colleges and universities. Courses similar in title or content to those offered by the SBA at the 300-400 level are not authorized to receive specific course credit if taken at the 100-200 level at another institution. Such courses will transfer as general elective credit only. Students transferring from institutions outside the United States should submit course descriptions. See *Transfer student information* for additional information.

Internal transfer

Oakland University students seeking admission to the School of Business Administration from other programs will be considered for admission after they have completed MTH 121 (or an equivalent) with a grade of 2.0 or better. An overall GPA of 2.80 (from all schools attended as well as Oakland) is also required.

Limited course accessibility for nonbusiness majors

School of Business Administration students have priority over majors from outside the school when registering for SBA classes. As a result, many courses have limited space available to nonbusiness majors. Students majoring in programs other than business administration may take SBA courses only if they meet the prerequisites (except major standing) and if there is space in the class. Exceptions to this rule are economics courses (excluding ECN 301 and ECN 321), as they are open to all majors.

Unsatisfactory performance

Numerical grades less than 2.0 and U grades are considered substandard. A course in which a grade below 2.0 has been earned may not be subsequently passed by competency examination or independent study. A student in the School of Business Administration who must repeat a course in which a 2.0 is required must repeat that course at Oakland University or, with prior approval, at any regionally accredited four-year institution. See *Repeating courses* for more information.

Prerequisites

In planning their schedules, students should ensure that they satisfy prerequisite and corequisite conditions for courses. Students who have registered for courses for which they do not meet the conditions will have their registration canceled and will be liable for any financial penalties incurred.

Additional Information

Cooperative education

Students in the School of Business Administration who want to combine relevant work experience with their college educations are encouraged to participate in the university's cooperative education program. Co-op students alternate at least two four-month periods of paid, full-time work experience with four-month periods of full-time classwork. Students are placed in jobs similar to those held by recent Oakland University graduates in business, not-for-profit or governmental organizations. On occasion, unpaid internships that provide work experience also are available. Students interested in the co-op program should contact the Cooperative Education Coordinator in the Department of Placement and Career Services, 275 Vandenberg Hall (370-3253).

Honors, awards and scholarships

In addition to being eligible for honors available to all Oakland University undergraduates, students in the School of Business Administration are eligible for the following:

School honors are awarded by the School of Business Administration to students with a minimum grade point average of 3.33 in courses offered in the school.

American Marketing Award: Each year, the Detroit chapter of the American Marketing Association awards certificates of achievement for scholarship and service to two marketing majors.

Beta Gamma Sigma: Beta Gamma Sigma is the national honor society for business schools accredited by the American Assembly of Collegiate Schools of Business (AACSB). Membership in Beta Gamma Sigma is one of the highest scholastic honors that a student in business administration can achieve. It is based on outstanding scholastic achievement as measured by overall grade point average. Invitation for membership to Beta Gamma Sigma is extended to graduating seniors in the top 10 percent of their class and juniors in the top 5 percent of their class.

Ernst & Young Award: Each year, the senior accounting student who has demonstrated the greatest academic and leadership potential is selected by the accounting faculty to receive a cash award from the international accounting firm of Ernst & Young. The student is honored at a meeting of accounting students, hosted by Ernst & Young.

Financial Executives Institute Award: This award is presented annually to the undergraduate accounting or finance student who has demonstrated the highest standard of academic excellence. The student is honored at a meeting of the Detroit chapter of the Financial Executives Institute. Selection is made by the accounting and finance faculty of the School of Business Administration.

Omicron Delta Epsilon: Omicron Delta Epsilon is a national honor society for promising economics students. Selection for membership is made by the economics faculty.

Wall Street Journal Student Achievement Award: This award is presented annually to the graduating senior who has demonstrated the greatest academic and leadership achievement in the School of Business Administration. Selection is made by the faculty.

School of Business Administration awards/scholarships

Paul F. Lorenz Writing Award: The purpose of this award is to encourage excellence in the preparation of business reports in School of Business Administration classes through the upgrading of business report writing skills. An annual award of $1,000 will be made to the winner.

Paul F. Lorenz/Texas Instruments Excellence Awards: These awards are based on undergraduate academic excellence. A tuition scholarship for the senior year will be awarded to the junior student who has the highest overall GPA in the School of Business Administration. In addition, awards of $1,000 and $500 will be made to two graduating seniors with the highest overall GPA.

Golden State Minority Foundation Scholarship: Applicants with junior or senior status must have a 3.00 GPA, show financial need and disadvantaged status, as well as leadership capabilities and community involvement. Minorities are encouraged to apply.

Alumni Scholarship: Two $750 awards are given annually to full-time students with junior or senior standing. Applicants must have an overall GPA of at least 3.00 (with 3.40 in their first 59 credits) and a 3.30 minimum GPA in School of Business Administration courses.

Dicron Trafralian Memorial Scholarship: This scholarship is awarded annually, on a merit basis, to a continuing accounting major at Oakland University. Selection is made by the accounting faculty of the School of Business Administration. This scholarship was established in memory of Dicron Trafralian, who served in administrative capacities at Oakland University for many years.

Electronic Data Systems Scholarship: The purpose of this award is to attract high achievement students to the management information systems major. One award will be given to a junior management information systems major each year based on academic achievement. The scholarship will cover full tuition for the junior and senior years.

Course Offerings

Following are descriptions of the courses offered by the School of Business Administration. Required precore and core courses for students majoring in these programs are generally offered each fall and winter semester and during either the spring or summer session.

The 300- and 400-level courses are designed for students with major standing in the School of Business Administration. These courses have major standing as a prerequisite, except for ACC 310, MKT 302, ORG 330 and all economics (ECN) courses. The 300-level courses should be taken during the junior year (59-90 credits). Nonbusiness majors may elect 300- or 400-level courses if they meet the prerequisites (except for major standing) and if there is space in the class. School of Business Administration students have priority over majors from outside the school when registering for these courses.

Students in majors other than those in the business administration program (i.e., accounting, finance, general management, human resources management, management information systems and marketing) are limited to no more than 25 percent of their total degree credits in business courses. This 25 percent maximum includes credits earned at Oakland University and all other colleges but excludes economics (ECN) courses, QMM 250 and QMM 452.

ACCOUNTING

ACC 200 Introductory Financial Accounting (4)
Introduction to accounting information as an aid to decision-making for external users of financial statements. Students learn how to measure and record accounting data, prepare financial statements and analyze published financial accounting information.
Prerequisite: Sophomore standing. CSE 125 recommended.

ACC 210 Managerial and Cost Accounting I (4)
Analysis of accounting methods providing data for optimal managerial decisions, implementation and control. Topics include cost allocation; cost, volume and price relationships; product cost accounting and control systems; operations and capital budgeting, and related behavioral, reporting and information processing aspects.
Prerequisite: ACC 200. CSE 125 recommended.

ACC 301 Financial Reporting and Analysis (4)
A study of financial accounting and reporting from the perspective of the user of accounting information. The course will emphasize the interpretation and analysis of specific accounting treatments rather than accounting methodology. *Accounting majors may not substitute this course for any required or elective accounting course.*
Prerequisite: ACC 200, major standing and junior standing.

ACC 310 Intermediate Financial Accounting I (3)
A study of financial accounting topics, including accounting valuation and reporting practices. Three major areas examined include financial accounting theory, current and noncurrent assets, and current and noncurrent liabilities.
Prerequisite: ACC 200, ACC 210 and junior standing. CSE 125 recommended.

ACC 311 Intermediate Financial Accounting II (3)
A continuation of ACC 310. Major financial accounting areas examined include stockholders' equity, dilutive securities, investments, income measurement issues and the preparation and analysis of financial statements.
Prerequisite: ACC 310 and major standing.

ACC 320 Managerial and Cost Accounting II (3)
An analysis of available procedures and techniques to sharpen accounting analyses for managerial planning and control. Extends subjects introduced in ACC 210 to nonmanufacturing firms, decentralized firms, transfer pricing and segment performance measurement.
Prerequisite: ACC 210, major standing and junior standing.

ACC 401 Advanced Financial Accounting (3)
Topics include accounting and reporting for business combinations, partnerships, consolidated entities, interim financial statements, and segments of business enterprises.
Prerequisite: ACC 311 and major standing.

ACC 411 Auditing (3)
Introduction to the objectives, techniques and standards of internal and external audits of the accounts of an enterprise. Generally accepted auditing standards will be critically examined.
Prerequisite: QMM 250, ACC 311 or ACC 301, and major standing.

ACC 412 Government and Not-for-Profit Accounting (3)
The characteristics of not-for-profit entities are analyzed and used to define the basic concepts of accounting for funds. Accounting and reporting principles applicable to governmental units, hospitals, schools and other nonprofit entities are discussed.
Prerequisite: ACC 311 or ACC 301, and major standing.

ACC 413 Regulatory Agencies and the Accounting Profession (3)
The nature, origin and workings of the SEC, ICC and other agencies are examined. The legal framework, registration and reporting requirements, professional liability and the continuing issue of establishing generally accepted accounting principles are studied.
Prerequisite: ACC 311 or ACC 301, and major standing.

ACC 414 Accounting Theory (3)
Selected topics of current interest in accounting theory. Opinions of the Accounting Principles Board, the Financial Accounting Standards Board and similar standard-setting committees of the accounting profession will be examined.
Prerequisite: ACC 311 and major standing.

ACC 415 Tax Accounting (3)
The concepts of taxation. The essential logic underlying the federal tax laws will be explored. The class will teach students to analyze individual and corporate income tax laws, rather than how to prepare tax returns.
Prerequisite: ACC 311 or ACC 301, and major standing.

ACC 417 International Accounting (3)
The study of financial accounting, reporting and disclosure in different nations and across international borders. Includes study of foreign currency translation and efforts to harmonize accounting standards.
Prerequisite: ACC 311 or ACC 301, and major standing.

ACC 418 Computer-based Accounting Systems (3)
A study of the use of accounting information as part of a total management information system. Topics include financial controls, transaction data processing, internal security and auditing. Covers computer hardware, software and data systems analysis.
Prerequisite: ACC 200, MIS 300 and major standing.

ACC 420 Advanced Auditing Topics (3)
Examination of advanced topics in auditing. Emphasizes philosophy, standards, concepts and problem areas.
Prerequisite: ACC 411 and major standing.

ACC 421 Advanced Tax Topics (3)
Examination of advanced topics in tax accounting.
Prerequisite: ACC 415 and major standing.

ACC 480 Contemporary Accounting Issues (3)
An examination of the changes in accounting associated with infusions of theories of other disciplines: behavioral science, organizational theory, economic theory and sociology. Also considered are changes in the role of the accountant. The course may be repeated for a total of 6 credits.
Prerequisite: ACC 311 or ACC 301, and major standing.

ACC 490 Independent Study (2, 3)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

ECONOMICS

ECN 150 Basic Economics (4)
Survey of economics and its application to problems faced by societies, firms and individuals. Includes both analytical and institutional aspects of economics. Intended for students not planning to major in economics or business. *Satisfies the university general education requirement in social science.* (Generally offered fall and winter semester.)
Prerequisite: High school algebra.

ECN 200 Principles of Macroeconomics (4)
Examines the methodology of economics, scarcity, opportunity cost, supply and demand, market processes, determination of national income, fiscal policy, money and banking, monetary policy, inflation and unemployment, trade and international adjustments, development and alternative economic systems. Not open to students who have completed ECN 150. *Satisfies the university general education requirement in social science.* (Generally offered every term.)
Prerequisite: High school algebra and sophomore standing.

ECN 201 Principles of Microeconomics (4)
Examines elasticity, markets, theory of consumer demand, market failures, organization of the firm, production and cost in the long and short runs, competition, externalities, legal and regulatory environment of business. (Generally offered every term.)
Prerequisite: ECN 200 or ECN 150, and sophomore standing.

ECN 210 Principles of Economics (6)
Principles of macroeconomics and microeconomics, covering the same topics as ECN 200 and ECN 201 combined, but at an accelerated pace. Intended for highly motivated students with good writing and math ability. Not open to students who have completed a previous college economics course. *Satisfies the university general education requirement in social science.* (Generally offered fall and winter semester.)
Prerequisite: High school algebra, sophomore standing and a GPA of 3.00 or better.

ECN 301 Intermediate Microeconomics (3)
Examines consumer behavior, cost functions, constrained optimization, decisions under uncertainty, price and output determination in competitive markets, the basis for regulatory law and implications of microeconomic decisions for the efficiency of the market economy. Case studies will be analyzed. (Generally offered every term.)
Prerequisite: ECN 201 or ECN 210, and MTH 122, or permission of instructor.

ECN 302 Intermediate Macroeconomics (4)
Construction, analysis and interpretation of models of aggregate economic behavior, including the policy implications of alternative models, international interrelationships, assessment of contemporary controversies in national policy and introduction to large econometric models. (Generally offered every winter semester.)
Prerequisite: ECN 201 or ECN 210, and MTH 122, or permission of instructor.

ECN 309 Introduction to Urban and Regional Economics (4)
Topics include development of cities, historical trends in urbanization of the U.S. and other countries, state and local revenues and expenditures, cost-benefit analysis, externalities and public goods, the environment, housing and poverty, regional issues, and economics of Michigan. (Generally offered fall semester of even years.)
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 310 Economics of the Environment (4)
Application of the tools of economic analysis to problems of energy, ecology and the environment. Topics include externalities and public goods, optimum use of fixed national resources, limits to economic growth and ecological aspects of principal pollution problems. (Generally offered winter semester of even years).
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 321 Money, Credit and the Economy (4)
The course focuses on three areas: an introduction to banking and financial institutions, study of the U.S. money and capital markets, and the study of money's impact on the nation's economy. (Generally offered fall and winter semesters and spring session.)
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 326 Economic Development (4)
Application of the tools of economic analysis to the problems of economic development and growth. (Generally offered winter semester of odd years.)
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 328 American Economic Development (4)
Models and case studies of selected events in the growth and development of the American economy, from colonial times to the present. Emphasizes the evolution of historical thought under the impact of economic analysis. (Generally offered fall semester of even years.)
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 333 History of Economic Thought (4)
Surveys the history and development of economic theory. Examines the development of classical theory, the Marxian challenge, the neo-classical refinement (marginal revolution) and the Keynesian revolution. Emphasis will be placed on the development of economics as intellectual history. (Generally offered fall semester of odd years.)
Prerequisite: ECN 150 or ECN 200.

ECN 338 Economics of Human Resources (4)
Survey of the nature of labor markets, education and investment in human capital, unemployment, geographic and occupational mobility of labor, and effects of race, sex and age in labor markets. (Generally offered fall semester of odd years.)
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 342 Economic Analysis of Selected Nations (4)
Economic analysis of selected nation(s), emphasizing historical, political, and international determinants of trade, production, employment, migration, growth, inflation, and economic policies. Selected countries will be announced in prior semester. (Generally offered winter semester of even years.)
Prerequisite: ECN 150 or ECN 201 or ECN 210.

ECN 350 Comparative Economic Systems (4)
Comparative analysis of alternative forms of economic organization. The relationships between the economic system and resource allocation, pricing, income distribution and growth. Capitalism, market socialism and central planning are emphasized. (Generally offered winter semester of odd years.)
Prerequisite: ECN 201 or ECN 210 or permission of instructor.

ECN 373 International Economics (4)
An introduction to international trade and finance. Topics include the international economic and political systems, classical trade approaches, balance of payments, capital mobility, international money markets and banking, speculation, protectionism, income distribution, transfer of technology, regional blocs, economic warfare, trade and development, and the multinational firms. Not open to students who have taken ECN 473. (Generally offered every fall semester.)
Prerequisite: ECN 201 or ECN 210 or permission of instructor.

ECN 378 Economic Analysis of Law (4)
Economic analysis of basic institutions of legal systems. Emphasis is on laws that are not directly intended to regulate the economy, including property, contract, tort, criminal and procedural law. Labor and antitrust law will be discussed only tangentially. (Generally offered winter semester of even years.)
Prerequisite: ECN 201 or ECN 210 or permission of instructor.

ECN 385 Industrial Organization (4)
The structure of American industry and the factors affecting it, with emphasis on economies of scale; barriers to entry; structure-behavior relationships, including pricing, product differentiation and technical change; evaluation of performance, antitrust and regulation. (Generally offered winter semester of odd years.)
Prerequisite: ECN 201 or ECN 210 or permission of instructor.

ECN 405 Econometrics (4)
Estimation and testing of economic models using regression techniques. Includes experience with computer "packages," analytical report writing and case studies. Topics include dealing with violations of regression assumptions, binary variables, autoregressive and distributed lag models and the structure of "large" simultaneous equations models. (Generally offered every fall semester.)
Prerequisite: QMM 250 and ECN 301, or permission of instructor.

ECN 409 Urban Economics and Location Theory (4)
Application of microeconomic theory and empircal analysis to: residential choice and location of economic activities; migration patterns within and across states and metroplitan areas; major urban problems such as quality of life, transportation and optimum city size; and Michigan's economy. (Generally offered fall semester of odd yearrs.)
Prerequisite: QMM 250 and ECN 301, or permission of instructor.

ECN 411 Advanced Methods in Economics (4)
Survey of advanced methods used in economics. This course provides a comprehensive overview of techniques that are used by professional economists. (Generally offered winter semester of odd years.)
Prerequisite: ECN 301.

ECN 414 Engineering Economics (2)
Financial accounting models, relevant costs, capital budgeting, present value, rate of return, payback, taxes, depreciation. Not open to business or economics majors.

ECN 418 Seminar in Economic Policy (4)
Analysis of economic policy. Topics vary but may include resource allocation, macroeconomic stability, economic growth, energy, public choice, global economic interdependence and the environment. (Generally offered winter semester of even years.)
Prerequisite: ECN 301 and QMM 250, or permission of instructor.

ECN 456 Public Finance (4)
The role and impact of the public sector in a market economy. Includes expenditure determination, the basis of taxation in terms of equity, efficiency and flexibility, timing of cash flows, revenue source analysis, financing public debt and discussion of current problems. (Generally offered fall semester of even years.)
Prerequisite: QMM 250 and ECN 301, or permission of instructor.

ECN 467 Economics of Health Care (4)
Application of the tools of economic analysis to the health care industry and government health care policy. Examines the impact of the special characteristics of health care and the medical services industry on the pattern of health care produced, its distribution and resource allocation within the industry. (Generally offered fall semester of odd years.)
Prerequisite: QMM 250 and ECN 301, or permission of instructor.

ECN 468 Labor Economics (4)
Economic analysis of the functioning of labor markets, with emphasis on investment in human capital, the role of education, unemployment, labor market differentiation by race, sex and age, the geographic and occupational mobility of labor, and the inflation/unemployment trade-off. (Generally offered fall semester of even years.)
Prerequisite: QMM 250 and ECN 301, or permission of instructor.

ECN 473 Theory of International Trade and Finance (4)
An intensive approach to international specialization and the open economy. Topics include modern developments in trade models, trade and welfare, impact of trade policies, open economy macroeconomics, balance-of-payments analysis, stability, the determination of exchange rates under different regimes. (Generally offered winter semester of even years.)
Prerequisite: QMM 250 and ECN 301, or permission of instructor.

ECN 480 Special Topics in Economics (4)
Intensive study of a selected topic in economics. Topics vary. See *Schedule of Classes* for current offering. May be repeated for a total of 8 credits as long as the topic covered is different. (Generally offered winter semester of odd years.)
Prerequisite: ECN 301.

ECN 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings, or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

FINANCE

FIN 322 Managerial Finance I (4)
The basic elements of managerial finance. Topics include: capital budgeting techniques, financial structure and analysis, the cost of capital, working capital management and international financial management.
Prerequisite: ECN 201, ACC 200, QMM 250, major standing and junior standing.

FIN 418 Financial Institution Management and Lending (4)
An in-depth study of the management of financial institutions, with emphasis on the lending function. The course focuses on a firm-specific view of financial institution services and operations.
Prerequisite: FIN 322, FIN 421, ACC 301, and major standing.

FIN 419 International Financial Management (4)
The application of the tools of financial analysis to cases and the problems of firms that have operations in several countries.
Prerequisite: FIN 322, ACC 301 and major standing.

FIN 420 Real Estate Investment, Financing and Taxation (4)
A look at acquisition, financing, and sale of income-producing real estate. Topics to be covered include feasibility, appraisal, investment, financing and taxation.
Prerequisite: FIN 322, ACC 301 and major standing.

FIN 421 Investment Analysis (4)
Study of the aspects of security analysis and portfolio theory. Four areas are covered: investment management and the money and capital markets; the analytical procedures for appraising securities; portfolio analysis; and the assessment of capital market efficiency.
Prerequisite: FIN 322, ACC 301, and major standing.

FIN 422 Managerial Finance II (4)
The application of the tools of financial analysis to specific cases in the financial management of corporate businesses and nonprofit enterprises.
Prerequisite: FIN 322, ACC 301, and major standing.

FIN 480 Seminar — Special Topics (4)
Intensive study of a selected finance topic. The topic will vary from term to term. May be repeated for a total of 8 credits.
Prerequisite: FIN 322, FIN 421, ACC 301, and major standing.

FIN 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings or group study, under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

MANAGEMENT

MGT 350 Legal Environment of Business (3)
The legal framework of business decisions. Introduction to the legal system and a survey of government regulation of business. Legal, ethical and political issues in employment, consumer protection, antitrust and business associations.
Prerequisite: ECN 201 or ECN 210, major standing and junior standing.

MGT 423 Managing the Multinational Firm (4)
Analysis of the scope, structure and environment — legal, social, political and economic — of the multinational firm, with emphasis on management strategies of planning, marketing, location and finance across cultural and national boundaries.
Prerequisite: ECN 301 or ECN 373 and major standing.

MGT 433 Labor/Management Relations (4)
Analysis of management/employee relations in the private and public sector. Topics include factors influencing the supply and demand for labor, evolution and governance of unions, collective bargaining and public policy.
Prerequisite: ECN 201 and major standing.

MGT 435 Management Strategies and Policies (4)
Managerial problem perception and the application of economics, statistics, organizational behavior, accounting, finance, marketing and quantitative methods to the systematic analysis of case studies.
Prerequisite: Major standing, completion of business core program and senior status. For SBA majors only.

MGT 450 Business Law (4)
Survey of topics in private commercial law under the Uniform Commercial Code. Contracts, agency, property and insurance, secured transactions, and commercial paper. Legal responsibilities of the licensed professions.
Prerequisite: MGT 350 and major standing.

MGT 468 Health Care Management (4)
Application of the management tools of economics, statistics, organizational behavior, marketing, finance and quantitative methods to the systematic analysis of the management of health care institutions.
Prerequisite: Completion of business core program, ECN 467 and major standing.

MGT 480 Seminar: Current Business Topics (4)
The analysis of topics of current interest in management. Outside faculty and managers will participate in the seminar as an integral part of the course. May be repeated for a total of 8 credits.
Prerequisite: ORG 331 and major standing.

MGT 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

MANAGEMENT INFORMATION SYSTEMS

MIS 300 Management Information Systems (3)
Examination of information systems from the perspective of the manager as a user. Survey of the behavioral, organizational and systems theory foundations; the systems development process, and the integration of data processing, database management, decision support systems, office automation and telecommunications across functional areas. Includes lab exercises.
Prerequisite: CSE 125, major standing and junior standing.

MIS 304 Database Management (4)
Technology, organization, design, use, and administration of database management systems (DBMS). Includes exercises using microcomputer and mainframe DBMS packages. Formerly offered as MIS 404.
Prerequisite: A high-level programming language, MIS 300 and major standing.

MIS 316 Systems Analysis (4)
Theory and practice of designing information systems to meet user needs, including problem investigation and the analysis, design and implementation of systems. Topics include the systems development cycle, system modeling techniques, interface to database management systems, monitoring and control, review and maintenance, and project management. Includes class projects.
Prerequisite: A high-level programming language, MIS 300 and major standing.

MIS 400 Analysis of Complex Systems (3)
Modeling, instrumentation and control of complex systems. Emphasizes design, implementation and testing of information and control systems in unstructured and realistic contexts. Includes specification, evaluation and selection of hardware and software systems, ranging from applications in microcomputers to mainframes.
Prerequisite: ECN 301, MIS 316 and major standing.

MIS 405 Business Data/Telecommunications (3)
Technology, design, management, and use of data, voice, image, and video communication networks. Topics include teleprocessing, micro-mainframe links, local area networks, wide area networks, telephone systems, electronic mail, transborder data flows, and communication protocols. Includes exercises using various network configurations.
Prerequisite: MIS 300 and major standing.

MIS 407 Projects and Problem Solving (3)
An advanced communications and problem solving course in which students learn to specify and design systems for computers. Consists of field studies by teams of students leading to computerized solutions of real world problems.
Prerequisite: MIS 316, CSE 130 or 132, CSE 220 and major standing.

MIS 421 Advanced Business Applications (3)
Sophisticated business information systems will be analyzed, designed and programmed using advanced 3GL capabilities such as COBOL's report writer, relative, direct, and indexed files, and comparisons with 4 GLs. Applications in accounting, finance, marketing, human resources, and production will be emphasized.
Prerequisite: CSE 130 or CSE 132, CSE 220, and major standing.

MIS 436 Decision Support Systems (3)
Examines the design and implementation of decision support systems. Considers the roles of expert systems and artificial intelligence in decision making. Includes a critical review of theory and case studies taken from recent MIS literature.
Prerequisite: MIS 300 and major standing.

MIS 444 Simulation in Management (3)
Computer simulation models using GPSS or an equivalent simulation language, plus simulation exercises using standard programming languages. Implications of models and sensitivity analysis for forecasting, planning and decision making in the management environment are explored.
Prerequisite: CSE 130 or CSE 132, MIS 300, knowledge of BASIC or FORTRAN, and major standing.

MIS 480 Advanced Topics in MIS (3)
An advanced course involving study of current research issues and recent developments in MIS. Topics vary. See *Schedule of Classes* for current offerings. May be repeated for a total of 6 credits.
Prerequisite: MIS 300, MIS 304 or MIS 316, and major standing.

MIS 490 Independent Study (3)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

MARKETING

MKT 302 Marketing (4)
Analysis of the principles of marketing, marketing concepts and trends, and their relationship to other business principles. Special emphasis is placed on the study of the marketing mix.
Prerequisite: ECN 210 or ECN 201, and junior standing.

MKT 353 Marketing Management (4)
A study of the overall marketing strategies pertaining to problems experienced in today's economy. Uses the case study method to analyze these problems. This course requires a knowledge of spread sheets and financial statements.
Prerequisite: MKT 302 and major standing.

MKT 404 Consumer Behavior (4)
Study of factors influencing consumer behavior, structuring and managerial use of consumer decision-making models. Examination of social, psychological and economic variables of buying behavior, including learning, motivation, attitude, personality, small group dynamics, demographic and economic factors and culture.
Prerequisite: MKT 302 and major standing.

MKT 405 Marketing Research (4)
Focuses on the generation and management of information in marketing decisions. Covers the evaluation of additional marketing information, how it is acquired and used, the manager's role in market research and the researcher's role in supplying marketing information.
Prerequisite: MKT 302, QMM 250 and major standing.

MKT 406 Promotional Strategy (4)
A study of the promotional tools of advertising, public relations, sales and sales promotion. Emphasis on identifying the factors that become the basis for promotional decisions.
Prerequisite: MKT 353 and major standing.

MKT 420 Distribution Channels Management (4)
Examination of the management of marketing channel relationships. Focuses on the characteristics and social, economic and political relationships among wholesalers, agents, retailers and the other agencies that comprise distribution channels.
Prerequisite: MKT 302 and major standing.

MKT 430 Sales Management/Sales Promotion (4)
Examination of the function of sales management. Emphasis on the role of analysis, decision making, strategy formation and the impact of the "suction" or pull strategy provided by sales promotion.
Prerequisite: MKT 302 and major standing.

MKT 450 International Marketing (4)
The application of marketing principles to problems associated with marketing products and services to different nations. Cases in international marketing will be analyzed.
Prerequisite: MKT 302 and major standing.

MKT 470 Industrial Marketing (4)
Study of the area of marketing that addresses the needs of the organizational customer in industry, government, and institutions. The special challenges of the industrial market, such as assessing marketing opportunities, the organizational buying process, and formulating and evaluating industrial marketing strategy and performance are discussed.
Prerequisite: MKT 302 and major standing.

MKT 480 Seminar in Marketing (4)
Study of a selected topic or current marketing interest relevant to marketing management. Topics may include retail management, new product development or any area not covered by a specific course. May be repeated for a total of 8 credits.
Prerequisite: MKT 302 and major standing.

MKT 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

ORGANIZATIONAL BEHAVIOR

ORG 330 Introduction to Organizational Behavior (3)
Examination of the theoretical and empircal issues that affect the management of individual, group and organizational processes including structure, motivation and leadership.
Prerequisite: Junior standing; QMM 250 recommended.

ORG 331 Introduction to the Management of Human Resources (3)
Examination of applied issues relevant to the management of human resources including recruitment, selection, performance appraisal, introduction to applied research, international human resources management and organizational development. Projects applying course concepts are required.
Prerequisite: ORG 330 and major standing.

ORG 430 Organizational Research Methods (4)
Use of various behavioral research strategies as input for managerial problem solving. Review of data collection and feedback procedures, including formal research designs and action research. A computer-based exercise will be required.
Prerequisite: ORG 331, QMM 250 and major standing.

ORG 431 Leadership and Group Performance (4)
Comprehensive examination of selected theories of leadership. Emphasis on relevant empirical evidence and application of the theories to case studies that involve leadership behavior and group functioning.
Prerequisite: ORG 331 and major standing.

ORG 432 Motivation and Work Behavior (4)
Analysis of individual and organizational factors affecting employee motivation, performance and satisfaction in the work environment. Topics include the role of leadership, job design, environmental variation, compensation policies, goal-setting techniques and group influences, as each affects employee attitudes and behavior.
Prerequisite: ORG 331 and major standing.

ORG 434 Management of Human Resources (4)
Discussion of advanced topics in human resources. Topics include compensation, employee involvement, information systems, development, assessment and selection. A project is required.
Prerequisite: ORG 331, QMM 250 and major standing.

ORG 480 Topics in Organizational Management (4)
Intensive study of a selected topic relevant to organizational behavior and/or human resource management. Topics will vary from term to term and may include career development, compensation, men and women at work, industrial health and safety, management across cultures and power in organizations. May be repeated for a total of 8 credits.
Prerequisite: ORG 331 and major standing.

ORG 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

PRODUCTION AND OPERATIONS MANAGEMENT

POM 343 Operations Management (4)
Study of operations of manufacturing and service organizations. Introduction to operational design and control issues such as forecasting, capacity planning, facility location and layout, production control, material requirements planning, scheduling, and quality assurance. Includes international, legal, and ethical aspects, as well as computer exercises. Previously listed as QMM 343.
Prerequisite: QMM 250 or STA 226, junior standing and major standing.

POM 441 Manufacturing Planning and Control (4)
Definitions, techniques, and practices in manufacturing applications, including traditional manufacturing techniques as well as current issues such as cellular and flexible manufacturing systems. Emphasizes differences between American and foreign manufacturing techniques. Previously listed as QMM 441.
Prerequisite: POM 343 and major standing.

POM 445 Cases in Operations Management (4)
Analysis of diverse cases from the perspective of the operations function in service and manufacturing organizations. Cases are descriptive of actual operating situations. Covers situations which lend themselves to analytical and computer techniques as well as problems involving subjective judgment and creativity in translating theory into practice. Previously listed as QMM 445.
Prerequisite: POM 343 and major standing.

POM 448 Project Management Techniques (4)
An examination of the various math-based techniques for managing projects. The topics include Program Evaluation Review Technique (PERT) and Critical Path Method (CPM). Includes computer exercises. Previously listed as QMM 448.
Prerequisite: POM 343 and major standing.

POM 480 Special Topics in Operations Management (4)
Intensive study of a selected topic in production/operations management. Topics vary. See *Schedule of Classes* for current offering. May be repeated for a total of 8 credits as long as the topic covered is different.
Prerequisite: POM 343 and major standing.

POM 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits.
Prerequisite: An overall grade point average of 3.00 or better, major standing, and an approved contract prior to registration.

QUANTITATIVE METHODS

QMM 250 Statistical Methods (6)
Statistical techniques useful in management and economic analysis. Emphasis on statistical description, hypothesis testing, statistical quality control, time series analysis, ANOVA, estimation and regression techniques. Includes extensive computer exercises.
Prerequisite: MTH 122 or MTH 154, and CSE 125 or CSE 130.

QMM 440 Management Science (4)
Overview of quantitative methods used in managerial decision making. Includes decision analysis, linear, integer, and dynamic programming, networks, PERT/CPM, simulation, waiting-line models, and Markov chains. Emphasizes the use of computer software in formulation and analysis of management science models.
Prerequisite: QMM 250, ECN 301 and major standing.

QMM 452 Forecasting (4)
Survey of analytical and quantitative methods for financial and operational planning. Includes exposure to commercial forecasting services and behavioral issues affecting the use of forecasting information within the organization. Extensive use of computer "packages" to prepare written and oral forecasts based on real data.
Prerequisite: QMM 250 or STA 226 and major standing, or permission of instructor.

QMM 490 Independent Study (2, 4)
Qualified and highly motivated students may engage in individual research, directed readings or group study under the supervision of a faculty member. Offered every term. May be repeated for a total of 8 credits. Prerequisite: An overall grade point average of 3.00 or better, major standing and an approved contract prior to registration.

SCHOOL OF EDUCATION AND HUMAN SERVICES

544 O'DOWD HALL (313) 370-3050

Dean: *Gerald J. Pine*

Associate Dean: *F. James Clatworthy*

Office of the Dean: *Jean Goebel, adviser; Asa Hilliard, adjunct professor of education; Jean Kirsch-Sullivan, administrative assistant to the dean; Patricia Loncharich, adviser; Barbara G. McCrory, adviser; Geraldine Palmer, coordinator of school and field services*

Continuum Center: *Elinor Waters, director; Jane Goodman, associate director; Roberta "Jeff" Daily, counselor/trainer; Judith Hoppin, counselor/trainer; Mary Lou Stone, coordinator, Older Adult Project; Joanne Marlowe, coordinator, Alliance Project*

Ken Morris Center for the Study of Labor and Work: *David Cooper, director; Michael Long, program manager; Atvilla Moon, program specialist; Prince Moon, program specialist; Symantha Myrick, program specialist;*

Lowry Early Childhood Center: *Gerald G. Freeman, director; Katherine Barney, acting program coordinator*

Institute for Action Research and Professional Development: *Gerald J. Pine, co-director; Donald M. Miller, co-director*

Programs Offered

The School of Education and Human Services offers programs designed to prepare students for careers in teaching and related human service activities. The programs include a Bachelor of Science in elementary education, teaching certification for selected programs in secondary education and a Bachelor of Science in human resource development with specialization in either human services or training and development. A minor in human resource development and a concentration in labor studies are also available. Students considering a major in elementary education should consult the *Admissions* section for specific preparation requirements.

The School of Education and Human Services offers programs leading to the Doctor of Philosophy in reading, the Education Specialist in school administration, the Master of Arts in counseling, and the Master of Arts in Teaching in four areas: early childhood; curriculum, instruction and leadership; reading and language arts education; and special education. In addition, programs leading to a Master of Arts degree in mathematics and the Master of Arts in Teaching in English are offered jointly by the School of Education and Human Services and the College of Arts and Sciences. For information on these programs, see the *Oakland University Graduate Catalog.*

Additional Services

Advising Center

The S.E.H.S. Advising Center is responsible for providing academic advising and career counseling for students in the Bachelor of Science degree in elementary education and secondary education, initial certification for second undergraduate degree students and the Bachelor of Science degree in human resource development with specializations in human services and training and development.

Continuum Center

The Continuum Center is an adult counseling center that assists men and women of all ages in personal exploration and planning. Workshops for personal, career and professional development are offered, as well as individual counseling. Workshops and training in such areas as supervisory training, assertiveness training, career or retirement planning and communications also are offered on a contractual basis.

Lowry Early Childhood Center

The Lowry Early Childhood Center provides care to young children, toddlers through kindergarten-age. The center is a research facility for students and faculty concerned about child growth and development. It is a training site for students enrolled in the School of Education and Human Services human development and child studies courses.

Ken Morris Center for the Study of Labor and Work

The Ken Morris Center for the Study of Labor and Work provides teaching, research, consultation and public service activities for labor organizations and their members. It coordinates the Concentration in Labor Studies, and oversees other credit and non-credit courses, primarily for adult working students who are active in unions. Courses, conferences, residential institutes and special lectures and training, taught at on- and off-campus locations, are offered on topics related to work, the needs of working people and labor organizations, and other areas of special concern to union members, leaders and staff.

Institute for Action Research and Professional Development

The Institute for Action Research and Professional Development facilitates action research and professional development conducted in collaboration with schools, school districts, education service agencies and other institutions and organizations. Field-based studies on teaching and learning are carried out in cooperation with school building and program teams at the preprimary, elementary and secondary school levels. Examinations are made of alternative practices in instruction, curriculum and professional development. Outstanding practitioners are occasionally affiliated as teacher-researchers for selected studies and projects.

Office of School and Field Services

The Office of School and Field Services is responsible for the coordination of all off-campus sections of graduate education courses, as well as the placement of pre-service interns and special education practicum students. Special credit offerings, educational forums and conferences also are coordinated through this office.

Educational Resources Laboratory

The Educational Resources Laboratory provides support for the academic, research and development activities of the School of Education and Human Services. Patrons are provided with a functional setting for the examination, study, research, development, production and evaluation of instructional materials and technologies. Workshops, seminars and consultation services in instructional technology are available.

Board of Visitors

The Board of Visitors of the School of Education and Human Services is composed of outstanding leaders in the field of education and human services. The Board of Visitors' role is to advise and counsel the dean and faculty of the school. The board also assists the school in providing programs responsive to the learning and training needs of the public schools and human service agencies as they cope with changing society in the complex technological and diverse cultural environment of southeastern Michigan.

Members of the Board of Visitors are:
Sandra Adams, Teacher, Costello Elementary School, Troy
C. Danford Austin, State Associate Superintendent of the Bureau of Post Secondary Education
Mary Jane Bauer, Teacher, Seaholm High School, Birmingham
W. Robert Docking, Superintendent, Bloomfield Hills School District
William G. Keane, Superintendent, Oakland Intermediate School District
Charles T. King, Consultant, Professional Development/Human Rights Department, Michigan Education Association
Eleanor Monks, Former Chair, Rochester Community Schools Board of Trustees
Joseph Nicita, Superintendent, Macomb Intermediate School District
John Pagen, Former Superintendent, Warren Consolidated Schools
William H. Saville, Superintendent, Avondale Schools
John M. Schultz, Superintendent, Rochester Community School District
Dana Whitmer, Former Superintendent, Pontiac School District
Lisa Woodring, Teacher, DeKeyser Elementary School, Utica

DEPARTMENT OF CURRICULUM, INSTRUCTION AND LEADERSHIP

507 O'DOWD HALL (313) 370-3070

Chairperson: *Sharon P. Muir*

Professor emeritus: *Patrick J. Johnson*

Professors: *James W. Hughes, Jacqueline I. Lougheed, Sharon P. Muir, Roderic E. Righter*

Associate professors: *Beverley B. Geltner, Steven W. Gilbert*

Assistant professors: *Julia J. Dorminey, Joyce A. Eckart, Dawn M. Pickard Dyanne M. Tracy*

General Information

The Department of Curriculum, Instruction and Leadership offers courses designed to prepare students for careers in teaching. The courses are designed for a Bachelor of Science in elementary education and for certification in secondary education.

The undergraduate elementary education program enables students to earn concurrently a B.S. degree from Oakland University and recommendation for a Michigan Elementary Provisional Certificate (see *Michigan Teacher Certification*). The program is approved by the National Council for Accreditation of Teacher Education (NCATE). Students who hold a bachelor's degree pursue the program as second undergraduates.

The secondary education program enables students who earn a baccalaureate degree in approved programs to be recommended for a Michigan Secondary Provisional Certificate (see *Michigan Teacher Certification*). Only students who are admitted to Pre-secondary Education as juniors are eligible to participate.

Elementary Education

Pre-elementary Education

Students who wish to pursue an elementary education major are admitted by the Admissions Office if they possess a 2.80 high school grade point average (GPA) or a 2.70 college GPA. (Students so admitted are given pre-elementary education status.) Students who hold a baccalaureate degree in another discipline also apply through the Admissions Office as second undergraduates with department approval. Second undergraduate students must meet the undergraduate degree program requirements. After admission as second undergraduates, students meet with personnel in the SEHS Advising Center to determine equivalencies from their baccalaureate program (472 O'Dowd Hall, 370-4182).

Elementary education candidacy

Admission to elementary education candidacy is a prerequisite for some courses in the elementary education major (see course descriptions or *Schedule of Classes*). Students who hold pre-elementary education status must satisfy three criteria for admission to elementary education candidacy:

1. A grade point average (GPA) of at least 2.70, including a minimum grade of 2.0 in all courses. The GPA must represent at least 24 credits and includes all courses completed at Oakland University and at all previous colleges at the time the student applies for candidacy. Education courses will not be considered.
2. A minimum score of 174 on each Pre-professional Skills Test (PPST) subtest — reading, writing and mathematics. The test, which may be taken at any site approved by the Educational Testing Service, is administered at Oakland at least twice each year. Information on test registration is available from the SEHS Advising Center.
3. Completion of the writing proficiency requirement.

To obtain candidacy in elementary education, students present the original PPST score report to the SEHS Advising Center, which verifies the GPA and initiates change of status for qualified students. Students retain candidacy status so long as the GPA needed for admission to the major is maintained. Students who lose candidacy are reassigned to pre-elementary education status. Personnel in the School of Education and Human Services (SEHS) Advising Center provide academic advice for elementary education candidates.

Admission to the major

Students who hold elementary education candidacy must complete EED 110 before applying for the major or professional program.

Admission, which occurs once each year, is selective; meeting the minimum requirements does not guarantee admission to the major.

Minimum criteria for admission to the major are:

1. Candidacy in elementary education
2. Completion of all general education requirements
3. A minimum of 70 documented clock hours' experience working with children in non-custodial activities, 50 hours within the last three years and 20 hours during the calendar year prior to application. Field experience in EED 110 does not meet this requirement. Examples of activities and documentation forms are available from the SEHS Advising Center.
4. 2.0 minimum grade in each course
5. Minimum grade of 2.8 in EED 110
6. Submission of a completed application by the published deadline, including an essay administered at an announced date and time.

Qualitative criteria may be required as well. Some preference is given to students who have completed a majority of their credits at Oakland University. The program seeks students who are committed to teaching in a multicultural school or district. Male and minority students are especially encouraged to apply.

Advising

The School of Education and Human Services Advising Center is located in 472 O'Dowd Hall (370-4182). All students are required to attend an orientation to plan their first semester courses. During the first semester at Oakland, students should schedule an advising appointment to review the program plan and degree requirements. In subsequent semesters, students should schedule advising appointments far in advance of pre-registration time so that the staff may adequately serve their needs.

Requirements for the Bachelor of Science in Elementary Education

Program requirements

Admission to the major is required before beginning a four-semester professional sequence. Pre-elementary education students plan their course work with an adviser in the School of Education and Human Services Advising Center. To earn the B.S. degree, they must:

1. Complete a minimum of 124 credits. At least 32 credits, including the last 8, must be taken at Oakland University and at least 32 credits must be at the 300-level or above. Education credits may not be older than six years upon completion of the program. Courses transferred from NCATE-accredited colleges may be approved.
2. Meet university general education requirements, including special general education requirements for elementary education majors (described below).
3. Complete a major or two minor concentrations (described below).
4. Complete MTE 210, SCS 105, 4 credits of pre-professional course work and 60 credits of professional education course work.
5. Earn a minimum grade of 2.0 in each non-education course, a minimum grade of 2.0 in EED 455 (2.8 required for certification), and a minimum grade of 2.8 in each remaining pre-professional and professional course; maintain a 2.70 GPA in non-education courses.
6. Maintain a cumulative GPA of at least 2.70.
7. Be in compliance with all legal curricular requirements for Michigan certification.

General Education

Elementary education majors must take STA 225 to meet the university general education requirement in mathematics. Recommended course work in other areas follows:

Literature: Choose one from ENG 100, ENG 224 or ENG 241
Language: ALS 176 is preferred unless modern language is a major or minor
Western Civilization: HST 114 or HST 115
Social Science: One from SOC 100, PSY 100, PSY 130, PS 100 or ECN 150
Natural Science/Technology: Choose one from BIO 110, BIO 190, BIO 300, BIO 104, BIO 200 or CHM 300
Art: Any course listed in the catalog that meets the requirement.
International Studies: Any course listed in the catalog that meets the requirement.

Major/minor concentrations

In keeping with state requirements, one major concentration or two minor concentrations selected from the following subject areas is/are required for certification. The concentration identifies subjects that a graduate is certified to teach in grades 6-8. Course work is limited to the classes listed or their equivalents.

History/social science minor (24 credits) — HST 114 and 115; PS 100; 4 credits of ECN; 4 credits from IS 210, 220, 230, 250, 270 preferred, or IS 240, 260; 4 credits from the following electives: AMS 300, AN 102, 222; HST 101, 102, 218; PSY 100; SOC 100, SOC 190, WS 481 or a course in geography. (Physical geography will not meet this social studies requirement.)

History/social science major (36 credits) — Meet requirements of the social studies minor plus 12 additional credits of IS or the social studies minor electives.

Language arts minor (24 credits) — RDG 332; ALS 176; 4 credits of literature from ENG 100, 105, 111, 214, 220, 224, 241, 290, 301, 303; and 12 credits from literature electives or the following: ALS 102; ENG 215; LIN/SCN 207; SCN 201, 202; THA 100, 110, 201, 210, 213, 220, 300, 310.

Language arts major (36 credits) — Meet requirements of the language arts minor plus 12 additional credits selected from literature or language arts minor electives.

Mathematics minor (20 credits) — MTE 210, 211, 410; MTH 141; STA 225. Students who test out of MTH 141 must elect one course from: MTH 121, 122, 154, 185.

Mathematics major (30 credits) — Meet requirements of the mathematics minor plus at least 10 credits from: APM 263; CSE 130, 232, 233, 235; MTH 121, 122, 154, 155, 185, 254, 256, 372; STA 226, 322, 323, 324.

Modern languages minor (24 credits) — All credits must be in one language, SPN, FRH, or GRM; 8 must be at the 300-400 level.

Modern languages major (36 credits) — Meet requirements of the modern languages minor plus an additional 12 credits at the 300-400 level.

Science minor (24 credits) — SCS 105; 4 credits from BIO 104, 110, 190/195, 200, or 300; 4 credits from CHM 104 or 140; 4 credits from ENV 308, 322; 4 credits from PHY 104, 105, 106, 107; and 4 credits from PHY 115, 127, or 100/101.

Science major (36 credits) — Meet requirements of the science minor plus an additional 12 credits from the minor electives or the following: BIO 301, 303, 311, 313, 317, 323/324; 325, 327, 341, 373, 375, 377, 387; CHM 201, 203, 204, 234, 235, 453/457, 454/457; ENV 461, 474; PHY 102/100, 107, 158, 306; SCS 490.

An additional major or minor concentration in fine arts may be added to the certificate. Students may pursue a general concentration of art, music and theatre or a specialized concentration in one area — art, music or theatre.

Fine arts general minor (24 credits) — 4 credits AH; 4 credits SA; 4 credits MUT or MUS excluding music education; 4 credits MUE and/or MUA except MUA 373; 4 credits THA 100, 110, 220 or 310; 4 credits THA 213 or 350.

Fine arts specialized minor (24 credits) — All credits are in one area — art, music or theatre — including a minimum of 8 credits in history, theory, literature or appreciation (AH or MUT, MUS or THA 100, 201, 300) and a minimum of 8 credits in application or performance (SA or MUE, MUA except MUA 373, or THA 110, 210, 213, 220 or 310).

Fine arts general major (36 credits) — Meet requirements of the fine arts general minor plus 4 credits AH or SA; 4 credits MUA, MUT or MUS including music education; 4 credits THA.

Fine arts specialized major (36 credits) — Meet requirements of the fine arts specialized minor plus 12 credits in the same area — art, music or theatre — with prior approval of an adviser.

Professional program

Upon being admitted to the program, students are expected to maintain continuous enrollment during the fall and winter semesters in at least one professional education course. The professional education courses are: EED 302, 305, 354, 420, 470; FE 210, 215; IST 396; RDG 331, 333, 414; SE 355. A recommended sequence is provided at the time of admission. A field experience is required concurrently with methods courses. Prerequisites are required for some professional education courses (i.e., FE 215 and SCS 105 for EED 305, STA 225 for EED 354, and FE 215 and MTE 210 for EED 302). Students who lose eligibility may retake a course; readmission then is automatic if the requirement is met. Continuation in the program also is based on the expectation that students demonstrate the characteristics of and conduct themselves as members of the teaching profession.

Field placements: Participation in field placements is required each fall and winter semester during which a student enrolls in a professional education class. The department arranges placements that ensure a variety of experiences, including in two urban school districts — Detroit and Pontiac.

Internship: EED 455 must be taken in the final semester of one's degree program. *Application for the internship, EED 455, must be made one full semester in advance of the intended enrollment.* Contact the department for date of required orientation meeting (early each semester) at which application is made. Students must petition the department to enroll in more than 16 credits during the internship semester. Admission criteria for the internship are: a) satisfactory grade point average and minimum required grades; b) completion of all professional education course work, except RDG 414; c) satisfactory completion of content area test(s) as required by the Michigan Department of Education. Students who do not successfully complete the content area tests will be offered an alternative to EED 455 for earning the B.S. degree without certification. A minimum grade of 2.0 in EED 455 is required for graduation, a minimum grade of 2.8 for certification.

Secondary Education

The Secondary Teacher Education Program (STEP) is a five-year program that includes a one-year, 12-credit post-baccalaureate internship and 27 additional credits in professional education.

Major and minor. Students must complete a baccalaureate degree with a minimum grade point average (GPA) of 2.80 in both a major and a 20-credit secondary teaching minor. Majors in biology, chemistry, mathematics, modern languages and literatures, and physics may seek secondary certification in the secondary teacher education program (see program descriptions in the related Arts and Sciences departments). A program in music education also exists, but it is not currently part of STEP (see program description for Department of Music, Theatre and Dance). At least 8 credits in the minor must be taken at Oakland University.

Advising is available through the SEHS Advising Center (472 O'Dowd Hall) and through advisers in the major departments in the College of Arts and Sciences.

Pre-secondary education

The pre-secondary program begins at the end of the sophomore year or at the end of the first semester of the junior year. Students apply to the SEHS Advising Center no later than November 15 for winter admission or April 1 for fall admission. Students applying for admission should meet the following requirements:

1. A minimum GPA of 2.80 in all college or university work
2. A minimum grade of 3.0 in RHT 101
3. A minimum score of 174 on each Pre-Professional Skills Test (PPST) subtest — reading, writing and mathematics. The test, which may be taken at any site approved by the Educational Testing Service (ETS) is administered at Oakland at least twice each year. Information on test registration is available from the SEHS Advising Center.
4. A plan of study that ensures completion of baccalaureate requirements in a major and a minor approved by a department adviser.

Students admitted to the pre-secondary program may enroll in SED 300.

Admission to the professional program

Students who successfully complete SED 300 may apply for admission to the STEP at the end of the junior year. Successful completion of SED 300 does not guarantee admission, which is competitive.

The professional program normally is completed in the senior year and one year of post-baccalaureate work. The professional sequence is: RDG 538, FE 345/608, SED 427, SED 428, SE 501, FE 601 and SED 455.

Internship. Interns enroll in SED 455. Permission from the Secondary Education Coordinator is required to enroll concurrently in courses other than SED 428 and SE 501.

Michigan teacher certification

Successful completion of requirements for the B.S. in elementary education and a minimum grade of 2.8 in EED 455 and meeting additional requirements that may be established by the Michigan Department of Education are required in order to be recommended for a provisional elementary certificate. Exit tests in content areas are scheduled to begin in September 1991, for certification applicants. Applicants should be aware that a conviction for a felony or for a misdemeanor involving moral turpitude of a minor may constitute grounds for denial of a certificate by the State of Michigan.

Teaching Certification for Elementary Education: The Michigan Elementary Provisional Certificate is valid for teaching all subjects in grades K-5, all subjects in self-contained classrooms for grades 6-8 in which a majority of the instruction is provided by one teacher, and in majors and minors in departmentalized programs for grades 6-8.

Teaching Certification for Secondary Education: The Michigan Secondary Provisional Certificate is valid for teaching all subjects in grades 7-8 and in content area majors or minors in grades 9-12.

Course Offerings

For FE and SE course descriptions, see the Department of Human Development and Child Studies; for RDG and IST courses, see the Department of Reading and Language Arts.

ELEMENTARY EDUCATION

EED 110 Public Education for the Future (4)
Assists pre-elementary education majors in deciding whether or not to pursue education as a career. Examines, through lectures and extensive written assignments, topics pertaining to public education. Includes a required field experience.
Prerequisite: Oakland University writing proficiency and elementary education candidacy.

EED 302 Teaching Mathematics in the Elementary School (4)
Assists prospective teachers in developing sound pedagogical strategies and instructional techniques for teaching mathematics in the elementary school. Includes a required field experience.
Prerequisite: MTE 210, admission to major and FE 215.

EED 305 Teaching Science to Children (4)
Develops philosophies, rationale, and methods for teaching elementary school science. Explores knowledge and skills for planning instruction, using instructional models, integrating the curriculum, using current instructional materials and evaluating outcomes. Includes a required field experience and a weekend field trip; additional field experiences available.
Prerequisite: SCS 105, admission to major and FE 215.

EED 354 Testing and Assessment for Teachers (4)
Prepares a teacher-in-training to make effective use of formal and informal teacher-created assessment techniques in the process of planning, implementing and evaluating instruction. Includes a required field experience.
Prerequisite: STA 225 and admission to major.

EED 420 Interaction Laboratory for Teacher Development (4)
Acquaints prospective teachers with the importance of human interactive skills, including sensitivity to cultural differences. Provides understanding of the flexible line separating personal and professional behavior. Includes student involvement in role-playing and action-oriented problem solving. Includes a required field experience.
Prerequisite: Admission to major.

EED 455 Internship in Elementary Education (12)
Provides teaching and other appropriate activities in an area classroom with guidance by a university supervisor and a cooperating teacher. General and specific instructional concerns of interns are explored in five or more concurrent seminars. Completion of a program evaluation survey is required before a grade is reported to the registrar.
Prerequisite: See program requirements — internship.
Corequisite: RDG 414.

EED 470 Teaching Social Studies in the Elementary School (4)
Examines instructional objectives and strategies, curriculum materials and evaluative procedures for social studies education. Upon completion of the course, students are able to develop, defend and implement an elementary social studies program. Includes a required field experience.
Prerequisite: Admission to major and FE 215.

EED 481 Gender Socialization in Schools (4)
Provides an understanding of the role gender plays in teaching and learning, with emphasis upon socialization of girls and women in schools. Assists prospective teachers, parents and others in designing programs that reduce gender bias in our educational system. Identical with WS 481.

EED 490 Independent Study (2 or 4)
Pursues directed individual reading and research. May include a field placement as well as development of specific teaching materials. May be repeated for a total of 4 credits.
Prerequisite: Permission of department (present written consent by faculty who will supervise study).

SCIENCE STUDIES

SCS 105 Science for the Elementary Teacher (4)
Develops science concepts and processes based on recent elementary school curricula in the fields of earth, physical and chemical science. For elementary education majors only; includes laboratory experiences.
Prerequisite: Elementary education candidacy.

SCS 490 Independent Problems in Science Education (2 or 4)
Individual work in science for educators. Credits may be applied to a major or minor in science for teachers. May be repeated for a total of 4 credits.
Prerequisite: Permission of instructor.

SECONDARY EDUCATION

SED 300 Introduction to Secondary Education (3)
Introduces secondary teaching as a profession and career. Includes a substantial experience in an assigned secondary classroom observing and aiding a practicing teacher. Also explores current topics and issues related to education.
Prerequisite: Admission to pre-secondary education.

SED 354 Testing and Assessment for Teachers (4)
Prepares a teacher-in-training to make effective use of formal and informal teacher-created assessment techniques in the process of planning, implementing and evaluating instruction. Includes a required field experience.
Prerequisite: Admission to secondary education.

SED 427 Methods of Teaching Secondary Students (2)
Emphasizes the development of teaching strategies and human interaction techniques unique to secondary students and classrooms. Topics include discipline, motivation, instructional technology, skill assessment, evaluation and affective learning.
Prerequisite: Admission to secondary education.

SED 428 Teaching of the Major Field (4)
Develops specific knowledge, competencies and skills required for effective teaching in the student's major field.
Prerequisite: Admission to secondary education.

SED 455 Internship in Secondary Education (12)
Provides a two-semester teaching experience in an assigned classroom under the guidance of a cooperating teacher and a university supervisor. Concurrent seminars and workshops are required.
Prerequisite: Admission to secondary education.

DEPARTMENT OF HUMAN DEVELOPMENT AND CHILD STUDIES

529 O'DOWD HALL (313) 370-3077

Chairperson: *Donald M. Miller*

Distinguished professor emeritus: *Laszlo J. Hetenyi*

Professors emeriti: *Edward A. Bantel, Sidney W. Graber*

Professors: *Gerald G. Freeman, Donald M. Miller, Ronald M. Swartz*

Associate professors: *Marc Briod, Anne Cairns Federlein, Carol A. Swift*

Assistant professors: *Ann H. Atkinson, Andrew Gunsberg, Richard C. Pipan*

Special instructor: *Carrie Owens*

Within the School of Education and Human Services, the faculty of the Department of Human Development and Child Studies offer courses in early childhood, educational foundations and special education at the undergraduate level for students pursuing a career in teaching. The department houses master's degree programs in early childhood education and special education.

Course Offerings

EARLY CHILDHOOD

EC 220 Early Childhood Development — Experiences with the Young Child (4)
Child development instruction, observation and experience with focus on children and their developmental needs during infancy and early childhood, especially in the context of particular settings.
Corequisite: EC 221.

EC 221 Early Childhood Development Experience Block (1, 2, 3 or 4)
Experience in a setting with young children. One credit must be taken concurrently with EC 220 and 224. Students who take additional credits of EC 221 must be taking another early childhood course concurrently.

EC 223 Physical and Social Environment in Early Childhood Programs (4)
Various aspects of the social and physical environment for young children. Includes analysis of what makes a healthful, pleasant physical environment and how the roles and relationships of various staff members contribute to this environment.
Prerequisite: Permission of the department.

EC 224 Early Childhood Programming Activities for the Young Child (4)
Uses of various media and materials, supportive play activities, and specific art, music, science, language and other educational activities for young children. Provides a basic repertoire of skills for the early childhood staff member.
Prerequisite: EC 220 or equivalent and permission of the department.
Corequisite: EC 221.

EC 225 Health and Nutrition — Childhood (4)
Includes knowledge of basic health and safety requirements and basic nutritional and dietary needs for early childhood.
Prerequisite: Permission of the department.

EC 320 Topics in Early Childhood Curriculum (2 or 4)
Selected curriculum topics relevant to early childhood teachers, with focus on specific curriculum areas identified by advanced early childhood students or special groups working in this field. May be repeated for a total of 4 credits.
Prerequisite: Completion of at least two 200-level early childhood courses.

EC 322 Introduction to Early Childhood: Theory and Practice (4)
Introduction to the field of early childhood: growth and development of infants and young children, optimal learning environments for the young child, and methods and materials. For students who wish some background in early childhood.
Prerequisite: Permission of department.
Corequisite: EC 221.

EC 324 Parent and Community Involvement in Early Childhood Programs (4)
In-depth study of home/school coordination and education. Development of skills and sensitivities in the areas of parent education, parent-teacher conferences, utilization of parents in the classroom and working with parents in the home.
Prerequisite: At least two 200-level childhood courses, or permission of instructor.

EC 325 Learning Environment in Early Childhood (4)
In-depth study of the learning environment and curriculum in early childhood education, including theoretical and practical aspects. Analysis of curriculum areas as they relate to individual children's needs and to the total learning environment.
Prerequisite: At least two 200-level early childhood courses, to be taken with no more than one other early childhood course.

EC 326 Introduction to Early Childhood Program Operation (4)
Overview of types of program operation in early childhood. Designed to give teacher and childcare development majors the skills to direct programs which are in operation.
Prerequisite: At least two 200-level early childhood courses, to be taken with no more than one other early childhood course.

EC 450 Advanced Studies in Early Childhood (2 or 4)
Current issues affecting the field of early childhood, especially those related to current legislation, child advocacy, and the child welfare concern; research methodology appropriate for young children; and/or in-depth issues such as development of infants or exceptional children. May be repeated for a total of 4 credits.
Prerequisite: Completion of all 200-level early childhood courses and at least two 300-level early childhood courses.

EC 456 Internship in Early Childhood (12)
Work in practicum settings with young children, parents, or caregivers. Students will gradually assume total responsibility for an intensive field experience. Consists of 301 hours of on-site practicum. Includes bi-weekly seminar. No other courses may be taken concurrently and it is strongly advised that the student not be employed or take other courses. Apply September for winter, January for fall.
Prerequisite: 30 credits in early childhood courses with an overall 2.50 grade point average.

EC 490 Independent Study and Research (2 or 4)
A program of directed individual reading and research. May be repeated for a total of 4 credits.
Prerequisite: Permission of the Department of Human Development and Child Studies (granted only if students present written faculty consent to supervise their study).

FOUNDATIONS OF EDUCATION

FE 210 Social and Philosophical Issues in Elementary Education (4)
Study of elementary education in broad perspective, as both an interpersonal activity and a social institution. Topics include immediate and ultimate aims of elementary education, social and cultural differences within and between schools, and assumptions underlying school policy. Not to be taken concurrently with FE 215.
Prerequisite: Admission to elementary education, and satisfaction of the university writing proficiency requirement.

FE 215 Educational Psychology for Elementary Teachers (4)
Incorporates and places into perspective learning theories, developmental theories, biological theories and evaluation, with emphasis on the effects of varied qualities of experience during childhood and early adolescence. Includes a required field experience.
Prerequisite: Admission to elementary education and satisfaction of the university writing proficiency requirement.

FE 301 Human Nature (4)
An analysis of human nature through evolutionary, developmental, cultural and philosophical perspectives. Implications for the helping professions.

FE 344 Social and Philosophical Issues in Secondary Education (4)
Study of secondary education in broad perspective, as both an interpersonal activity and a social institution. Topics include immediate and ultimate aims of secondary education, social and cultural differences within and between schools, and assumptions underlying school policy.

FE 345 Educational Psychology for Secondary Teachers (4)
Psychological factors in learning and development are examined in lectures, class discussions and observations. These may be observations of actual teaching in the schools, or of videotapes of teaching. Attention to regular and exceptional development during the adolescent years.

SPECIAL EDUCATION

SE 355 Identifying Learning and Behavior Differences in Students (4)
Familiarizes students with the characteristics of all types of exceptional students, including the gifted and talented. Introduces special education law and services for handicapped persons. Requires field placement in a special education setting where students practice informal observation and assessment techniques for determining individual differences.

DEPARTMENT OF HUMAN RESOURCE DEVELOPMENT

143 O'DOWD HALL (313) 370-4170

Chairperson: *Robert G. Payne*

Professor emeritus: *William F. Moorhouse*

Associate professors: *John W. Atlas, F. James Clatworthy, David N. Cooper, William C. Fish, Billy Joe Minor, Robert G. Payne*

Adjunct associate professor: *Elinor Waters*

The School of Education and Human Services offers a program in human resource development (HRD) leading to a Bachelor of Science degree.

This program prepares students for service-action careers related to human problems, services and social change. It provides students with an opportunity to acquire knowledge and skills usable in a wide range of human service activities. Students may select a major specialization in human services, or training and development.

A primary goal of the program is to develop potential leaders who have the analytic, interpersonal and organizational skills to respond to human needs in an era of rapid social change. The basic approach to the program is joining understanding, skills and service. Problem-solving and decision-making abilities are developed through field experiences and on-the-job internships.

Advising

The School of Education and Human Services Advising Center is located in 472 O'Dowd Hall (370-4182). During the first semester at Oakland, students should schedule an advising appointment to review the program plan and degree requirements.

Requirements for the Bachelor of Science in Human Resource Development

To earn a Bachelor of Science degree with a major in human resource development, students must:

1. Complete a minimum of 124 credits.
2. Complete at least 32 credits at Oakland University.
3. Complete at least 32 credits in courses at the 300-level or above.
4. Take the last 8 credits needed to complete the baccalaureate degree requirements at Oakland University.
5. Have a cumulative grade point average of at least 2.50.
6. Satisfy the writing proficiency requirement (see *Undergraduate degree requirements*).
7. Complete the university general education requirement of 32 credits (see *Undergraduate degree requirements*).
8. Complete a specialization in human services or training and development. The specialization must consist of 1) a specified core of courses; and 2) supporting cognate courses, professional elective courses (HI, HRD or LE) and field placements, including an internship of at least 8 credits.

Specialization in human services

Coordinator: *John Atlas*

This specialization has been developed in cooperation with agency and industry employers in the community. It prepares students for a wide variety of human service occupations in such

fields as employment and training, probation and corrections, mental health, substance abuse, youth or family services and services for older persons. The program has been approved by the Council on Standards for Human Service Education.

Students develop helping profession competencies through human interaction courses, special topic courses in human resource development and field experiences, culminating in the internship.

Requirements for admission to the specialization

Students may apply for admission to the human services program after satisfactory completion of at least 32 semester hours of credit at an accredited college or university with a grade point average of 2.50 or better. Courses that carry no numerical or letter grades (such as S or U) are excluded from the calculation of the grade point average. Before admission, students must also have completed HI 261 or an equivalent course and HI 360, 361 or 363 with a minimum grade of 2.5 in each course and have met the university writing proficiency requirement. To continue in the program, students must maintain a minimum overall grade point average of 2.50.

Before completing the above requirements, students who have a GPA of 2.50 or better may enroll as pre-HRD majors. Grades in courses submitted for credit in the specialization in human services must be 2.0 or better.

Specialization course requirements

Students seeking a specialization in human services must:

1. Earn a minimum of 16 credits in a core consisting of HI 360, 361, 363 (prerequisite: HI 261); HRD 362 and 366.
2. Earn a minimum of 22-24 credits in cognate courses at the 200 level or above, including a) a course in human development from PSY 220, 270, 271, 331, 336 or 379; b) a course dealing with social change chosen from: HRD 401, LE 320, ECN 309, 338, PS 305, SOC 205, 301, 314, 315, 336, 346 and 350, AN 300, or a course approved by an HRD adviser; c) a course in planning research, evaluation or statistics chosen from: HRD 402, PSY 250, SOC 202 and 204, 203 or STA 225 (those who intend to pursue a Master of Social Work degree should consult with an HRD adviser regarding cognate statistics requirements); d) an ethics and behavioral foundations course: HRD 301, 302, PHL 318, PSY 310, 314, 380; e) a course in human service populations: GRY 400, PSY 313, 325, 332, 376, SOC 240, 331, 335, 465, WS 300, LE 326; f) a course in information management: RHT 335 (ENG 380 or 382 may be substituted with adviser permission). The cognate requirement may also be met by a concentration in Gerontology, Labor Education, Social Services, or Social Justice and Corrections plus a research methods course.
3. Complete a minimum of 12 credits of professional course electives carrying an HI, HRD or LE designation.
4. Complete field placements consisting of a minimum of three substantially different placements or three significantly different roles in a minimum of two settings for a total of 590 clock hours. An 8- or 12-credit internship, HRD 490, is to be completed in the senior year.

Specialization in training and development

Coordinator: *Robert G. Payne*

Training and development is the process of systematically developing human resources within a work organization to create motivation and increase efficiency. The specialization in training and development requires course work in behavioral sciences, human relations, training and program delivery. These courses provide preparation for a variety of careers in government, health and human services, and in business and industry.

An internship during the senior year provides work experience in an appropriate setting.

Requirements for admission to the specialization

Students may be admitted to the training and development specialization after completion of a minimum of 32 semester hours of credit at an accredited college or university with a minimum grade point average of 2.50; completion of HI 261 or an equivalent course; HI 360 and HI 361 or HI 363 with a minimum grade point average of 2.50; and completion of the university writing proficiency requirement.

Before applying for admission, students who have a GPA of 2.50 or better may enroll as pre-HRD majors. Grades in courses submitted for credit towards the specialization must be 2.0 or better. To continue in the program, students must maintain an overall grade point average of 2.50 or better.

Specialization course requirements

Students seeking a specialization in training and development must:

1. Earn a minimum of 24 credits in core courses, including one in each of the following six categories: a) human relations and effective interaction (prerequisite: HI 261 or equivalent): HI 360 and 361, 363, 461, or 463; b) assessment of individuals: HRD 362 or PSY 311; c) adult learning theory and design of training programs: HRD 310; d) development process: HRD 364, 368 or HI 464; e) adult instruction: HRD 420 and 421 or 422; f) professional growth: HRD 369, or an HI, HRD, LE, or VTE course approved by an adviser.
2. Earn a minimum of 22-24 credits in cognate courses. The requirement may be satisfied by completing a minor in general business (19-23 credits), a concentration in human and industrial relations (28 credits), or by earning one course in each of the following six categories (24 credits): a) writing skills for instruction: RHT 335 (ENG 380 or 382 may be substituted with adviser approval); b) organizational theory: HRD 401, LE 322, ORG 330, or 331; c) economics or accounting: ECN 150, 200, 201, 338 or ACC 200; d) planning and evaluation: HRD 402, 440, PSY 250, SOC 202 and 204 or SOC 203, STA 225; e) labor relations and employee involvement: LE 324, 326, MGT 433, HST 302, SOC 350, 354, 359 or PHL 316; f) computer literacy: CSE 125, 130 or IST 396.
3. Earn a minimum of 8 to 10 additional credits, chosen from the following categories: a) any course that counts toward the requirements for a minor in general business; b) any course listed above under either the cognate or core courses; c) any HI, HRD, LE, or VTE course.
4. Successfully complete an 8- or 12-credit internship, HRD 490, during the senior year.

Occupational/technical education within the training and development specialization

Coordinator: *Robert G. Payne*

Oakland University offers several courses for students wishing additional preparation in the occupational/technical area. The following courses may be applied as substitutions for certain requirements of the specialization in training and development, as approved by an HRD adviser: RDG 338, SE 355, VTE 300, 310, 312, 420, 421, 490.

Minor in human resource development

Coordinator: *Billy Joe Minor*

The School of Education and Human Services offers a minor in human resource development for students who wish to combine their majors with an introduction to human interaction skills and knowledge and techniques in human resource development.

To obtain a minor in human resource development, students must earn at least 24 credits in human interaction (HI) and human resource development (HRD) courses, including a minimum of 8 credits in each area; the plan of study is subject to the approval of an HRD adviser. Courses counted towards the minor must have a cumulative grade point average of 2.50 or better and no course may carry a grade less than 2.0.

Related minors and concentrations

Normally, students seeking the Bachelor of Science with a major in human resource development may not earn more than one minor or concentration. Students who wish to obtain more than one must obtain the approval of the human resource development program adviser.

The Gerontology concentration, co-sponsored by the School of Education and Human Services and the College of Arts and Sciences, is recommended for HRD students planning careers of service to older people. A description of the concentration is in the Arts and Sciences portion of the catalog.

Concentration in labor studies

Coordinator: *David N. Cooper (Ken Morris Center for the Study of Labor and Work)*

Academic advisory committee: *Lizabeth A. Barclay (Management), John Barnard (History), De Witt S. Dykes, Jr. (History), Michael Long (Ken Morris Center for the Study of Labor and Work), Billy Joe Minor (Human Resource Development), Robert G. Payne (Human Resource Development)*

Labor studies is an interdisciplinary concentration that provides an academic background for understanding the empirical and theoretical bases of labor organizations. The program may be particularly useful to individuals interested in the operational aspects of unions, including the dynamics of staff, leadership and participative roles.

The concentration is open to any student who has been admitted to the university. Core courses will be scheduled to maximize accessibility to both full-time and part-time students. Students who seek to apply credits toward a degree must contact an adviser to design a degree plan and to select appropriate courses. The following course selections are subject to prerequisite requirements as well as departmental policies.

A required application for the Labor Studies concentration is available from either the Human Resource Development or Academic Services and General Studies advising offices (121 North Foundation Hall).

The concentration requires a minimum of 22-24 credits distributed among the following four areas of preparation:

1. Core, 12 credits minimum, with the option of registering for all of the following courses:
   LE 320 Introduction to Labor Studies (4)
   LE 322 Union Structure and Governance (4)
   LE 324 Work and the Law (4)
   LE 326 Collective Bargaining and Dispute Resolution (4)
   HST 302 American Labor History (4)
2. To fulfill the remaining 12-credit requirement, students may elect additional courses from the core and/or courses from the following three cognate areas, with no more than one course from each cognate area.
   a. **Organizational Theory and Practice:**
   HRD 401 Change Process and Organizational Analysis (4)
   ORG 330 Introduction to Organizational Behavior (3)
   SOC 353 Seminar in Socio-Technical Systems (4)
   SOC 381 Theories of Modern Organizations (4)
   b. **Work Life Processes:**
   ECN 338 Economics of Human Resources (4)
   HI 363 Dynamics of Group Relationships (4)
   HI 464 Consultation (4)
   IHS 301 Industrial Hygiene I (3)
   IHS 311 Industrial Safety I (3)
   SCN 202 Group Dynamics and Communication (4)
   SCN 304 Communication in Organizations (4)

SOC 350 The Transformation of the Workplace (4)
SOC 354 Quality of Work Life (4)
SOC 359 Human Factors in Quality Control (4)

c. **Community and Society:**

HRD 302 Ethics and Personal Crises (4)
HRD 331 Community Mental Health (4)
HRD 335 Substance Abuse (4)
HRD 364 Career Development (4)
PS 110 Contemporary Political Issues (4)
PSY 235 Social Psychology (4)
PSY 326 Psychology of Social Issues (4)
SOC 331 Racial and Ethnic Relations (4)
SOC 357 Industrial Sociology (4)
SOC 455 Contemporary Work Roles, Careers and Labor Markets (4)

Course Offerings

HUMAN INTERACTION

HI 261 Fundamentals of Human Interaction (4)
Introduction to key aspects of interpersonal relationships such as self disclosure, feedback, conflict, trust and nonverbal communication. Examines various theories of healthy relationships and personal maturity. Self-appraisal, role plays, simulations and group interaction are used.

HI 360 Interviewing Practicum (2)
An application of the methods studied in HI 361. Students practice helping interview skills in a supervised laboratory setting, are video-taped, critiqued and evaluated.
Prerequisite: HI 261.
Corequisite: HI 361.

HI 361 The Helping Interview (2)
Listening and responding skills, establishing mutual trust and acceptance, gathering information and providing support in a one-to-one helping relationship. Introduction to related theory and research. Instructional techniques include role-playing and simulation.
Prerequisite: HI 261 or equivalent.
Corequisite: HI 360.

HI 363 Group Dynamics (4)
Deals with relationships among group members, including peer and supervisory interaction, in settings such as community agencies, industry and adult training. Covers such basic concepts and practices as teamwork, conflict resolution, consensus, group leadership and support groups.
Prerequisite: HI 261 or equivalent.

HI 460 Advanced Practicum (2)
An application of the theories, research, and methods studied in HI 461. Students practice introductory counseling skills in a supervised laboratory setting, are videotaped, critiqued and evaluated.
Prerequisite: HI 360.
Corequisite: HI 461.

HI 461 Introduction to Counseling (2)
Theory and practice of guidance and counseling in brief. Covers professional, ethical and legal issues in helping others. Compares major counseling approaches in both theory and application.
Prerequisite: HI 361.
Corequisite: HI 460.

HI 463 Group Facilitation (4)
Theory and practice of small group process in the helping relationship. Explores several approaches to group leadership and offers an opportunity to experience and/or lead small groups in order to prepare students to foster group interaction.
Prerequisite: HI 363.

HI 464 Consultation (4)
Includes study of processes of internal and external consultation, strategies for intervention in organization and consulting approaches in support of individual helping professionals, supervisors and administrators.
Prerequisite: Junior standing and HI 360 and HI 361 or HI 363.

HUMAN RESOURCE DEVELOPMENT

HRD 264 Educational and Career Exploration (2)
Introduction to key aspects of personal career decision making, encompassing self assessment, occupational research and the relationship between academic majors and future career options. Use of computerized career guidance systems, inventories and exercises in exploration, planning and goal setting.

HRD 301 Human Nature (4)
The various ways in which human nature has been understood, with attention to the behavioral, humanistic, Marxist, and Christian beliefs about man and their implications for policies and practices in the teaching and helping professions. Strives to develop tolerance for alternative views of man, and to appreciate the varieties of human behavior. Identical with PHL 301.
Prerequisite: RHT 101 or equivalent.

HRD 302 Ethics and Personal Crises (4)
Historical examination of perennial moral crises in sexual behavior, abortion, suicide, euthanasia, criminal punishment and war from the points of view of major historical figures in ethics. Use of ethical knowledge in helping others make moral decisions in personal life is addressed. Identical with PHL 302.
Prerequisite: RHT 101 or equivalent.

HRD 310 Training Design (4)
Adult learning theory including cognitive, affective, psychomotor domains. Instructional design models, needs analysis, occupational task analysis, development of competencies and learning objectives. Determination of appropriate training approach. Selection and evaluation of instructional materials and media. Identical with VTE 310.
Prerequisite: RHT 101 or equivalent.

HRD 331 Community Mental Health (4)
A critical examination of mental health treatment programs, community mental health centers and family-care programs. Socio-cultural factors in the onset of mental illness and roles as members of a treatment team and community resources in mental health.

HRD 335 Substance Abuse (4)
Comprehensive study of the modes of prevention and treatment programs for substance abuse. Readings and reports include basic information about various drugs and alcohol, with history, categories and definitions, misuse, abuse, legitimate use, laws, attitudes and reasons people abuse drugs.

HRD 362 Assessment of Youth and Adults (4)
Techniques in appraising people for educational, occupational and personal-social decisions. Students are introduced to measurement terminology, techniques of test administration and interpretation. Emphasis on synthesis of data in case studies and conferences.

HRD 364 Career Development (4)
Sources of occupational, educational and personal-social information. Techniques for using guidance information in the helping process. Theories of career choice and adjustment, the work ethic and life/work planning.

HRD 366 The Human Services (4)
Overview of human service work. Covers historical and philosophical bases, service populations, values and professional roles. Surveys conditions of healthy human functioning and deviancy, as well as service modalities, human systems and legislative issues.

HRD 368 Work and Training Development (4)
Study of the training function within business and industry. Emphasis is placed on the politics and organization of the training function in relationship to management, union and jointly funded projects.
Prerequisite: HRD 310, 420, 421 or permission of the instructor.

HRD 369 Field Work in HRD (2, 4, 6 or 8)
Intermediate-level supervised experiences in HRD settings such as training and personnel departments in business, industry and government, employment offices and human service agencies. Students submit application to instructor, then obtain information to seek an approved site. May be repeated for a total of 8 credits.
Prerequisite: Permission of instructor by application.

HRD 390 Special Project in HRD (2, 4, 6 or 8)
Directed reading or research in an HRD topic. May be elected for independent study. Student selects topic, obtains faculty sponsor's permission before registration and writes report. May be taken with special permission more than once, for 8 credits total.
Prerequisite: Permission of a faculty sponsor by application.

HRD 401 Change Process and Organizational Analysis (4)
Study of structure of HRD services in organizations and the processes of effecting individual and group change. Influence of assigned roles of administrators and workers on attitude and behavior. Theory and research of institutional growth and change.
Prerequisite: Junior standing and two courses in HI, HRD or VTE.

HRD 402 Program Planning and Evaluation (4)
Emphasizes skills in developing performance objectives and in organizing, writing and presenting proposals for program development. Methods of evaluation of training and development and human service programs i.e., action and survey research design.
Prerequisite: Junior standing and HRD 362.

HRD 420 Instructional Methods (2)
Methods of instructing adults in training programs using instructional materials and media. Application of adult learning theory and evaluation of learning based upon competencies. Teacher-student interaction process and use of audio-visual equipment. Identical with VTE 420.
Prerequisite: HRD 310.
Corequisite: HRD 421 or HRD 422.

HRD 421 Instruction Presentation Lab (2)
An application of the methods studied in HRD 420. Students present training program lessons and exercises in a supervised laboratory setting, are video-taped, critiqued and evaluated. Identical with VTE 421.
Corequisite: HRD 420.

HRD 422 Instructional Media Lab (2, 4, 6 or 8)
The application of instructional media production techniques. Students develop instructional media for a training program which was designed under HRD 310 or obtained from a training manager. May be taken more than once for a total of 8 credits.
Prerequisite: HRD 310.
Corequisite: HRD 420 or permission of instructor.

HRD 431 Death and Dying (4)
Seminar on the philosophical, religious, cultural and psychological issues in death and dying. Topics include: religious views of death and after-life; ethical issues in suicide and euthanasia; cultural attitudes toward death and funerals; psychological studies of counseling the dying and the bereaved; children and death; forming attitudes toward one's own death. Recommended for upper-level students only.
Prerequisite: Junior standing and two HI/HRD courses or permission of instructor.

HRD 440 Strategic Planning (4)
Development of long-range plans to accomplish the training and development mission. Simulation, group problem solving and preferred future planning used to acquire strategic planning skills.
Prerequisite: Junior standing and two HI, HRD or VTE courses.

HRD 451 Strategies for Helping Older Adults (4)
Considers physical and psychological changes occurring with aging and implications of these changes for helpers, differences in helping techniques appropriate for older people and special techniques useful for older people, such as the life review.
Prerequisite: HI 261 and PSY 331 or instructor's permission.

HRD 452 Community Resources for the Elderly (4)
Assesses community needs and services for elders and their families and ways to promote intra- and inter-agency cooperation within the aging network. Investigates services offered by senior centers, long-term care, day care and respite care organizations, home health care agencies and retirement communities.
Prerequisite: HI 261, PSY 331 or instructor's permission.

HRD 467 Workshop (2 or 4)
Opportunity for industry/agency personnel and students to focus on various programs and practices. Offered as needed to meet needs of agency or industry employers and training directors. May be taken more than once for 8 credits total.
Prerequisite: Course work or experience in the workshop topic.

HRD 469 Seminar (2 or 4)
Scope is predefined and based on a broad topic in the HRD field. Students select research areas and contribute their findings to the class. Visiting consultants and the instructor provide direction and content. May be taken more than once for a total of 8 credits.
Prerequisite: Course work or experience in the seminar topic.

HRD 490 Internship in HRD (4, 8 or 12)
A culminating experience where students apply learning in a supervised HRD setting. Students must submit application to instructor two or more months in advance, then obtain information to seek an approved site. May be repeated only with department permission.
Prerequisite: Senior standing in HRD, completion of core courses, a grade point average of at least 2.50, admission to specialization, and permission of instructor by application.

LABOR EDUCATION

LE 320 Introduction to Labor Studies (4)
Origin and development of labor organizations, emergence of collective bargaining. Identification of structures and functioning of unions. Impact of unions on the economy and body politic. Impact of unionism on technological innovation, trade, employee involvement, and changing work force.

LE 322 Union Structure and Governance (4)
Analysis of development, composition, structure, behavior, and internal operational processes of U.S. labor organizations from the local to the national federation level. Focus on organizational behavior in different unions, political processes, and issues involving union democracy and contract administration.

LE 324 Work and the Law (4)
Survey of law governing labor-management relations and the regulation of internal union affairs. Case and statutory law on rights and duties of employers and unions. Review of OSHA, ERISA, workers' compensation, unemployment compensation, EEOC, and other employment-related legislation. Identical with SOC 324.

LE 326 Collective Bargaining and Dispute Resolution (4)
Historical, legal, economic, and philosophical aspects of collective bargaining and contract administration. Analysis of bargaining data, contract provisions, simulated bargaining, and methods of dispute resolution.

VOCATIONAL AND TECHNICAL EDUCATION

VTE 300 Vocational/Technical Education (2)
Historical development, philosophy, purpose and intent of vocational and technical education including the structure, function and purposes of educational institutions in our society.
Prerequisite: Permission of instructor.

VTE 310 Training Design (4)
Identical with HRD 310.
Prerequisite: VTE 300.

VTE 312 School Safety and Health (2)
Analysis of accident causation and prevention in school facilities. Study of federal, state and local codes which apply to safety and health in schools. Review of concepts, methodology and procedures for assessment of safety and health hazards in school science laboratories and vocational education and training facilities.
Prerequisite: Permission of instructor.

VTE 401 Supervised Occupational Experience (1, 2, 3 or 4)
Directed technical-occupational experience required for vocational education teacher certification. Work must be in a trade area directly related to the area to be certified. May be taken more than once for a total of four credits.
Prerequisite: Permission of instructor.

VTE 420 Instructional Methods (2)
Identical with HRD 420.
Prerequisite: VTE 310.
Corequisite: VTE 421.

VTE 421 Instruction Presentation Lab (2)
Identical with HRD 421.
Corequisite: VTE 420.

VTE 490 Internship (2, 10)
Supervised student teaching experience in a vocational/technical education setting. Students with fewer than nine months of full-time teaching experience must register for 10 credits. Others may apply for permission to register for two credits which cover performance evaluation.
Prerequisite: 12 credits in VTE, senior standing and a minimum overall GPA of 2.50.

DEPARTMENT OF READING AND LANGUAGE ARTS

453 O'DOWD HALL (313) 370-3065

Chairperson: *George E. Coon*

Professors Emeritus: *Harold C. Cafone, Harry T. Hahn*

Professors: *Jane M. Bingham, George E. Coon, Ronald L. Cramer, W. Dorsey Hammond, Keith E. Stanovich*

Associate professors: *Richard F. Barron, Gloria T. Blatt, Robert J. Christina, Anne Porter, Robert M. Schwartz, Toni S. Walters*

As a department within the School of Education and Human Services, the instructional staff of the Reading and Language Arts Department offers courses in reading, language arts, instructional systems technology and children's literature at the undergraduate level for students pursuing a career in teaching. The department offers a master's degree program in reading and language arts, a certificate program in microcomputer applications, and a doctor of philosophy degree in reading.

Course Offerings

RDG 331 Teaching of Reading (4)
Intensive preparation for the teaching of reading skills in the elementary grades. Identification of reading readiness, problems of program construction and a variety of teaching methods are included. Includes a required field experience.
Prerequisite: Admission to major and FE 215.

RDG 332 Literature for Children (4)
The ability to evaluate children's literature critically, to understand its history, to assess children's needs and developmental levels, and to be able to select and use quality literature effectively with children are major objectives of the course.
Prerequisite: RHT 101 or equivalent.

RDG 333 Teaching the Language Arts (4)
Preparation for teaching language arts in the elementary, middle and early secondary schools. Topics include teaching composition, creative writing, oral language development, listening, spelling, reading and the application of linguistic principles. Includes a required field experience.
Prerequisite: Admission to major and FE 215.

RDG 338 Teaching Reading in the Content Areas (4)
A basic course in reading for prospective secondary teachers. Content will deal with the nature of the reading process and methods and materials for teaching the reading of English, social studies and other subjects to junior and senior high school students. Not open to elementary education majors.

RDG 414 Reading Appraisal in the Elementary Classroom (4)
Involves direct classroom appraisal of reading abilities of children in elementary school classrooms. Formal and informal diagnostic instruments are used. Diagnostic data are used for prescriptive teaching. Specifically involves reading instruction with pupils and involvement with school personnel.
Prerequisite: RDG 331.
Corequisite: EED 455.

RDG 490 Independent Study and Research (2 or 4)
A program of directed individual reading and research. May be repeated for a maximum of 4 credits.
Prerequisite: Permission of the Department of Reading and Language Arts (granted only if students present written faculty consent to supervise their study.)

IST 396 Educational Uses of Microcomputers and Related Technologies (4)
General microcomputer literacy course designed with focus on educational applications to enable education students to utilize microcomputers and related technologies for career and personal goals.

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

248 DODGE HALL (313) 370-2217

Dean: *Howard R. Witt*

Office of the Dean: *Nan K. Loh, associate dean for research and development; Bhushan L. Bhatt, associate dean for administration; Lisa M. Birkby, assistant to the dean; Patrick Bennett, academic adviser/program coordinator; Frederick J. Lutz, engineering cooperative education coordinator*

Board of Visitors

The Board of Visitors for the School of Engineering and Computer Science is composed of leaders in industry. They assist the school in developing educational and research programs to meet the rapidly expanding requirements in the technical world. The board is available as a body or individually for consultation on such matters as curriculum, research, facilities, equipment requirements, special subjects, and long-range planning. Board members are:

Guy D. Barnicoat, Ph.D., Chairperson, Board of Visitors, President and Chief Operating Officer, Walbro Automotive Division
William G. Agnew, Ph.D., Retired Director, General Motors Research Labs
Hadi A. Akeel, Ph.D., Vice President and Chief Engineer, GMF Robotics
Allen A. Alper, Ph.D., Vice President and General Manager, Chemical and Metallurgical Division, GTE Products Corporation
Ronald R. Boltz, Vice President, Product Strategy and Regulatory Affairs, Chrysler Corporation
Gerald DeClaire, Vice President, Research and Engineering, Rockwell International
Herbert H. Dobbs, Ph.D., Consultant, Rochester, Michigan
Lamont Eltinge, Ph.D., Director of Research, Eaton Corporation
Gordon England, Vice President, Research and Engineering, General Dynamics
Albert F. Houchens, Ph.D., Director, Fabrication Technology, GM Technical Center
Sidney D. Jeffe, Vice President, Schlegel Corporation
Ronald P. Knockeart, Vice President, Research and Development, Siemens-Bendix
David B. Lantz, President, Manufacturing Engineering Division, SSOE, Inc.
Ian Macpherson, Ph.D., Director, Powertrain Engineering, Ford Motor Company
Ronald L. McIntyre, Director, Engineering Research and Development, Detroit Edison
James R. Nette, Assistant Vice President, Engineering and Operations, Michigan Bell
Donald W. Rees, Chief, Survivability Division, U.S. Army, TACOM

General Information

Accreditation

All academic programs of Oakland University are accredited by the North Central Association of Colleges and Schools. In addition, the undergraduate programs in computer, electrical, mechanical and systems engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) and the computer science program is accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board (CSAB).

Undergraduate programs

The School of Engineering and Computer Science offers instruction leading to the degrees of Bachelor of Science in Engineering, with majors in computer, electrical, mechanical and systems engineering, and Bachelor of Science, with a major in computer science. In addition, programs leading to the Bachelor of Science degree in engineering chemistry and engineering physics are offered jointly with the College of Arts and Sciences.

Through its engineering programs, the School of Engineering and Computer Science prepares students for careers in an industrial-based society. Recognizing that today's engineers must be able to solve complex, highly focused problems, as well as those transcending narrow fields of specialization, the School of Engineering and Computer Science blends an interdisciplinary core with specialized study in the elected major for each program.

Oakland University engineering graduates are prepared to enter the traditional fields of government, product design, development, manufacturing, sales, service and systems analysis — as well as specialized areas, such as robotics, transportation, pollution control, energy systems, computer engineering, communications, medical electronics and automotive engineering. They are also prepared to pursue graduate study for careers in research and teaching. A growing number of students find their undergraduate engineering education is excellent preparation for careers in business, law and medicine.

The baccalaureate program in computer science provides a solid foundation for a career in that field. Since both the engineering and computer science programs are offered within the school, computer science majors are exposed to the hardware as well as the software aspects of the profession. Thus, students in the computer science program prepare themselves for careers in the traditional fields of systems programming, data processing and systems analysis, as well as in such interdisciplinary fields as artificial intelligence, robotics, computer architecture, computer graphics, pattern recognition and scientific computation.

By selecting appropriate concentrations and minors, students can combine their studies in engineering and/or computer science with advanced preparation in a number of related fields.

The School of Engineering and Computer Science also offers a minor in computer science for nonmajors.

Professional Societies

The school has a number of professional societies like the Association of Computing Machinery (ACM), Association of Minority Engineers and Computer Scientists (AMECS), American Society of Mechanical Engineers (ASME), Institute of Electrical and Electronics Engineers (IEEE), Society of Automotive Engineers (SAE), Society of Women Engineers (SWE), National Society of Professional Engineers (NSPE), American Institute of Aeronautics and Astronautics (AIAA), Theta Tau fraternity and honor societies Eta Kappa Nu and Tau Beta Pi. Students are encouraged to become active members of one or more of these organizations. For more details refer to the undergraduate student handbook of the school.

Graduate programs

The School of Engineering and Computer Science offers programs leading to the Master of Science degree in electrical and computer engineering, mechanical engineering, systems engineering, computer science and engineering, and the Doctor of Philosophy degree in systems engineering which involves a blending of various disciplines.

For more information, see the *Oakland University Graduate Catalog.*

Center for Robotics and Advanced Automation

The School of Engineering and Computer Science has a Center for Robotics and Advanced Automation. Founded in 1981, it has since become a center of research excellence. The main goals of the center are to contribute to the demand for high technology and industrial productivity in the United States and to create a partnership among industries, government and academic communities to solve problems of common interest, particularly in intelligent robotics, intelligent machine vision and automated manufacturing.

Admission

High school preparation

Entering freshmen planning to major in engineering or computer science should have taken at least four years of high school mathematics, including trigonometry. A solid background in English composition is essential for all majors. Additional preparation should include course work in chemistry and physics. Drafting, machine shop practice, computer programming, and electronics shop courses are useful, but are not required for admission. Normally, a 3.00 (B average) is required for admission to programs in the School of Engineering and Computer Science.

Transfer policy

The programs offered by the School of Engineering and Computer Science are designed to meet accreditation criteria, as well as to reflect the Oakland University philosophy of education. The programs are more than an assemblage of courses; they are designed to blend theory and experiment, and to integrate fundamental mathematical and scientific background into advanced analysis and design work.

To ensure the integrity of its programs, the School of Engineering and Computer Science has adopted the following transfer policy. Records of students transferring to Oakland University from other academic institutions are evaluated and transfer credit is granted as appropriate. Once matriculated at Oakland, students are expected to complete all remaining course work for the degree at Oakland University. Students who plan to take courses at other universities must have prior written consent of the chair of their major. Students who have completed 62 semester hours of credit from any accredited institution, including Oakland University, may not transfer additional credits or course equivalents from community or junior colleges.

Students planning to transfer into one of the engineering programs should present the following: four semester courses in analytic geometry and calculus, including linear algebra and differential equations; two semester courses in introductory college physics using calculus; and one or two semester courses in chemistry. Other credits in mathematics, science or engineering will be evaluated with reference to engineering graduation requirements. Technician course credits generally do not apply to these requirements.

Community college students who plan to transfer into an engineering program are advised to follow the transfer program prescribed by the Michigan Engineering College/Community College Liaison Committee. Brochures describing the program are available from community colleges or the School of Engineering and Computer Science. Community college students who satisfy the MACRAO agreement generally need only 8 additional credits to satisfy Oakland University's general education requirements.

Students planning to transfer into the computer science program should complete one year of course work in calculus, one course in linear algebra, one course in discrete mathematics if possible and two semester courses in introductory college physics using calculus. A course in programming in a high-level language, such as PASCAL or PL/1, and a course in assembly programming are desirable. Whenever possible, further course work in computer science should be planned with an Oakland University adviser to ensure compatibility with university requirements.

See *Transfer student information* for additional information.

Internal transfer

Oakland University students wishing to transfer into programs in the School of Engineering and Computer Science from other majors or from undecided status will be considered upon the completion of the following courses: MTH 154, MTH 155, PHY 151 and PHY 152. A strong performance in all of the courses taken at Oakland University, and especially in the above listed four courses in calculus and physics, are required for internal transfer.

Academic Advising and Plans of Study

The programs of study for all entering freshmen are focused toward acquiring math, science, writing and programming skills and thus follow a more or less uniform pattern. One of the early courses taken by engineering students is EGR 101, "Introduction to Engineering." This course is taught by faculty from all the departments of the school, thereby providing a perspective of their specialty areas, and increasing professional awareness of the students. Students are encouraged to meet with the faculty and seek further clarification or professional advice.

Upon acquiring major standing (see below), students are assigned to a faculty adviser. It is mandatory for the students to consult their faculty advisers to plan a meaningful program of professional study in their major immediately after major standing has been granted.

In order to further facilitate the student-faculty interaction, one week of each term is designated as "Advising Week." During the fall term, this is normally the week before early registration. During the winter term this is normally the week beginning on the first Monday of April. Failure to meet with his/her adviser, at least once during each fall and winter semester, will result in cancellation of the student's registration for the succeeding semester.

In consultation with the faculty advisers, engineering students should ensure that they acquire at least 16 credits of design while satisfying their overall program requirements. Design credits can be acquired through the study of various subjects. For each program, relevant design courses and credits are listed in the school's "Undergraduate Student Handbook" available from the Advising Office in 159A Dodge Hall.

The school's academic advising office oversees specific program requirements. Students who have questions about transfer credit, academic standing, major standing, petitions or the details of degree requirements should consult the academic adviser in 159A Dodge Hall. Students of the School of Engineering and Computer Science must complete a Plan of Study form, which is a timetable of courses to be taken for undergraduate credit. They should complete the form as early as possible, but no later than the end of the semester in which they complete 48 credits. Transfer students should submit the form when they enter Oakland University, regardless of the number of credits they have already earned.

Students are responsible for updating their plans regularly, preferably each semester. Although advisers are obligated to help students plan their programs, the responsibility for fulfilling degree requirements remains with students.

Degree Requirements

General requirements for the baccalaureate degrees

The following general requirements must be met by students seeking a bachelor's degree in computer engineering, electrical engineering, mechanical engineering, systems engineering, engineering chemistry, engineering physics or computer science.

Students must:

1. Complete at least 128 credits for all programs. At least 32 credits must be in courses at the 300 level or above.
2. Complete at least 32 credits at Oakland University. (Refer to the transfer policy of the School of Engineering and Computer Science for further clarification.) The credits taken at Oakland must include the following for students majoring in:
   a. computer, electrical, mechanical or systems engineering, at least 24 credits in engineering core or professional subjects required for the major, of which 16 must be design credits;
   b. engineering chemistry and engineering physics, at least 16 credits in required engineering courses, and 16 credits in chemistry or physics courses required for the major;
   c. computer science, at least 20 credits in computer science courses required for the major.
3. Take the last 8 credits needed to complete baccalaureate requirements at Oakland University.

4. Demonstrate writing proficiency by meeting the university standard in English composition (see *Undergraduate degree requirements*).
5. Fulfill the university general education requirement (see below and *Undergraduate degree requirements*.)
6. Be admitted to major standing in the major of the student's choice.
7. Complete the requirements specified for the elected major.
8. Earn a cumulative grade point average of at least 2.00 in courses taken at Oakland University.
9. Complete an Application for Degree card at the Office of the Registrar and pay the graduation service fee.

General education

All Oakland University students must take a series of courses distributed across eight field groups for broad exposure to a liberal arts education. Engineering and computer science students automatically satisfy two of these groups (natural science and technology; mathematics, logic and computer science) by virtue of required courses. In addition to satisfying the remaining six groups, engineering and computer science students must arrange to acquire depth in a particular area of general education study. The requirements may be satisfied by selecting one of the course sequences listed below and choosing the remaining courses to span the field groups not represented.

Theatre and dramatic expression: THA 201 and ENG 306 (arts and literature)

American history and literature: HST 114 and ENG 224 (western civilization and literature)

Classical philosophy and mythology: PHL 204 and ENG 312 (western civilization and literature)

Russian civilization and its Communist transformation: IS 260 and PS 377 (international studies and western civilization)

Chinese civilization and its Communist transformation: IS 210 and PS 377 (international studies and western civilization)

Macro-economics in the context of American history: HST 115 and ECN 200 (or 210), (western civilization and social science)

Comparative politics: PS 131 and PS 377 (western civilization and social science)

Culture, science and technology: AN 102 or AN 300 and HST 210 (social science and western civilization)

Self and society in American history: HST 114 or 115 and SOC 206 (western civilization and social science)

Asian literature and civilization: LIT 100 and IS 210 (or 220 or 240), (literature and international studies)

Language and civilization: SPN 114, RUS 114, CHE 114, JPN 114 or HIU 114 and the corresponding IS course (250, 260, 210, 220 or 240), (language and international studies)

Suggested sequence for the freshman year

Following is an example of a suggested sequence of courses for freshmen entering the School of Engineering and Computer Science with the necessary preparation in mathematics.

Engineering majors — First semester: EGR 101, MTH 154, CHM 144 or CHM 164, CSE 132, Rhetoric or general education course. Second semester: CSE 171, MTH 155, PHY 151, general education course.

Computer science majors — First semester: CSE 132, MTH 154, Rhetoric or general education course. Second semester: CSE 262, MTH 155, PHY 151, general education course. Computer science majors are encouraged to take the 1-credit course EGR 101 as a free elective.

Scheduling for subsequent years depends on students' selected majors or minors, but should be tailored to meet the requirements for admission to major standing promptly. For sample schedules, refer to the department listings in this catalog or to the student handbook of the School of Engineering and Computer Science.

Students who are not prepared to enter the mathematics and science courses without additional preparation in these subject areas must modify their schedules accordingly. Such students may require additional time to complete degree requirements, unless they correct the deficiencies by enrolling during the spring and summer sessions following the freshman year.

Admission to major standing

To enroll in 300- or 400-level courses and to become candidates for the baccalaureate degree, students of the School of Engineering and Computer Science must gain major standing in their selected majors. An application for major standing should be submitted during the semester in which students complete all requirements for admission.

Students lacking major standing may enroll in 300- or 400-level engineering or computer science courses only by presenting at registration an approval form signed by either the academic adviser or the chair of the major. The purpose of this process is to ensure that students can correct and are working to correct outstanding deficiencies preventing admission to major standing. Forms may be obtained in the academic advising office, 159A Dodge Hall.

Admission to major standing in each of the programs of the School of Engineering and Computer Science requires writing proficiency and satisfactory completion of course work in mathematics, science and the major, as designated below.

Computer science and computer engineering

Mathematics: MTH 154-155, MTH 256, APM 263. Science: PHY 151, PHY 152. Major: EGR 101 (for computer engineering majors only) CSE 132, CSE 171, CSE 262, CSE 280.

Electrical engineering and systems engineering

Mathematics: MTH 154-155, MTH 256, APM 257. Science: CHM 144 or CHM 164, PHY 151, PHY 152. Major: EGR 101, CSE 132, CSE 171, ME 221.

Mechanical engineering

Mathematics: MTH 154-155 and either MTH 254 or both MTH 256 and APM 257. Science: CHM 144 or CHM 164, PHY 151, PHY 152. Major: EGR 101, CSE 132, CSE 171, ME 221.

Engineering physics

Mathematics: MTH 154-155, MTH 254. Science: CHM 144-145 or CHM 164-165, PHY 151, PHY 152, PHY 158. Major: CSE 132, CSE 171, EE 222.

Engineering chemistry

Mathematics: MTH 154-155, MTH 254, APM 257. Science: CHM 144-145 or CHM 164-165, CHM 149. Major: EGR 101, CSE 132, CSE 171, ME 221.

To complete the requirements for major standing satisfactorily a student must a) have an average of at least 2.00 in each of the mathematics, science and major course groupings; b) have no more than two grades below 2.0 in the required courses; c) not have repeated any course more than twice; and d) not have repeated more than three different courses. Courses in which a W (withdrawal) grade is recorded will not be counted.

Transfer students may satisfy the requirements for major standing by using transfer credits.

Course load

Students should strike a balance between course load and other commitments. In general, students carrying a full load of 16 credits per semester should not be employed for more than 20 hours per week. Students who are employed 40 hours per week generally should not carry a course load of more than 4 credits per semester.

The university's maximum course load policy is detailed in the Academic Policies and Procedures section (see *Course and credit system*).

Graduation check

To ensure that students have met all requirements, they must participate in a final program audit during the semester preceding the one in which they expect to graduate. Application should be made in the advising office, 159A Dodge Hall.

Cooperative Education

General information

Students in the School of Engineering and Computer Science who want to combine relevant work experience with their college education are encouraged to participate in the university's cooperative education program. Co-op employment provides practical training related to a student's field of study and forms an integral part of the educational program. It enables students to relate their academic studies with practical applications, and it gives them early contact with practitioners in their fields.

Beginning in the junior year, co-op students alternate four-month semesters of full-time study with equal periods of paid, full-time employment in business, industry or government. The program coordinator and the employer work together to ensure that the practical training becomes progressively more challenging and carries increasing responsibility as students advance through the curriculum.

Requirements of the cooperative education program

Students interested in the cooperative education program in engineering or computer science should apply through the Office of the Cooperative Education Coordinator, 275 Vandenberg Hall (370-3252).

To be admitted, a student must:

1. Be granted major standing in engineering or computer science (see above), or file an approved plan for achieving major standing, signed by the chair of the major. In addition, engineering students must have completed the mathematics sequence appropriate to their major.
2. Normally, have a cumulative grade point average of at least 2.80.
3. Have the approval of the School of Engineering and Computer Science, the cooperative education coordinator for the school and the employer.

Transfer students must have completed at least one semester of full-time study at Oakland University before acceptance into the program.

To remain in good standing in the cooperative education program, students must:

1. Complete alternate semesters of full-time study and full-time work.
2. Complete at least 12 credits of work appropriate to their elected major during each semester of study, maintaining a cumulative grade point average of at least 2.80.
3. Complete EGR 391 during the semester following each co-op assignment.
4. Submit a satisfactory training report (as part of the requirements for EGR 391) within four weeks of the beginning of the semester following each co-op assignment.
5. Receive a satisfactory employer evaluation for each assignment.

The grade assigned in EGR 391 will give added weight to the employer's evaluation, the student's written training report, a progress interview with the coordinator and the student's participation in regularly scheduled classes.

Students who do not meet the conditions for good standing will be subject to dismissal from the co-op program.

The co-op program is administered by the Department of Placement and Career Services.

Double major

To earn two majors in engineering or in engineering and computer science, students must complete all requirements of both programs. Further, in addition to the credit hours needed for one major, the student must complete a minimum of 12 credit hours in pertinent technical courses applicable to the second major.

Students seeking two degrees should consult the university's requirements (see *Additional undergraduate degrees and majors*).

Policies on Electives

Approved science electives

Approved science electives for majors in computer science and in computer, electrical, mechanical and systems engineering are: biology courses numbered 190 and higher; CHM 145, CHM 165 (CHM 144 for computer science majors) and chemistry courses numbered 225 and higher, except CHM 497; physics courses numbered 317 and higher, except PHY 341; and ENV 308 and ENV 373. Special topics and independent study courses require prior approval.

Whereas any one of the above courses may be taken to satisfy the science elective, some subjects have a greater relevance and usefulness than others to a specific major. Such subjects have been identified for each major, under departmental listings, later on in this catalog. It is highly recommended that students take one of the recommended science elective courses listed under the departmental requirements.

Free electives ineligible for credit toward the degree

Students entering the School of Engineering and Computer Science are expected to have adequate preparation for the required introductory courses in mathematics, physics and chemistry. Courses in these areas that are more elementary than MTH 154, PHY 151 and CHM 144 may not be presented for credit toward a degree in engineering and computer science. Specifically, the following courses and their equivalents are not recognized for credit toward the degree: MTH 011, MTH 012, MTH 100, MTH 121-122, MTH 141, MTH 185, PHY 101, PHY 102, CHM 104, CHM 110 and CHM 140.

New courses in mathematics, physics or chemistry that may be introduced in the future will be added to the list if the content warrants. A current list of disallowed courses is maintained in the office of the academic adviser, 159A Dodge Hall, and is available for inspection.

Concentrations and minors

Students who wish to add an established minor or concentration or otherwise participate in an interdepartmental program must apply for admission and assistance in planning a program. Application may be made to the coordinator of the appropriate program committee or department involved.

Described below are the requirements for minors and concentrations that have been approved for engineering and computer science majors. Students planning medical, dental or optometry careers are advised to take the concentration in preprofessional studies in medicine, dentistry and optometry (see *Concentrations* in the Arts and Sciences portion of the catalog).

Accounting

Coordinator: *David D. Sidaway*

For computer science majors, a minimum of 20 credits. To obtain a minor in accounting, a student must complete the following courses with a grade of at least 2.0 in each course: ACC 200, ACC 210 and 12 additional credits in accounting (ACC) courses for which the student has the prerequisites.

Applied mathematics

Coordinator: *Jerrold W. Grossman*

For engineering and computer science majors, a minimum of 22 credits. To obtain a minor in applied mathematics, a student must complete the following courses with a grade of 2.0 or better in each: MTH 254, MTH 256, MTH 351, STA 226 or another approved statistics course, and two courses chosen from APM 257, APM 263 and courses labeled MTH, APM, STA or MOR with a number of 300 or higher (with the exception of MTH 414 and MTH 497). Students should consult an adviser in the Department of Mathematical Sciences when planning their programs.

Applied statistics
Coordinator: *Harvey Arnold*

For engineering and computer science majors, a minimum of 16 credits. To obtain a concentration in applied statistics, a student must complete at least 16 credits in statistics with an average grade of at least 2.0. Courses must include STA 226 or another approved introductory course, STA 322, STA 323 and STA 324. Students should consult an adviser in the Department of Mathematical Sciences when planning their programs.

Biology
Coordinator: *Nalin J. Unakar*

For computer science majors, a minimum of 20 credits. To obtain a liberal arts minor in biology, a student must take a minimum of 20 credits in biology, including BIO 190, BIO 195 and BIO 200. At least 8 credits must be in courses numbered 301 or higher. A minimum of 8 credits must be taken at Oakland University.

Chemistry
Coordinator: *Paul Tomboulian*

For computer science majors, a minimum of 26 credits. To obtain a liberal arts minor in chemistry, a student must take CHM 144-145 (or CHM 164-165), CHM 149, CHM 225, CHM 203-204 or CHM 234-235 and CHM 342. This minor is also available for engineering majors, requiring a minimum of 24 credits. Engineering majors must complete the following courses with an average grade of 2.0 or better: CHM 144-145 (or CHM 164-165), CHM 149, CHM 203 or CHM 225, CHM 342, CHM 470 and CHM 471. A minimum of 8 credits must be taken at Oakland University.

Economics
Coordinator: *Ronald L. Tracy*

For engineering and computer science majors, a minimum of 18-20 credits. To obtain a minor in economics (offered by the School of Business Administration), a student must complete the following courses with a grade of at least 2.0 in each course: ECN 150 or ECN 210 or ECN 200-201, and 12-16 additional credits in economics (ECN) courses for which the student has the prerequisites. Students who have taken ECN 150 need 16 additional credits to earn a minor.

Environmental studies
Coordinator: *Paul Tomboulian*

For engineering majors, a minimum of 24 credits. To obtain a concentration in environmental studies, a student must complete the following courses: a) CHM 203, ENV 308 and EGR 407; b) 8 credits of electives chosen from ENV 372, ENV 373, and BIO 301; and c) 4 credits of EGR 490 or EGR 494 on an approved environmental engineering topic.

Finance
Coordinator: *Robert T. Kleiman*

For computer science majors, a minimum of 22 credits. To obtain a minor in finance, a student must complete the following courses and any prerequisites required: ACC 200, QMM 250, FIN 322 and 8 additional credits in finance (FIN) courses. A grade of at least 2.0 in each course is required.

General business
Coordinator: *Floyd Willoughby*

For engineering and computer science majors, a minimum of 19-23 credits. To obtain a minor in general business, a student must complete the following courses with a grade of at least 2.0 in each course: ECN 210 or both ECN 200 (or ECN 150) and ECN 201, ACC 200, ORG 330, and 6-8 additional credits chosen from 300- or 400-level courses in ACC, FIN, MGT, MIS, MKT, ORG, POM or QMM for which the student has met the prerequisites.

Linguistics
Coordinator: *Peter J. Binkert*

For computer science majors, a minimum of 20 credits. To obtain a liberal arts minor in linguistics, a student must complete the following courses with an average grade of at least 2.0: ALS 176 or LIN 207, LIN 301, and at least 12 linguistics (LIN) credits at the 300 or 400 levels, 4 of which must be at the 400 level.

Physics
Coordinator: *Norman Tepley*

For computer science majors, a minimum of 20 credits. To obtain a liberal arts minor in physics, a student must complete the following courses with an average grade of at least 2.0: PHY 151-152, PHY 158, and at least 8 credits in physics courses numbered 300 or higher.

Quantitative methods
Coordinator: *David P. Doane*

For computer science majors, a minimum of 19 credits. To obtain a minor in quantitative methods, a student must complete the following courses with a grade of at least 2.0 in each course: CSE 130 or CSE 132, QMM 250 or STA 226; three courses chosen from MIS 444, POM 448, QMM 440, QMM 452, ECN 405, STA 323 and STA 324.

Prerequisites

In planning their schedules, students should ensure that they satisfy prerequisite and corequisite conditions for courses. Students will have their registrations cancelled if they register for courses for which they do not meet the conditions. Students will be liable for any financial penalties incurred by such cancellation.

Independent study and project courses

Independent study and project courses numbered 490 and 494 are available to provide enrichment opportunities to qualified students. They are not intended as substitutes for regular course offerings; rather, they allow students to investigate areas of interest outside the scope of regular courses, examine subjects more deeply than can be accommodated in regular courses, or gain educational experiences beyond that of regular course work.

To register for an independent study or project course, students must first submit a plan of work to the faculty member who will supervise the course. The plan must be approved by the faculty member and the chair of the major before students may register for the course.

Application forms are available in the advising office, 159A Dodge Hall.

Petitions

Waivers of specific academic requirements may be initiated by submitting a petition of exception (see *Petition of exception*).

Students seeking a review of their academic standing within the school or students who wish to make a formal complaint should submit a written petition to the chair of their major or to the associate dean for administration. Petitions will be processed according to established university procedures.

Academic conduct

Students are expected to abide by the principles of truth and honesty, which are essential to fair grading. Academic misconduct in any form is not permitted.

Students who are found guilty of academic misconduct in any course offered by the school, as determined by the university Academic Conduct Committee, may be subject to penalties ranging from a reduced grade for the assignment, to a grade of 0.0 for the entire course, to academic probation, to suspension or dismissal from the university.

All assignments must be the independent work of each student, unless the professor of the course gives explicit permission relaxing this requirement.

See the *Academic Conduct Policy* section of the catalog for more detailed information.

Academic standing

The performance of students in the School of Engineering and Computer Science will be reviewed at the end of each semester to determine academic progress.

Good academic standing in the school requires a cumulative grade point average of at least 2.00 in: a) courses required for the major; b) cognate courses in mathematics and science; and c) all courses taken at Oakland University. Students whose cumulative grade point averages fall below 2.00 in one or more of the three categories will be placed on provisional status.

While on provisional status, students must have their programs of study approved by the chair of their major. Students who fail to remove provisional conditions after one semester are generally ineligible to continue their programs. However, provisional status may be continued if students are judged to be making substantial progress toward correcting the deficiency. (For part-time students, 12 consecutive credits of course work will be considered equivalent to one semester.)

Students on provisional status may not serve on committees of the School of Engineering and Computer Science.

Students who become ineligible to continue enrollment in the School of Engineering and Computer Science may transfer to another school or college within the university.

The above rules were established by the undergraduate curriculum committee of the School of Engineering and Computer Science. Students wishing to appeal a ruling on their academic status must address a written petition to the committee on academic standing. Petitions may be submitted to the associate dean for administration or the academic adviser.

Unsatisfactory performance

Unsatisfactory (U) grades and grades less than 2.0 are considered substandard. A student within the School of Engineering and Computer Science who repeats a course in which a grade below 2.0 has been earned must repeat that course at Oakland University. Courses in which a grade below 2.0 has been earned may not be subsequently passed by competency examination or independent study.

See *Repeating courses* for additional information.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

168 DODGE HALL (313) 370-2200

Acting chairperson: *Subramaniam Ganesan*

Professors: *David E. Boddy, Richard E. Haskell, Glenn A. Jackson, Janusz W. Laski, Thomas G. Windeknecht*

Associate professors: *Subramaniam Ganesan, Fatma Mili, Ronald J. Srodawa, Sarma R. Vishnubhotla, Christian C. Wagner*

Assistant professor: *Frank A. Cioch*

Special instructor: *Jerry E. Marsh*

Adjunct professor: *Michael Marcotty*

Adjunct associate professor: *Osman D. Altan*

Major in Computer Engineering

Major technological advances are being made in the computer field at a rapid pace, and it is essential that computer engineering students are not only aware of these advances but prepared to work in this changing environment. Students should gain a strong background in the fundamentals of computer engineering and develop a willingness to accept and thrive on change.

The computer engineering program at Oakland University is designed to provide students with the basic knowledge and skills needed to function effectively in computer-related activities in the years ahead. A balance between theoretical and practical experience and an emphasis on the software and hardware aspects of computers are key elements to the university's computer engineering major.

To earn the degree of Bachelor of Science in Engineering with a major in computer engineering, students must complete a minimum of 128 credits. They must demonstrate proficiency in writing (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General education (excluding mathematics and science)		24
Mathematics and science		
MTH 154-155	Calculus	8
MTH 256	Introduction to Linear Algebra	3
APM 257	Introduction to Differential Equations	3
APM 263	Discrete Mathematics	4
CHM 144	General Chemistry (or CHM 164)	4
PHY 151-152	Introductory Physics	8
Approved science elective*		4
		34
Computer science and engineering core		
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
CSE 262	Data Structures	4
CSE 280	Computer Organization and Assembly Language Programming	4
		16

Engineering core		
EGR 101	Introduction to Engineering	1
EGR 401	Professional Engineering	1
EE 222	Introduction to Electrical Circuits	4
EE 384	Electronic Materials and Devices	4
ME 221	Statics and Dynamics	4
ME 241	Thermodynamics	4
SYS 317	Engineering Probability and Statistics	3
SYS 325	Lumped Parameter Linear Systems	3
		24
Professional subjects		
Required		
EE 326	Electronic Circuit Design	4
CSE 388	Computer Hardware Design	4
CSE 464	Computer Organization and Architecture	4
Senior design course		4
CSE 470	Microprocessor-based System Design	
or		
EGR 490	Senior Project**	
		16
Electives — 8 credits chosen from:		
CSE 343	Foundations of Computer Science (4)	
Any 400-level CSE course (4-8)		
EE 426	Advanced Electronics (4)	
EE 428	Industrial Electronics (4)	
EE 437	Introduction to Communication Electronics (4)	
SYS 422	Robotic Systems (4)	
SYS 431	Automatic Control Systems (4)	
SYS 463	Foundations of Computer-Aided Design (4)	
SYS 469	Simulation in Engineering (4)	
ECN 414	Engineering Economics (2)	
EGR 490***	Senior Project (2-4)	
EGR 494***	Independent Study (2-4)	
		8
Free electives (may be used to satisfy writing proficiency)		6
For limitations on free electives see *Policies on electives.*		
	Total	128

**Approved science electives are given in Policies on electives. Those most highly recommended for computer engineering students are CHM 145 and 165, and any PHY course numbered 325 or higher (except PHY 341).*

***Needs approval for its design content by the chairperson of the Department of Computer Science and Engineering.*

****Needs prior permission of the chairperson of the Department of Computer Science and Engineering.*

Design requirements

All computer engineering students must complete a total of at least 16 credit hours of design while satisfying their overall program requirements. In meeting this requirement, they must seek their faculty adviser's approval. Also, consult the SECS "Undergraduate Student Handbook" for a listing of the number of design credit hours contained in each course.

Economics requirement

In addition to the requirements stated above, computer engineering students must fulfill the economics requirement. This may be met by completion of ECN 414 as a professional elective or by completion of ECN 150, ECN 200 or ECN 210 as a part of the general education requirement.

Performance requirements

In addition to the previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 within each group: namely, mathematics and science, core subjects and professional subjects. Within professional subjects, at most two grades below 2.0 are permitted; at most two different courses may be repeated, and a total of three repeat attempts is permitted.

Sample computer engineering schedule

Students entering the School of Engineering and Computer Science with the required background may follow a schedule such as the one indicated below. However, students will need additional time to complete the program if they do not have the required background upon entrance to the program.

Freshman year — fall semester: EGR 101, MTH 154, CHM 144 (or CHM 164), CSE 132, rhetoric or general education, 17 credits; winter semester: MTH 155, PHY 151, CSE 171, general education, 1-credit free elective, 17 credits.

Sophomore year — fall semester: MTH 256, PHY 152, CSE 262, general education, 1-credit free elective, 16 credits; winter semester: APM 263, EE 222, CSE 280, general education, 16 credits.

Junior year — fall semester: APM 257, ME 221, SYS 317, EE 326, general education, 18 credits; winter semester: ME 241, CSE 388, SYS 325, general education, 15 credits.

Senior year — fall semester: EE 384, CSE 470 or EGR 490, professional elective, science elective, EGR 401, 17 credits; winter semester: CSE 464, professional elective, 4-credit free elective, 12 credits.

Major in Computer Science

The program in computer science leading to a Bachelor of Science degree prepares students for professional practice in systems programming, software design and computer applications, or for graduate study in computer science. The program provides a solid foundation based on the organization, processing and display of information. Through choice of minor, students may broaden their areas of expertise to include such diverse subjects as applied mathematics, business applications, management science or other areas that utilize computers in everyday operations.

To earn the Bachelor of Science degree with a major in computer science, students must complete a minimum of 128 credits, demonstrate writing proficiency (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General education (excluding mathematics and science)		24
Mathematics and science		
MTH 154-155	Calculus	8
MTH 256	Introduction to Linear Algebra	3
APM 263	Discrete Mathematics	4
STA 226	Applied Statistics (or approved substitute)	4
PHY 151-152	Introductory Physics	8
PHY 158	General Physics Laboratory	2
Approved science elective*		4
		33
Computer science and engineering core		
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
CSE 262	Data Structures	4
CSE 280	Computer Organization and Assembly Language Programming	4
		16
Professional subjects		
Required		
Two programming language laboratories (see Course offerings) with one from Group A and one from Group B		2
CSE 335	Programming Languages	4
CSE 343	Foundations of Computer Science	4
CSE 402	Social Implications of Computing	1
CSE 450	Operating Systems	4
		15

Electives — 12 credits chosen from:
At least one of the following software design oriented courses: CSE 413, CSE 415, CSE 416, CSE 438, CSE 439, CSE 440, CSE 445, CSE 447, CSE 455, CSE 465 (4-12)
Any 300- or 400-level CSE course (4-8)

SYS 463	Foundations of Computer-Aided Design (4)	
SYS 469	Simulation in Engineering (4)	
EGR 490**	Senior Project (2-4)	
EGR 494**	Independent Study (2-4)	
		12
Approved minor		20
Free electives (may be used to satisfy writing proficiency)		8
For limitations on free electives see *Policies on electives.*		
	Total	128

**Approved science electives are given in Policies on electives. Those most highly recommended for computer science students are CHM 144 and 164, and any PHY course numbered 325 or higher.*
***Needs prior approval of the chairperson of the Department of Computer Science and Engineering.*

Performance requirements

In addition to previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 within each group: namely, mathematics and science, core subjects, professional subjects and approved minor. Within professional subjects, at most two grades below 2.0 are permitted, at most two different courses may be repeated and a total of three repeat attempts is permitted.

Approved minors

Computer science students must complete an approved minor with an average grade point of at least 2.00. Approved minors are: accounting, applied mathematics, applied statistics, biology, chemistry, economics, finance, general business, linguistics, physics and quantitative methods (see *Concentrations and minors*, above).

Other minors or alternate programs may be approved by petition. Students must apply to the coordinator of the program for assistance in planning their minors and to obtain certification. Courses used to satisfy minor requirements may also be used to meet other program requirements.

Sample computer science schedule

Students entering the School of Engineering and Computer Science with the required background may follow a schedule such as the one indicated below. However, students will need additional time to complete the program if they do not have the required background upon entrance to the program.

Freshman year — fall semester: MTH 154, CSE 132, general education, English composition or general education, 1-credit free elective, 17 credits; winter semester: MTH 155, PHY 151, CSE 262, general education, 16 credits.

Sophomore year — fall semester: MTH 256, PHY 152, PHY 158, CSE 171, programming lab, 14 credits; winter semester: APM 263, CSE 280, course in minor, general education, programming lab, 17 credits.

Junior year — fall semester: STA 226, CSE 335, course in minor, general education, 16 credits; winter semester: CSE 343, course in minor, general education, free elective, 16 credits.

Senior year — fall semester: CSE 402, CSE 450, professional elective, course in minor, science elective, 17 credits; winter semester: two professional electives, course in minor, free elective, 15 credits.

Minor in computer science for nonengineering majors

The School of Engineering and Computer Science offers a minor in computer science to students with majors other than engineering or computer science.

Students must earn 20 credits in computer science (CSE) courses, including: a minimum of 8 credits taken from CSE 335, CSE 340, CSE 343, CSE 345 or any 400-level CSE course approved by an adviser; a maximum of 8 credits from CSE 125, and either CSE 130 or CSE 132; a maximum of 8 credits from CSE 220, CSE 248, CSE 280 and CSE 262; and a maximum of 4 credits in "Programming Language Labs." A grade point average of at least 2.00 is required in courses counted toward a minor.

Students seeking a minor must obtain permission from the Department of Computer Science and Engineering in order to register for CSE courses at the 300 and 400 levels.

DEPARTMENT OF ELECTRICAL AND SYSTEMS ENGINEERING

133 DODGE HALL (313) 370-2177

Chairperson: *Naim A. Kheir*

Professor emeritus: *David H. Evans*

John F. Dodge Professor: *Nan K. Loh*

Professors: *Naim A. Kheir, Keith R. Kleckner, Andrzej Rusek, Tung H. Weng, Howard R. Witt*

Associate professors: *Hoda S. Abdel-Aty-Zohdy, Ka C. Cheok, Manohar Das, Robert P. Judd, Robert P. Van Til, Mohamed A. Zohdy*

Assistant professor: *You L. Gu*

Visiting assistant professor: *Seyoung Kim*

Adjunct professors: *Ronald R. Beck, Donald R. Falkenburg*

Major in Electrical Engineering

Electrical engineering is a broad field encompassing a number of disciplines. Oakland University's undergraduate program in electrical engineering is designed to provide students with the basic knowledge and skills for challenging careers in electrical engineering in the coming decades. The curriculum offers strong fundamentals in analog and digital circuits, electronics including VLSI systems, electromagnetics, electronic devices, communications, controls and power systems. In addition, a strong laboratory component of the program offers numerous design opportunities and allows students to relate theoretical ideas to practical problems.

Electrical engineering faculty members are engaged in research related to new developments in the field. Their activities contribute to a well-developed, up-to-date curriculum.

To earn the degree of Bachelor of Science in engineering with a major in electrical engineering, students must complete a minimum of 128 credits, demonstrate writing proficiency (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General Education (excluding mathematics and science)		24
Mathematics and science		
MTH 154-155	Calculus	8
MTH 254	Multivariable Calculus	4
MTH 256	Introduction to Linear Algebra	3
APM 257	Introduction to Differential Equations	3
CHM 144	General Chemistry (or CHM 164)	4
PHY 151-152	Introductory Physics	8
Approved science elective*		4
		34
Engineering core		
EGR 101	Introduction to Engineering	1
EGR 401	Professional Engineering	1
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
EE 222	Introduction to Electrical Circuits	4
EE 384	Electronic Materials and Devices	4

ME 221	Statics and Dynamics	4
ME 241	Thermodynamics	4
SYS 317	Engineering Probability and Statistics	3
SYS 325	Lumped Parameter Linear Systems	3
		32

Professional subjects
Required

EE 326	Electronic Circuit Design	4
EE 345	Electric and Magnetic Fields	4
EE 351	Electromechanical Energy Conversion	4
EE 378	Design of Digital Systems	4
EE 437	Introduction to Communication Electronics	4
SYS 431	Automatic Control Systems	4
		24

Electives — 8 credits chosen from:
At least one of the following design courses: EE 426, EE 470, EE 472, SYS 433, SYS 458 (4-8)
Any 400 level course with an EE, CSE or SYS designation (4)

EGR 490**	Senior Project (2-4)	
EGR 494**	Independent Study (2-4)	
ME 454	Solar and Alternate Energy Systems (4)	
PHY 472	Quantum Mechanics I (4)	
ECN 414	Engineering Economics (2)	
		8

Free electives (may be used to satisfy writing proficiency) 6
For limitations on free electives, see *Policies on electives.*

Total 128

**Approved science electives are given in Policies in electives. Those most highly recommended for electrical engineering students are PHY 331, 361 and 371.*
***Needs prior approval of the chairperson of the Department of Electrical and Systems Engineering.*

Depth areas

Electrical engineering students desiring depth in a particular area should consider the following professional elective packages: Electronics — EE 426 and either EE 485 or EE 487; Control systems — SYS 422, SYS 433; Computers — EE 470, EE 472; Power systems — SYS 458, ME 454.

Design requirements

All electrical engineering students must complete a total of at least 16 credit hours of design while satisfying their overall program requirements. In meeting this requirement, they must seek their faculty adviser's approval. Also, consult the SECS "Undergraduate Student Handbook" for a listing of the number of design credit hours contained in each course.

Economics requirement

In addition to the requirements stated above, electrical engineering students must fulfill the economics requirement. This may be met by completion of ECN 414 as a professional elective or by completion of ECN 150, 200 or 210 as a part of the general education requirement.

Performance requirements

In addition to previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 within each required group: namely, mathematics and science, core subjects, and professional subjects. Within professional subjects, at most two grades below 2.0 are permitted, at most two different courses may be repeated and a total of three repeat attempts is permitted.

Major in Systems Engineering

Systems engineering is a broad discipline with roots in a diverse spectrum of engineering fields. The coordination of engineering tasks and the assembly of a complex array of subsystems, such as in the Apollo and Space Shuttle programs, are typical of the systems approach to problem solving and design.

Oakland University's systems engineering program contains two options: dynamic systems and control, and manufacturing.

The dynamic systems and control program prepares students for the field of control engineering. The curriculum combines courses from electrical and mechanical engineering, along with a systems engineering control sequence. It is designed to teach the fundamentals of mechanical systems, control system design techniques, and the practical matter of implementing the controllers in modern electronic hardware.

The manufacturing program emphasizes the important role of the computer in systems design. This curriculum is anchored by a strong computer science component which, along with professional courses, prepares students for careers in simulation, computer-assisted design and systems optimization.

To earn the degree of Bachelor of Science in Engineering with a major in systems engineering, students must complete a minimum of 128 credits, demonstrate writing proficiency (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General education (excluding mathematics and science)		24
Mathematics and science		
MTH 154-155	Calculus	8
MTH 256	Introduction to Linear Algebra	3
APM 257	Introduction to Differential Equations	3
APM 263*	Discrete Mathematics (4) or	
MTH 254*	Multivariable Calculus (4)	4
CHM 144	General Chemistry (or CHM 164)	4
PHY 151-152	Introduction to Physics	8
Approved science elective**		4
		34
Engineering core		
EGR 101	Introduction to Engineering	1
EGR 372	Properties of Materials	4
EGR 401	Professional Engineering	1
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
EE 222	Introduction to Electrical Circuits	4
ME 221	Statics and Dynamics	4
ME 241	Thermodynamics	4
SYS 317	Engineering Probability and Statistics	3
SYS 325	Lumped Parameter Linear Systems	3
		32
Professional subjects for dynamic systems and control option (32 credits)		
Required		
EE 326	Electronic Circuit Design	4
EE 351	Electromechanical Energy Conversion	4
EE 378	Design of Digital Systems	4
ME 321	Dynamics and Vibrations	4
SYS 431	Automatic Control Systems	4
SYS 433	Modern Control System Design	4
		24
Electives — 8 credits chosen from:		
At least one of the following design courses: SYS 422, SYS 458, EE 426, EE 470, EE 472 (4-8)		
Any 400-level course with EE, CSE, SYS or ME designation (4)		
EGR 490*†	Senior Engineering Project (2-4)	
EGR 494*†	Independent Study (2-4)	
ECN 414	Engineering Economics (2)	
		8
Professional subjects for manufacturing option (32 credits)		
Required		
CSE 262	Data Structures	4

SYS 410	Systems Optimization and Design	4
SYS 463	Foundations of Computer-Aided Design	4
SYS 469	Computer Simulation in Engineering	4
SYS 483	Production Systems	4
SYS 484	Flexible Manufacturing Systems	4
		24

Electives — 8 credits chosen from:

Any 400-level course with the SYS, CSE, EE or ME designation (4-8)

EGR 490*†	Senior Project (2-4)	
EGR 494*†	Independent Study (2-4)	
ECN 414	Engineering Economics (2)	
		8

Free Electives (may be used to satisfy writing proficiency) 6

For limitations on free electives see *Policies on electives*.

Total 128

**MTH 254 is required for dynamic systems and control option and APM 263 is required for manufacturing option.*
***Approved science electives are given in Policies on electives. Those most highly recommended are PHY 331 and 371.*
**†Needs prior permission of the chairperson of the Department of Electrical and Systems Engineering.*

Economics requirement

In addition to the requirements stated above, systems engineering students must fulfill the economics requirement. This may be met by completing ECN 414 as a professional elective or by completing ECN 150, ECN 200 or 210 as part of the general education requirement.

General business

Students enrolled in the manufacturing option may wish to augment their degree with a minor in general business. This may be done by completing 19-23 credits specified by the School of Business Administration (see Minors in the Business Administration portion of the catalog). The credits from the minor may be used to satisfy the social science general education requirement, the economics requirement, and the free elective requirement.

Design requirements

All systems engineering students must complete a total of at least 16 credit hours of design while satisfying their overall program requirements. In meeting this requirement, they must seek their faculty adviser's approval. Also, consult the SECS "Undergraduate Student Handbook" for a listing of the number of design credit hours contained in each course.

Performance requirements

In addition to previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 within each group: namely mathematics and science, core subjects and professional subjects. Within professional subjects, at most two grades below 2.0 are permitted; at most two different courses may be repeated and a total of three repeat attempts is permitted.

Sample electrical engineering and systems engineering schedules

Students entering the School of Engineering and Computer Science with the required background may follow a schedule such as the one indicated below. However, students will need additional time to complete the program if they do not have the required background upon entrance to the program.

Freshman year — fall semester: EGR 101, MTH 154, CHM 144 (or CHM 164), CSE 132, Rhetoric or general education, 17 credits; winter semester: MTH 155, PHY 151, CSE 171, general education, 1-credit free elective, 17 credits.

Sophomore year — fall semester: MTH 254, PHY 152, ME 221 or ME 241, general education, 16 credits; winter semester: APM 257, EE 222, ME 221 or ME 241, general education, 1-credit free elective, 16 credits.

Junior year — fall semester: MTH 256, SYS 317, EGR 372 (for SYS), EE 326 (for EE), SYS 325, general education, 17 credits; winter semester: two professional subjects, one science elective, one free elective, 16 credits.

Senior year — fall semester: EE 384 and two professional subjects (for EE), three professional subjects (for SYS), EGR 401, general education, 17 credits; winter semester: three professional subjects, 12 credits.

DEPARTMENT OF MECHANICAL ENGINEERING

170 DODGE HALL (313) 370-2210

Chairperson: *Joseph D. Hovanesian*

Professors: *Bhushan L. Bhatt, Robert H. Edgerton, Joseph D. Hovanesian, Yau Y. Hung, Gilbert L. Wedekind*

Associate professors: *Brian P. Sangeorzan, Ren-Jyh Gu*

Assistant professors: *Ching L. Ko, Michael Latcha*

Visiting assistant professor: *Gary C. Barber*

Adjunct professors: *Martin A. Erickson, Grant R. Gerhart*

Major in Mechanical Engineering

The field of mechanical engineering offers a broad spectrum of career opportunities in such areas as design, analysis, test development, research and the manufacturing of numerous products.

Oakland University's undergraduate program in mechanical engineering provides a foundation in the mechanics of solids, thermodynamics, fluid mechanics, transfer and rate mechanisms, materials, design of mechanical systems and electrical and computer theory. A strong laboratory experience is interwoven through the curriculum, providing numerous design experiences. Opportunities are provided to allow students to relate theoretical ideas to practical problems.

The option of selecting several of the senior-level courses allows for greater flexibility in the choice of option areas of specialization within mechanical engineering.

To earn the degree of Bachelor of Science in Engineering with a major in mechanical engineering, students must complete a minimum of 128 credits, demonstrate writing proficiency (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General Education (excluding mathematics and science)		24
Mathematics and science		
MTH 154-155	Calculus	8
MTH 254	Multivariable Calculus	4
MTH 256	Introduction to Linear Algebra	3
APM 257	Introduction to Differential Equations	3
CHM 144	General Chemistry (or CHM 164)	4
PHY 151-152	Introductory Physics	8
Approved science elective*		4
		34
Engineering core		
EGR 101	Introduction to Engineering	1
EGR 372	Properties of Materials	4
EGR 401	Professional Engineering	1
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
EE 222	Introduction to Electrical Circuits	4
ME 221	Statics and Dynamics	4
ME 241	Thermodynamics	4
SYS 317	Engineering Probability and Statistics	3
SYS 325	Lumped Parameter Linear Systems	3
		32

Professional subjects

Required

ME 321	Dynamics and Vibrations	3
ME 331	Introduction to Fluid and Thermal Energy Transport	4
ME 361	Mechanics of Materials	4
		11

Professional design requirements

Choose one course from Group A and one from Group B:

Group A

ME 486	Machine Design (4)	
ME 487	Mechanical Engineering CAD/CAM Systems (4)	
Group B		
ME 454	Solar and Alternate Energy Systems (4)	
ME 482	Fluid and Thermal Energy Systems (4)	
		8

Choose one of the following:

(i) Senior Mechanical Engineering Design Project, ME 492 (3); and one professional subject or elective which contains at least 1 credit of design (see "Design Requirements").

(ii) Professional subjects or electives which contain a total of at least 4 design credits (see "Design Requirements").

The courses selected in (i) or (ii) above should belong to, and be counted toward, one of the professional options listed below.

Professional options

1. General mechanical engineering option (15 credits)

Professional electives (chosen from the following if not taken to satisfy Group A and B design requirements)

ME 438	Fluid Transport (4)
ME 448	Thermal Energy Transport (4)
ME 449	Numerical Techniques in Heat Transfer and Fluid Flow (4)
ME 454	Solar and Alternate Energy Systems (4)
ME 456	Energy Systems Analysis (4)
ME 461	Analysis and Design of Mechanical Structures (4)
ME 472	Material Properties and Processes (4)
ME 482	Fluid and Thermal Energy Systems (4)
ME 486	Machine Design (4)
ME 487	Mechanical Engineering CAD/CAM Systems (4)
ME 492	Senior Mechanical Engineering Design Project (3)
EGR 490**	Senior Project (2-4)
ECN 414	Engineering Economics (2)

Not more than 4 credits from:

EGR 407	Environmental Engineering (4)
EGR 494**	Independent Study (2-4)
SYS 431	Automatic Control Systems (4)
SYS 469	Simulation in Engineering (4)
SYS 483	Production Systems (4)
CSE 417	Applied Numerical Methods: Approximations (4)
CSE 418	Applied Numerical Methods: Matrix Methods (4)
	15

2. Fluid and thermal systems option (15 credits)

Required subjects

ME 438	Fluid Transport (4)
ME 448	Thermal Energy Transport (4)
ME 482	Fluid and Thermal Energy Systems (4)

Professional electives (chosen from the following if not taken to satisfy Group A and B design requirements)

ME 449	Numerical Techniques in Heat Transfer and Fluid Flow (4)

ME 454	Solar and Alternate Energy Systems (4)	
ME 456	Energy Systems Analysis (4)	
ME 492	Senior Mechanical Engineering Design Project (3)	
EGR 490**	Senior Project (2-4)	
ECN 414	Engineering Economics (2)	
No more than 4 credits from:		
EGR 494**	Independent Study (2-4)	
SYS 431	Automatic Control Systems (4)	
CSE 417	Applied Numerical Methods: Approximations (4)	
CSE 418	Applied Numerical Methods: Matrix Methods (4)	
		15

3. Computer-aided design option (15 credits)

Required subjects

ME 461	Analysis and Design of Mechanical Structures (4)	
ME 487	Mechanical Engineering CAD/CAM Systems (4)	

Professional electives (chosen from the following if not taken to satisfy Group A and B design requirements)

ME 449	Numerical Techniques in Heat Transfer and Fluid Flow (4)	
ME 472	Material Properties and Processes (4)	
ME 486	Machine Design (4)	
ME 492	Senior Mechanical Engineering Design Project (3)	
EGR 490**	Senior Project (2-4)	
EGR 494**	Independent Study (2-4)	
ECN 414	Engineering Economics (2)	
No more than 4 credits from:		
SYS 431	Automatic Control Systems (4)	
SYS 463	Foundations of Computer-Aided Design (4)	
CSE 417	Applied Numerical Methods: Approximations (4)	
CSE 418	Applied Numerical Methods: Matrix Methods (4)	
		15

4. Production and manufacturing processes option (15 credits)

Required subjects

ME 472	Material Properties and Processes (4)	
ME 486	Machine Design (4)	

Professional electives (chosen from the following if not taken to satisfy Group A and B design requirements)

ME 461	Analysis and Design of Mechanical Structures (4)	
ME 482	Fluid and Thermal Energy Systems (4)	
ME 487	Mechanical Engineering CAD/CAM Systems (4)	
ME 492	Senior Mechanical Engineering Design Project (3)	
ME 665	Experimental Stress Analysis (4) (requires instructor approval)	
EGR 490**	Senior Project (2-4)	
EGR 494**	Independent Study (2-4)	
SYS 422	Intelligent Robotics (4)	
SYS 483	Production Systems (4)	
ECN 414	Engineering Economics (2)	
No more than 4 credits from:		
SYS 431	Automatic Control (4)	
CSE 470	Microprocessors and Microcomputers (4)	
		15

Free electives (may be used to satisfy writing proficiency and programming recommendations) 4

For limitations on free electives see *Policies on electives.*

Total 128

**Approved science electives are given in Policies on electives. Those most highly recommended for mechanical engineering students are PHY 331, 351, 366, 371, CHM 145 (or CHM 165), BIO 200 and BIO 205.*

***Needs prior permission of the chairperson of the Department of Mechanical Engineering.*

Design requirements

Design credits must be associated with courses in the professional option, chosen with approval of faculty adviser. All mechanical engineering students must complete a total of at least 16 credit hours of design while satisfying their overall program requirements. Consult the SECS "Undergraduate Student Handbook" for a listing of the number of design credit hours contained in each course.

Economics requirement

In addition to the requirements stated above, mechanical engineering students must fulfill the economics requirement. This may be met by completion of ECN 414 as a professional elective or by completion of ECN 150, ECN 200 or ECN 210 as part of the general education requirement.

Programming recommendations

In addition to the required computer courses, it is recommended that students have some experience in Fortran language, such as CSE 232, and word processing, spread sheets and simple graphics such as CSE 201.

Performance requirements

In addition to previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 within each group: namely, mathematics and science, core subjects, and professional subjects. Within professional subjects, at most two grades below 2.0 are permitted; at most two different courses may be repeated and a total of three repeat attempts is permitted.

Sample mechanical engineering schedule

Students entering the School of Engineering and Computer Science with the required background may follow a schedule such as the one indicated below. However, students will need additional time to complete the program if they do not have the required background upon entrance to the program.

Freshman year — fall semester: EGR 101, MTH 154, CHM 144 (or CHM 164), CSE 132, Rhetoric or general education, 17 credits; winter semester: MTH 155, PHY 151, CSE 171, general education, 16 credits.

Sophomore year — fall semester: MTH 254, PHY 152, ME 221 or ME 241, general education, 16 credits; winter semester: APM 257, EE 222, ME 221 or ME 241, general education, 15 credits.

Junior year — fall semester: MTH 256, ME 321, ME 331, SYS 325, general education, 17 credits; winter semester: EGR 372, ME 361, free or professional elective, science elective, 16 credits.

Senior year — fall semester: SYS 317, EGR 401, two or three (with project) professional subjects, general education, 16 or 19 credits; winter semester: three or four (with project) professional subjects, 12 or 15 credits.

ENGINEERING SCIENCES PROGRAMS

Major in Engineering Chemistry

Coordinators: *Ching L. Ko (engineering), Mark Severson (chemistry)*

The program in engineering chemistry, offered jointly by the School of Engineering and Computer Science and the College of Arts and Sciences, leads to the Bachelor of Science degree. It provides for intensive study in chemistry, along with basic preparation in engineering.

To earn the degree of Bachelor of Science with a major in engineering chemistry, students must complete a minimum of 128 credits, demonstrate writing proficiency (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General education (excluding mathematics and science)		24
Mathematics and physics		
MTH 154-155	Calculus	8
MTH 254	Multivariable Calculus	4
APM 257	Introduction to Differential Equations	3
PHY 151-152	Introduction to Physics	8
		23
Chemistry		
CHM 144-145	General Chemistry (or CHM 164-165)	8
CHM 149	Chemistry Laboratory	2
CHM 234-235	Organic Chemistry	8
CHM 237	Separations and Spectroscopy Laboratory	2
CHM 342-343	Physical Chemistry	8
CHM 348	Physical Chemistry Laboratory	2
CHM 471	Macromolecular Chemistry	3
Plus 6 credits from:		
CHM 462-463	Inorganic Chemistry (4)	
CHM 470	Industrial Chemistry (3)	
CHM 472	Macromolecular Chemistry II (3)	
CHM 477	Molecular Laboratory (2)	6
		39
Engineering		
EGR 101	Introduction to Engineering	1
EGR 401	Professional Engineering	1
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
EE 222	Introduction to Electrical Circuits	4
ME 221	Statics and Dynamics	4
ME 241	Thermodynamics	4
ME 331	Introduction to Fluid and Thermal Energy Transport	4
SYS 325	Lumped Parameter Linear Systems	3
		29
Plus 8 credits from:		
ME 438	Fluid Transport (4)	
ME 448	Thermal Energy Transport (4)	
ME 449	Numerical Techniques in Heat Transfer and Fluid Flow (4)	
ME 456	Energy Systems Analysis (4)	

ME 482	Fluid and Thermal Energy Systems (4)	
SYS 431	Automatic Control Systems (4)	
		8
Free electives (may be used to satisfy writing proficiency)		5
For limitations on free electives see *Policies on electives.*		
	Total	128

Performance requirements

In addition to the previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 in the courses taken to satisfy the engineering, chemistry and mathematics and physics requirements.

Major in Engineering Physics

Coordinators: *Hoda Abdel-Aty-Zohdy (engineering), John M. McKinley (physics)*

The program in engineering physics is offered jointly by the School of Engineering and Computer Science and the College of Arts and Sciences. This program blends the pure and applied, the theoretical and practical aspects of scientific knowledge into a meaningful educational experience. Through the university's cooperative education program, engineering physics students may opt to combine a relevant work experience with their formal education.

To earn the degree of Bachelor of Science with a major in engineering physics, students must complete a minimum of 128 credits, demonstrate writing proficiency (see *Undergraduate degree requirements*) and meet the following requirements:

		Credits
General education (excluding mathematics and science)		24
Mathematics and sciences		
MTH 154-155	Calculus	8
MTH 254	Multivariable Calculus	4
APM 257	Introduction to Differential Equations	3
CHM 144-145	General Chemistry or (CHM 164-165)	8
PHY 151-152	Introductory Physics	8
PHY 158	Physics Laboratory	2
PHY 317	Modern Physics Laboratory	2
PHY 351	Intermediate Theoretical Physics	4
PHY 361	Mechanics I	4
PHY 371	Modern Physics	4
Another course in physics in addition to any required in options below, chosen from:		
PHY 331	Optics (4)	
PHY 366	Vibrations and Waves (4)	
PHY 381	Electricity and Magnetism I (4)	
PHY 472	Quantum Mechanics I (4)	
		4
		51
Engineering		
CSE 132	Introduction to Computer Science	4
CSE 171	Introduction to Digital Logic and Microprocessors	4
EE 222	Introduction to Electrical Circuits	4
EE 326	Electronic Circuit Design	4
ME 241	Thermodynamics	4
SYS 317	Engineering Probability and Statistics	3
SYS 325	Lumped Parameter Linear Systems	3
		26

Professional option

(The following two options are offered as typical. Students with different interests can construct different options in consultation with the program coordinators.)

Solid state physics and technology option

EE 384	Electronic Materials and Devices	4
PHY 472	Quantum Mechanics I	4
Design elective, chosen from:		4
EE 378	Design of Digital Systems (4)	
EE 426	Advanced Electronics (4)	
EE 437	Introduction to Communication Electronics (4)	
EE 470	Microprocessors and Microcomputers (4)	
EE 487	Integrated Electronics (4)	
SYS 410	Systems Optimization and Design (4)	
		12

Applied mechanics option

PHY 366	Vibrations and Waves	4
ME 361	Mechanics of Materials	4
Design elective, chosen from:		4
ME 454	Solar and Alternate Energy Systems (4)	
ME 461	Analysis and Design of Mechanical Structures (4)	
ME 482	Fluid and Thermal Energy Systems (4)	
ME 486	Machine Design (4)	
ME 487	Mechanical Engineering CAD/CAM Systems (4)	
		12

Technical electives, chosen from:

MTH 256	Introduction to Linear Algebra (3)	
APM 263	Discrete Mathematics (4)	
PHY 318	Nuclear Physics Laboratory (2)	
PHY 331	Optics (4)	
PHY 366	Vibrations and Waves (4)	
PHY 372	Nuclear Physics (4)	
PHY 381	Electricity and Magnetism I (4) or	
EE 345	Electric and Magnetic Fields (4)	
PHY 418	Modern Optics Laboratory (2)	
PHY 472	Quantum Mechanics I (4)	
PHY 482	Electricity and Magnetics II (4)	
EE 351	Electromechanical Energy Conversion (4)	
EE 378	Design of Digital Systems (4)	
EE 384	Electronic Materials and Devices (4)	
ME 331	Introduction to Fluid and Thermal Energy Transport (4)	
ME 361	Mechanics of Materials (4)	
Any 400-level EGR, EE, ME or SYS courses (4-8)		
		7-8
Free electives (can be used to satisfy writing proficiency)		7-8
For limitations on free electives, see *Policies on electives.*		
	Total	128

Performance requirements

In addition to the previously stated requirements, satisfactory completion of the program requires an average grade of at least 2.00 in the engineering and computer science courses and also in the mathematics and science courses taken to meet program requirements.

Course Offerings

Courses offered through the School of Engineering and Computer Science carry the following designations: computer science and engineering courses, CSE; electrical engineering courses, EE; systems engineering courses, SYS; mechanical engineering courses, ME. Courses offered under the general title of engineering are listed under EGR. For some of the courses, the semester(s) in which they are usually offered is indicated at the end of course description. However, this is subject to change.

To register for 300- and 400-level courses, students must have attained major standing.

ENGINEERING

EGR 101 Introduction to Engineering (1)
Introduction to the various disciplines of engineering. The course will be a series of weekly lectures on topics in engineering. Offered fall, winter. (Graded S/U)

EGR 106 Machine Shop Practice (2)
Introduction to basic machining principles and machine shop techniques, uses of lathes, milling machines and other power machines. Emphasis is on practical experience.

EGR 108 Engineering Drawing (2)
Introduction to the use of drafting instruments and procedures. Geometric construction and projection, dimensioning, tolerancing and graphic symbols. Offered fall, winter.

EGR 295 Special Topics (1 to 4)
Study of special topics in engineering and/or computer science. May be taken more than once. Topic must be approved prior to registration.

EGR 372 Properties of Materials (4)
The atomic, molecular and crystalline structure of solids, including a description of x-ray analysis, metallography and other methods of determining structure; correlation of structure with the electric, magnetic and mechanical properties of solids. With laboratory. Offered fall, winter.
Prerequisite: CHM 144 (or CHM 164), PHY 152 and major standing.

EGR 391 Cooperative Engineering and Computer Science (1)
A seminar course for cooperative engineering and computer science students to be taken in the semester following a cooperative training assignment. A report of the training assignment must be submitted within four weeks of the beginning of the course. May be repeated up to three times.
Prerequisite: Consent of the cooperative education coordinator.

EGR 400 Engineering Seminar (1)
Lectures and discussions conducted by faculty, graduate students and speakers from industry and other universities. Emphasis is on current research interests of the school. May be taken twice.

EGR 401 Professional Engineering (1)
Seminars of professional interest to engineers, including such topics as professionalism, ethics, engineering law, engineering economics and technical communications. Graded S/U.
Prerequisite: Senior status in engineering.

EGR 407 Environmental Engineering (4)
A design course that includes consideration of resources and recycling in terms of available energy; economic/thermodynamic combined situations are illustrated through field trips and by guest speakers. A group or individual project is required.
Prerequisite: ME 241.

EGR 490 Senior Project (2 to 4)
Independent work on advanced laboratory projects. Topic must be approved prior to registration. May be taken more than once.

EGR 494 Independent Study (2 to 4)
Advanced individual study in a special area. Topic must be approved prior to registration. May be taken more than once.

EGR 495 Special Topics (2 to 4)
Advanced study of special topics in engineering. May be taken more than once.

COMPUTER SCIENCE AND ENGINEERING

CSE 125 Introduction to Computer Use (4)
A first course in computer usage for non-engineering and computer science majors. Introduction to computer hardware, software and business applications. Topics include word processing, spreadsheets, data base management, data communications and graphics software. Programming concepts in data base languages. Problem solving methodology is emphasized. Instruction is divided between lecture and computing laboratory. Offered fall, winter. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 012 or equivalent.

CSE 130 Introduction to Computer Programming (4)
Introduction to digital computers and algorithmic programming in a language such as PASCAL. Topics covered include data storage and manipulation, control structures and subprogramming. Engineering and computer science majors should enroll in CSE 132. Students cannot receive credit for both CSE 130 and CSE 132. Offered fall, winter. *Satisfies the university general education requirement in mathematics, logic and computer science.*
Prerequisite: MTH 012 or equivalent.

CSE 132 Introduction to Computer Science (4)
Introduction to an algorithmic language such as PASCAL and to data structures including arrays, records and linked structures. Emphasis is on programming and algorithmic problem solving. Students cannot receive credit for both CSE 130 and CSE 132. Offered fall, winter.
Corequisite: MTH 141.

CSE 171 Introduction to Digital Logic and Microprocessors (4)
Introduction to digital logic and microprocessors. Machine language programming of microprocessors. Use of microcomputers for laboratory data acquisition and analysis. Offered fall, winter.
Prerequisite: CSE 132 and MTH 154.

CSE 201 Engineering Computer Use (1)
Microcomputer software of use to engineering and computer science students. Word processing, spreadsheets, data base management, data communications and graphics. Students cannot receive credit for both CSE 201 and CSE 125.

CSE 215 Natural and Artificial Languages (6)
Identical with LIN 215.

CSE 220 Computer-based Information Systems I (4)
Introduction to business data processing using the COBOL programming language. Emphasis is on structured programming and top-down development in an interactive environment. Offered fall, winter.
Prerequisite: Ability to program in at least one high level language.

CSE 221 Computer-based Information Systems II (4)
Continuation of CSE 220. Advanced capabilities of the COBOL language are studied. Topics include report writer, relative, direct and indexed files, data dictionaries, debugging. Sophisticated business data processing systems will be programmed. Credit applies to graduation but not the major.
Prerequisite: CSE 220 or equivalent.

CSE 232-245 Programming Language Labs
Group A:
CSE 232 Language Laboratory — FORTRAN (1); Prerequisite: CSE 130 or 132 or one high-level language.
CSE 233 Language Laboratory — COBOL I (1); Prerequisite: CSE 130 or 132 or one high-level language.
CSE 234 Language Laboratory — COBOL II (1); Prerequisite: CSE 233.
CSE 235 Language Laboratory — PASCAL (1); Prerequisite: one high-level language.
(Students cannot receive credit for both CSE 235 and CSE 130 or CSE 132)
CSE 236 Language Laboratory — PL/1 (1); Prerequisite: CSE 262
CSE 237 Language Laboratory — ADA (1); Prerequisite: CSE 262
CSE 238 Language Laboratory — C (1); Prerequisite: CSE 262
CSE 239 Language Laboratory — Modula-2 (1); Prerequisite: CSE 262

Group B
CSE 240 Language Laboratory — LISP (1); Prerequisite: CSE 262
CSE 241 Language Laboratory — FORTH (1); Prerequisite: CSE 280
CSE 242 Language Laboratory — APL (1); Prerequisite: CSE 262 and MTH 256
CSE 243 Language Laboratory — SNOBOL (1); Prerequisite: CSE 262
CSE 244 Language Laboratory — PROLOG (1); Prerequisite: CSE 262
CSE 245 Language Laboratory — SMALLTALK (1); Prerequisite: CSE 262

CSE 248 Systems Analysis and Design (4)
Function and responsibility of the systems analyst, including techniques in interview, charts, design, analysis, development, presentation and implementation. Other topics discussed include cost/benefit analysis, EDP auditing, COM and word processing.
Prerequisite: CSE 220.

CSE 262 Data Structures (4)
Elementary data structures and their application in computer programming. Linear lists, arrays, trees, forests and generalized lists and their implementation using sequential and linked storage. Recursive and non-recursive algorithms for representative data structure operations. Searching and sorting. Student projects for the course will be run on a minicomputer or mainframe with a complex operating system. Offered fall, winter.
Prerequisite: CSE 132 and MTH 154.

CSE 280 Computer Organization and Assembly Language Programming (4)
Introduction to the internal structure and operation of a digital computer. Hardware organization, machine language, instruction execution, digital arithmetic, addressing techniques and digital representations of data. Assembly language programming; assemblers and linkers; loading relocatable modules. Offered fall, winter.
Prerequisite: CSE 171.

CSE 315 Computer Parsing of Natural Language (4)
Identical with LIN 315.
Prerequisite: LIN/CSE 215 or ALS 176, CSE 130 or CSE 132.

CSE 335 Programming Languages (4)
Fundamental concepts in programming languages. Several high-level languages are studied in depth and their approaches to the fundamental issues in language design are compared. Issues include: data types and structures, control structures, binding times, run-time, storage organization, flexibility vs. efficiency, compiled vs. interpreted languages, strong vs. weak typing, block structure and scope of names. Offered fall, winter.
Prerequisite: CSE 262, CSE 280, MTH 256 and major standing.

CSE 340 File Systems Design (4)
Study of hardware configurations and software systems design for data-oriented applications. Characteristics of mass-storage devices and the impact of the characteristics on data processing algorithm design, standard file access techniques, file design for data processing applications. Offered fall.
Prerequisite: CSE 130 or CSE 132, junior standing.

CSE 343 Foundations of Computer Science (4)
An introduction to the theoretical foundations of computer science. Recursive functions, computability in programming languages, validity of algorithms, finite automata, Turing machines. Offered fall, winter.
Prerequisite: APM 263, CSE 262 and major standing.

CSE 345 Database Design and Implementation (4)
An introduction to the systematic design, creation and implementation of a relational data base using microprocessor-based data base management systems such as R:base 5000 and dBase III Plus. The course will emphasize practical applications of data bases and the solution of real problems. Intended for students wishing a minor in computer science; it may not be used for credit toward a degree program in Computer Science and Engineering. Students cannot receive credit for both CSE 345 and CSE 445. Offered winter.
Prerequisite: CSE 130 or CSE 132, junior standing.

CSE 388 Computer Hardware Design (4)
Boolean algebra, Karnaugh Map and Quine McCluskey method approaches to design. Combinational network design, multiplexers, decoders, encoders and priority encoders. Adder circuits, PLAs and Gate arrays. Sequential system: State minimization using row matching, implication chart and next class table methods. Applications to computer organization, microprogramming and computer design. Students cannot receive credit for both CSE 388 and EE 378. Offered fall, winter.
Prerequisite: CSE 171, PHY 152 and major standing.

CSE 402 Social Implications of Computers (1)
Seminars dealing with the professional, social, and ethical issues of computer science and engineering. Presentations by faculty, students, and visiting professionals. Graded S/U. Credit cannot be earned for both CSE 402 and EGR 401.
Prerequisite: Senior standing in the School of Engineering and Computer Science.

CSE 413 Statistical Pattern Recognition (4)
Applications of digital computer techniques to a variety of problems in pattern recognition. Linear decision functions, Bayes decision theory, maximum likelihood estimation, multivariate normal features, nonparametric techniques, feature selection, clustering and unsupervised learning. Applications include industrial inspection and the processing of remote sensing, biomedical and pictorial data. Offered fall.
Prerequisite: MTH 256, CSE 262, a course in statistics and major standing.

CSE 415 Expert Systems and Decision Support Systems (4)
The study of expert systems and decision support systems technologies. Both kinds of systems deal with reasoning with incomplete knowledge. Inexact logic, decision models, knowledge representation methods and design issues such as architecture of the systems, iterative design methods and evaluation. A project is required. Offered winter.
Prerequisite: CSE 262, CSE 335 and CSE 416.

CSE 416 Artificial Intelligence (4)
An introduction to artificial intelligence techniques including: knowledge representation using semantic networks, scripts, frames, predicate calculus, production and expert systems, and procedures; learning via symbolic and adaptive algorithms; natural language understanding; and game playing and other searching problems. Offered fall.
Prerequisite: CSE 240 or LISP, CSE 262, CSE 335.

CSE 417 Applied Numerical Methods: Approximations (4)
Propagation of errors; classical methods for the solution of non-linear equations, summation of series, approximation of functions, numerical integration, numerical solution of differential equations and the Fast Fourier Transform. Emphasis on student development of general purpose subroutines for use in engineering and scientific applications. Students cannot receive credit for both CSE 417 and APM 433. Offered fall.
Prerequisite: CSE 132, MTH 254 or MTH 256, and major standing.

CSE 418 Applied Numerical Methods: Matrix Methods (4)
Systems of linear and nonlinear equations, eigenvalue problems, optimization methods, statistical methods. Students cannot receive credit for both CSE 418 and APM 434. Offered winter.
Prerequisite: MTH 256, CSE 130 or CSE 132, and major standing.

CSE 438 Verification of Computer Programs (4)
Introduction to systematic methods of program verification, including proving and testing. Topics include program correctness, formal verification of programs, program and system testing, software tools. A significant part of the course will be its lab component. Offered winter.
Prerequisite: CSE 262, APM 263 and major standing.

CSE 439 Software Engineering (4)
The course will study, in a realistic environment, the techniques and methodology of developing programs for user applications. Topics include specifications, top-down modular design, structured programming, documentation, testing and verification. Offered fall.
Prerequisite: CSE 262 and major standing.

CSE 440 Software Quality (4)
Intended for students who have mastered fundamental design and programming skills. The impact of software design techniques on structural quality for both object-oriented and traditional decomposition techniques. Assessment of software quality via scientific experimentation and software metrics with emphasis on software understandability and maintainability. Offered winter.
Prerequisite: Knowledge of data structures and major standing.

CSE 445 Data Base Systems (4)
Design and implementation of relational, hierarchical and network data base systems. Query/update data languages, conceptual data model, physical storage methods, data base system architecture. Data base security and integrity. Relational data base systems are emphasized. A project involving an on-line data base system is normally assigned. Students cannot receive credit for both CSE 345 and CSE 445. Offered fall, winter.
Prerequisite: CSE 262 and major standing.

CSE 447 Computer Communications (4)
A study of data communications and computer networks with emphasis on the functional characteristics of communications hardware and the design of communications control software. Standard protocols and interfaces. Case studies of local area networks and wide area networks. Communications software is designed and implemented as student projects. Offered fall.
Prerequisite: CSE 450 or equivalent or permission of the instructor.

CSE 450 Operating Systems (4)
Introduction to the concepts and design of multi-programmed operating systems. Typical topics include: historical perspectives; sequential processes; concurrent processes; processor management; store management; scheduling; file management, resource protection; a case study. Offered fall, winter.
Prerequisite: CSE 262, CSE 280 and major standing.

CSE 455 Introduction to Computer Graphics (4)
An introduction to the software and hardware aspects of computer graphics systems. Vector and raster displays. Typical data structures and programming language requirements. Emphasis on real time-interactive graphics systems. Offered fall.
Prerequisite: CSE 262, MTH 256 and major standing.

CSE 456 Advanced Computer Graphics (4)
The mathematics, algorithms and data structures used for computer storage, manipulation and rendering of geometric objects. Curve and surface representation, including Bezier and B-Spline techniques; solid modeling, including constructive solid geometry and boundary representation schemes; surface and solid intersection techniques; hidden line and surface removal; shading and rendering techniques. Offered winter.
Prerequisite: CSE 455.

CSE 464 Computer Organization and Architecture (4)
Stored program computers, organization of arithmetic-logic unit, central processing unit, main and auxiliary memory, input/output units and exercises in microprogramming. Central and distributed processing computer networks, architecture of some main frame computers and some microprocessors, parallel and pipeline processing. Offered winter.
Prerequisite: CSE 388 and either CSE 280 or CSE 470.

CSE 465 Compiler Design (4)
The student is directed through development of a compiler for a simple language that can be executed on a simulated computer. Topics include: overview of grammars and languages; scanning input strings from a source language; parsing via bottom-up methods; internal forms for source programs; semantic routines; and symbol table organization. The compiler is constructed in a high-level language such as Pascal. Offered winter.
Prerequisite: CSE 262 and APM 263. Corequisite: CSE 335.

CSE 470 Microprocessor-based Systems Design (4)
Application of microprocessors and microcomputers to the solution of typical problems; interfacing microprocessors with external systems; programming considerations. This is a laboratory, design oriented course. Several short design projects and one large design project will be given. Credit cannot be earned for both CSE 470 and EE 470. Offered fall, winter.
Prerequisite: CSE 388 or EE 378. (Computer science majors may take CSE 470 with the permission of the instructor.)

CSE 471 Design of Embedded Software Computer Systems (4)
The use of threaded interpretive languages in the design of board-level computer systems. Embedded software drivers for parallel and serial communications, A/D converters and other peripheral interface devices. Project-oriented course. Offered winter.
Prerequisite: CSE 470. Corequisite: CSE 241.

CSE 478 Switching Theory and Digital Logic (4)
Combinational switching functions, minimization and analysis, implementation using relay circuits, TTL, CMOS and other popular logic families. Symmetric functions, threshold logic and iterative circuits. Analysis and synthesis of clock mode, level mode and pulse mode sequential circuits. Design and implementation of digital systems. Turing machines and finite automata. Offered fall.
Prerequisite: CSE 388 and APM 263.

ELECTRICAL ENGINEERING

EE 222 Introduction to Electrical Circuits (4)
Resistive dc circuits, Kirchoff laws, Thevenin and Norton theorems, controlled sources, operational amplifiers, superposition, source transformations. Transient and forced response in RC, RL and RLC circuits, impedance concept and phasors, RMS values and average power. With laboratory. Offered fall, winter.
Prerequisite: MTH 155 and PHY 152.

EE 326 Electronic Circuit Design (4)
Semiconductor diodes; characteristics, diode models and applications. Bipolar and unipolar transistors (BJT, j-FET, MOSFET, enhancement and depletion types). Transistor models; design and analysis of transistor amplifiers; stability and limitations. PSPICE software simulations. With laboratory and design projects. Offered fall, winter.
Prerequisite: EE 222, MTH 155, PHY 152 and major standing.

EE 345 Electric and Magnetic Fields (4)
Fundamentals of electric and magnetic fields. Fundamental laws, basic postulates, Maxwell's equations, electrostatics, magnetic fields of steady currents, time varying fields and electromagnetic waves.
Prerequisite: MTH 254, PHY 152 and major standing. Offered winter.

EE 351 Electromechanical Energy Conversion (4)
Magnetic circuits, transformers, electromechanical energy conversion. Operation of dc and ac machines. Equivalent circuits, input/output characteristic, and efficiency. Analytical and computer design considerations for electrical machines. With laboratory. Offered fall, winter.
Prerequisite: SYS 325.

EE 378 Design of Digital Systems (4)
Development of the components and techniques at the gate and flip-flop level needed to design digital systems for instrumentation, communication, control and related fields. Topics include combinational logic circuits, memory devices, sequential circuits and organization of digital systems. Students cannot receive credit for both EE 378 and CSE 388. With laboratory. Offered fall, winter.
Prerequisite: CSE 171 and EE 326.

EE 384 Electronic Materials and Devices (4)
Semiconductor physics; carrier models and the conduction mechanisms. Theory of P-N junction and junction devices. Field effect devices, concepts, models and analytical procedures related to j-FET, MOS-capacitator and MOS transistors. Fundamentals of integrated circuits and basic fabrication steps. Software simulations. Offered fall.
Prerequisite: EE 326.

EE 426 Advanced Electronics (4)
Transistor circuit design and analysis. Multistage small signal, and power amplifiers design, feedback in amplifiers, frequency response, stability and sensitivity. Design and analysis of linear and nonlinear operational amplifiers and regulator and power supply circuits; circuit protection. Design of signal generators, multivibrators and function generators. Emphasis is placed on designing through a sequence of laboratory experiments and projects. Offered winter.
Prerequisite: EE 326 and SYS 325.

EE 428 Industrial Electronics (4)
Applications of advanced electronics to manufacturing processes. Analysis and design considerations for industrial electronic systems. Hardware and software implementation in computer-integrated manufacturing (CIM) systems. Modeling and characteristics of integrated process elements. Transducers, signal conditioning and transmission; analog and digital controllers; thyristor commutation techniques; power supplies and interfaces, DC and AC drives and motor control circuits. With laboratory and design projects.
Prerequisite: EE 326 and SYS 325.

EE 437 Introduction to Communication Electronics (4)
Analysis and design of analog and digital electronic communication circuits and systems. Spectral analysis, linear system responses. Amplitude and angle modulation, AM and FM reception principles and receivers. Pulse and digital communication systems, pulse code modulation, time division multiplex, pulse shift keying, frequency shift keying and other types of modulation. Introduction to noise in communication systems. With laboratory. Offered fall, winter.
Prerequisite: EE 326 and SYS 325.

EE 470 Microprocessors-based Systems Design (4)
Application of microprocessors and microcomputers to the solution of typical problems; interfacing microprocessors with external systems; programming considerations. This is a laboratory, design oriented course. Several short design projects and one large design project will be given. Credit cannot be earned for both CSE 470 and EE 470. Offered fall, winter.
Prerequisite: CSE 388 or EE 378.

EE 472 Microcomputer-based Control Systems (4)
Microcomputer-aided control system design and implementation techniques; board-level microcomputer and digital signal processor technology; design and realization of digital controllers, estimators and filters; hardware development of stand-alone on-line microcomputer/processor based control systems; real-time applications and multi-processor systems. A laboratory and project oriented course.
Prerequisite: EE 326, EE 470 and SYS 431.

EE 485 MOS Very Large Scale Integration (4)
MOS integrated circuit fundamentals. NMOS, PMOS and CMOS processes. Inverters, logic and transmission gates, propagation delays. Design techniques for analog and digital circuits, performance evaluation, speed/area/power trade off. PLAs, finite state machines, memory, registers, A/D and D/A converters. System timing, subsystem design and layout (LEDIT or MAGIC). VLSI system implementation projects. Offered fall.
Prerequisite: EE 384.

EE 487 Integrated Electronics (4)
Modern microelectronics processes and fabrication of integrated circuits. Crystal growth and wafer preparation, photolithography, dielectric and polysilicon film deposition, epitaxial growth, oxidation, diffusion, ion implantation, etching, metallization and integrated circuits layout principles. Introduction to MOS-based and bipolar junction transistor-based microcircuits design and fabrication. With laboratory and projects. Offered winter.
Prerequisite: EE 384.

MECHANICAL ENGINEERING

ME 221 Statics and Dynamics (4)
Introduction to mechanics, particle statics and dynamics, equilibrium, analysis of structures and dynamics of rigid bodies about fixed axes. With laboratory. Offered fall, winter.
Prerequisite: MTH 155. Corequisite: PHY 151.

ME 241 Thermodynamics (4)
The fundamentals of classical thermodynamics. The various forms of energy, and the effects of conversions and energy transfers on system and material properties. Thermodynamic property relationships are studied along with the fundamental laws of thermodynamics. Applications to engineering systems and processes. Laboratory emphasizes experimental design. Offered fall, winter.
Prerequisite: CHM 144 or CHM 164, MTH 155, PHY 151.

ME 321 Dynamics and Vibrations (3)
Kinematics and dynamics of systems of particles. Work and energy, impulse and momentum. Planar rigid body motion. Vibration of lumped mechanical systems. Undamped and damped free vibrations including torsional vibrations for single-degree-of-freedom systems. Harmonically forced vibrations for single-degree-of-freedom systems. Applications to engineering problems. Offered fall.
Prerequisite: ME 221, APM 257. Corequisite: SYS 325.

ME 331 Introduction to Fluid and Thermal Energy Transport (4)
The fundamentals of fluid mechanics and heat transfer; conservation and momentum principles; viscous and inviscid flow; laminar and turbulent flow; introduction to viscous and thermal boundary layer theory; one-dimensional conduction heat transfer and characteristics and dimensionless correlations of convection heat transfer; applications to engineering problems. Laboratory emphasizes experimental design. Offered fall, winter.
Prerequisite: ME 221, ME 241, MTH 254 and major standing.

ME 361 Mechanics of Materials (4)
Introduction to the mechanics of deformable bodies: distribution of stress and strain in beams, shafts, columns, pressure vessels and other structural elements, factor of safety, yield and fracture criteria of materials with applications to design. With laboratory including two-dimensional truss and beam design on computer. Offered fall, winter.
Prerequisite: ME 221. Corequisite: EGR 372.

ME 438 Fluid Transport (4)
Continued study of the fundamentals of fluid mechanics and their applications, angular momentum principle; generalized study of turbomachines, potential flow of inviscid fluids, laminar and turbulent boundary layer theory, dimensional analysis and similitude, compressible flow. With laboratory emphasizing engineering design. Offered fall.
Prerequisite: ME 241, ME 331 and APM 257.

ME 448 Thermal Energy Transport (4)
Continued study of properties and descriptions of conduction, convection and thermal radiation heat transfer; thermal boundary layer theory; forced and natural convection, heat transfer correlations. Thermodynamics of thermal radiation, radiation intensity, surface properties and energy exchange. Laboratory emphasizes experimental design and development of empirical relationships. Offered winter.
Prerequisite: ME 241, ME 331 and APM 257.

ME 449 Numerical Techniques in Heat Transfer and Fluid Flow (4)
Overview of practical numerical solution techniques. Major emphasis is on concepts, methodology, and physics associated with the formulation of the discretization equations appropriate for the representation and solution of linear and nonlinear partial differential equations governing heat transfer and fluid flow. Personal and mainframe computers will be used for the solution of a variety of engineering and design problems. Offered winter.
Prerequisite or corequisite: ME 438 or ME 448 or equivalent.

ME 454 Solar and Alternate Energy Systems (4)
The analysis and design of energy conversion systems. Principles of optimum power transfer and efficiency. Availability analysis of systems for heating, chemical conversion and electrical generation. Emphasis on solar applications and alternative energy technology. Includes design project(s). With laboratory. Offered winter.
Prerequisite: ME 241 and ME 331.

ME 456 Energy Systems Analysis (4)
The analysis and design of thermodynamic systems. Applications include thermodynamic cycles for vapor-compression and air-standard power systems; the thermodynamics of non-reacting and reacting mixtures, including chemical equilibrium concepts; and available energy concepts. Design project (and/or laboratory) required. Offered winter.
Prerequisite: ME 241 and major standing.

ME 461 Analysis and Design of Mechanical Structures (4)
Use of methods of advanced mechanics of materials to design mechanical structures to meet elastic strength criteria. Topics include plates and shells, torsion of noncircular cross-sections, beams on elastic foundation, curved and composite beams, rotating disks, thick-walled cylinders, and energy methods. Offered fall.
Prerequisite: ME 361.

ME 472 Materials Properties and Processes (4)
Study of mechanical behavior of real engineering materials and how they influence mechanical design. True stress/strain properties of materials, plastic deformation and fracture of materials, failure theories, fatigue damage under cyclic loading, creep and high temperature applications. Material properties of engineering metals, ceramics and composites. Behavior of materials during and after manufacturing processes such as stamping, drawing, extrusion, etc. Offered winter.
Prerequisite: ME 361 and EGR 372.

ME 482 Fluid and Thermal Energy Systems (4)
Study of systems involving fluid and thermal phenomena. Includes conventional and unconventional energy conversion, fluid and thermal energy transport. Analysis for the purpose of design and optimization of systems are emphasized using basic integral, differential and lumped-parameter modeling techniques. The course bridges conventional engineering design disciplines with design-oriented laboratory projects. Offered fall.
Prerequisite: ME 241, ME 331 and APM 257.

ME 486 Machine Design (4)
Study of machine elements and systems. Stress, strength, deflection, buckling, and cost considerations, design optimization criteria and strategies. Analysis and design of fasteners, springs, welds, bearings, power transmitting elements and complex structures subjected to static and/or dynamic loads. Includes major design project. Offered winter.
Prerequisite: ME 361.

ME 487 Mechanical Engineering CAD/CAM Systems (4)
Introduction to the use of CAD/CAM systems in mechanical engineering design. Fundamentals of computer graphics, finite element modeling and interactive design. Analysis and evaluation of the static, dynamic and thermal mechanical systems designed on the CAD/CAM system. Includes design project(s) in various topics. Offered fall.
Prerequisite: ME 361. Corequisite: ME 321.

ME 492 Senior Mechanical Engineering Design Project (3)
Independent or team experience in engineering design of systems, components, or processes involving mechanical and/or fluid and thermal sciences. Emphasis will be given to the design process, utilizing the fundamental concepts, principles and methodologies encountered in earlier course work. Projects, both individual and team, will be supervised by mechanical engineering faculty. Normally taken during senior year. Offered fall.
Prerequisite: ME 331, ME 361 and approval of project faculty supervisor.

SYSTEMS ENGINEERING

SYS 317 Engineering Probability and Statistics (3)
Elements of probability for discrete and continuous random variables; examples and problems from various areas of engineering are used to illustrate developments and their applications. Topics covered include finite sample spaces, two or more events, random variables, distribution functions, expected value, functions of a random variable, two or more random variables; introduction to statistics, control charts and tolerancing. Offered fall, winter.
Prerequisite: Major standing. Corequisite: MTH 254 or MTH 256.

SYS 325 Lumped-parameter Linear Systems (3)
Laplace transform methods, transfer functions and impedance concepts in the analysis of electrical and mechanical lumped-parameter linear systems. Natural and forced behavior of first- and second-order systems. Relationship between pole-zero pattern and dynamic response. Frequency response methods. Computer techniques for analysis and design. Offered fall, winter.
Prerequisite: EE 222, APM 257 and major standing.

SYS 410 System Optimization and Design (4)
Classical optimization techniques including Lasgrange multipliers and Kuhn-Tucker conditions. Computer techniques for system optimization including linear programming, constrained and unconstrained nonlinear programming. System design — case studies. The course emphasizes a capstone design experience involving system modeling, simulation and optimal design. Offered fall.
Prerequisite: MTH 256 and SYS 325.

SYS 422 Robotic Systems (4)
Overview of industrial robots, their components and typical applications. Kinematics of robots and solution of kinematic equations. Path planning. Vision and pattern recognition. Robot and vision programming languages. Laboratory experience in the development and implementation of a robot language environment using minirobots. Offered fall.
Prerequisite: CSE 132, SYS 325.

SYS 431 Automatic Control Systems (4)
Performance specifications for automatic control systems. Modeling transfer functions, signal flow graphs and Mason's gain formula. Static error coefficients, stability theory and Routh's criterion. The root locus method. Frequency response and the Nyquist criterion. Design of compensation networks. Laboratory includes the analysis of actual physical systems and the design of compensators for these systems with circuit realization. Offered fall and winter.
Prerequisite: SYS 325.

SYS 433 Modern Control System Design (4)
State-of-the-art design methodology for control systems, state space modeling of physical systems, modal transients, feedback control. Integrated system design by analytical and computer simulation methods emphasized. The course includes a design project for which the student is required to model, design, implement and evaluate a controller for a physical system. With laboratory. Offered fall.
Prerequisite: SYS 431.

SYS 458 Electrical Energy Systems (4)
Generation, transmission and distribution of electrical energy. Analysis and design of three-phase circuits, per unit normalization, system design evaluation and load-flow, symmetrical components and stability. Offered winter.
Prerequisite: SYS 325.

SYS 463 Foundations of Computer-aided Design (4)
Computer-aided design as the keystone in computer integrated manufacturing. Designs of mathematical representations for applications and databases. Hermite, Bezier, splines, B-splines and Liming curves. Hermite, Bezier, Coon's tensor product and Gordon surfaces. Approximation versus design of curves and surfaces. Communication among computer-aided design systems.
Prerequisite: CSE 262 and major standing.

SYS 469 Computer Simulation in Engineering (4)
Basic modeling and simulation methods for discrete, lumped, and continuum systems, discrete-event systems; software verification and interactive graphical output interpretation; fundamentals of system identification; model validation and credibility considerations. Emphasis on modern simulation theory, software and design demonstration of practical engineering applications including manufacturing systems. Offered winter.
Prerequisite: SYS 325 or CSE 343.

SYS 483 Production Systems (4)
Design of computer systems to control the flow of material in manufacturing systems from forecast to finished product. Topics include parts explosion, bill-of-material, inventory control, Pareto distribution, lead time, MRP, shop floor control, line balancing, etc. Offered fall.
Prerequisite: SYS 317.

SYS 484 Flexible Manufacturing Systems (4)
The components of flexible manufacturing systems (FMS): machining centers, automated assembly, automated warehousing, inspection, material transport, programmable logic controllers and coordination; integration of CAD, CAM, to the FMS; production planning and control; factory simulation; implementation strategies. With laboratory. Offered winter.
Prerequisite: Major standing.

SYS 485 Statistical Quality Control (4)
Fundamentals of statistical quality control and their use in the design of systems. Control charts for mean and range for variable, control charts for attributes, cusum charts, runs and other process quality monitoring topics. Single, double and multiple sampling inspection plans, sequential sampling and related topics. Offered winter.
Prerequisite: SYS 317.

GENERAL STUDIES

121 NORTH FOUNDATION HALL (313) 370-3227

Director: *Virginia R. Allen*

Faculty council for general studies: *John Cowlishaw, chairperson; Natalie Cole, assistant professor, English; Laurie Eisenhower, assistant professor, Music, Theatre and Dance; Aleksandra Glowacka, assistant professor, School of Business Administration; John Goike, student representative; Thaddeus Grudzien, assistant professor, Biological Sciences; Linda Hildebrand, assistant professor, Kresge Library; Roy Kotynek, associate professor, History; Michael Latcha, assistant professor, School of Engineering and Computer Science; David Lau, assistant professor, Rhetoric, Communications and Journalism; Charles Marks, assistant professor, School of Health Sciences; Jerry Marsh, special instructor, School of Engineering and Computer Science; Kevin Nathan, assistant professor, School of Business Administration; Nancy O'Conner, assistant professor, School of Nursing; Subbaiah Perla, associate professor, Mathematics; Ann Pogany, assistant professor, Kresge Library; Harold Zepelin, professor, Psychology*

The Bachelor of General Studies

The Bachelor of General Studies degree (B.G.S.) is a university-wide baccalaureate program that offers maximum flexibility and opportunity for student decision-making about courses of study at Oakland University. The degree is primarily intended for students wishing to create a program to meet their individual goals through interdisciplinary study.

Students entering the General Studies program design a program of study utilizing courses from many departments to prepare them for a particular job or career choice. Students may select courses from any field of study offered by an academic department, subject to prerequisites and policies set by the individual departments. This program offers students the opportunity to plan a unique and challenging academic program in cooperation with a General Studies faculty adviser.

Students changing major into B.G.S. must meet the program requirements described in the catalog extant at the time of the change, or may meet program requirements described in a subsequent catalog. Any catalog which students are following must not be more than six years old at the time of graduation.

Frequently, students seeking the degree have earned academic credits from other colleges and have been encouraged by their employers to pursue a baccalaureate degree. The General Studies program has flexible policies on transfer credits from other institutions, and it provides a personalized program to meet the educational needs of individuals and employers. Pre-enrollment counseling is available to those who are considering this degree.

Students applying to the General Studies program are first admitted to pre-B.G.S. status. Students will be granted major standing upon approval of their plan of work and supporting rationale by the General Studies Faculty Advising Committee. The B.G.S. program is administered by the Department of Academic Services and General Studies, 121 North Foundation Hall (370-3227).

As the Bachelor of General Studies is an alternative to a traditional degree, it is not permissible to seek a double degree with the Bachelor of General Studies serving as one of those degrees. For the same reason, students who have already earned a baccalaureate may not earn an additional baccalaureate in General Studies.

Two-Plus-Two program for associate degree holders

The General Studies program allows students to combine broad liberal arts and professional courses from the university curriculum with associate degrees from Michigan community colleges. The Two-Plus-Two program provides for transfer of up to 62 semester credits from accredited

two-year community colleges in Michigan. Students with associate degrees in any area except nursing may qualify for the Two-Plus-Two General Studies program. Holders of associate degrees in nursing are subject to a course by course evaluation.

The program requires that courses accepted for transfer must have a grade of C or above, that at least 12 semester credits have been earned in liberal arts courses, and that all course work has been taken at accredited institutions. Certain developmental courses may be subject to individual evaluation. For additional information, see the *Transfer student information* section of the catalog.

Requirements for the degree in Bachelor of General Studies

To earn the Bachelor of General Studies degree, students must meet the following requirements:

1. Complete the writing proficiency requirement.
2. Complete the general education requirements. (See *Undergraduate degree requirements*.)
3. Complete a minimum of 124 semester credits.
4. Complete 32 of those credits at the 300- or 400-level.
5. Complete 32 credits at Oakland University; complete the last 4 credits toward the degree at Oakland.
6. Successfully complete at least the last 24 credits at Oakland University as an admitted candidate for the Bachelor of General Studies degree. Courses used to meet the writing proficiency requirement or the general education requirement may not be counted in these 24 credits. If the plan of work is not submitted in a timely manner, the credits in any current semester may be excluded from the plan of work. Candidacy is authorized by the university and the Faculty Council for General Studies when a student's plan of work and supporting rationale have been approved by the General Studies Faculty Advising Committee.

Concentrations or minors

General Studies students may wish to develop programs that include concentrations or minors offered by other academic schools or departments within the university. Approximately 50 minors and concentrations are available to General Studies students; a complete listing may be obtained from the General Studies office. Forms for written approval of concentrations or minors can be obtained from the General Studies office (121 North Foundation Hall).

Students should consult a General Studies counselor to determine policies and procedures on seeking minors or concentrations.

Advising

Advising is central to the program as students design an individualized and unique program of study based upon interests and needs. Students must follow a specific advising procedure as follows:

1. Meet with a General Studies counselor in a preliminary appointment. The counselor will explore the suitability of the program to student needs and interests. The counselor will also discuss student eligibility to enter the program. Students entering the program through a change of major or through the readmission process must have a cumulative grade point average of at least 2.00. Students on academic probation will not be considered for the program.
2. Be assigned a faculty adviser. When pre-B.G.S. has been declared as a program of study, students will again meet with the counselor to receive the plan of work form and rationale guidelines. Students and the counselor will mutually select a faculty adviser.
3. Develop a plan of work and rationale with the faculty adviser. Students will initiate a meeting with the faculty adviser to discuss their goals and the courses that may help achieve those goals. In addition to creating a plan of work, students will write a rationale for course selection.

4. Attain committee approval. After the faculty adviser approves them, the plan of work and rationale are returned to the General Studies office and sent to the Faculty Advising Committee for approval. When the plan of work and rationale have been approved at a monthly meeting of the committee, students will be granted major standing.
5. Make substitutions as needed to the plan of work. Students who want to take courses other than those listed on their approved plans of work must earn consent of their faculty adviser or a General Studies counselor. Plan of Work Substitution forms are available from the General Studies office or faculty advisers. They must be submitted to the General Studies office.

Conciliar honors

Conciliar honors are awarded to General Studies students by the Faculty Council for General Studies.

There are two ways in which students may earn conciliar honors. Students who have cumulative grade point averages of 3.60 or better are automatically nominated for conciliar honors. Students may be nominated for honors if they have cumulative grade point averages between 3.30 and 3.59. Students may nominate themselves or be nominated by a faculty adviser. Written nominations, accompanied by faculty recommendations, should be made on the basis of excellence in scholarship, appropriate community and university experience, and/or achievement of academic distinction while overcoming extreme adversity. Nominations will be considered by the advising committee and will be forwarded to the faculty council for final approval.

On-campus Evening Degree Programs

Students may earn undergraduate degrees at night in 16 majors, including General Studies. See *Evening programs* for details.

SCHOOL OF HEALTH SCIENCES

157 VANDENBERG HALL (313) 370-3562

Dean: *Ronald E. Olson*

Office of the Dean: *Alfred W. Stransky, associate dean for community health; Arthur J. Griggs, assistant to the dean; A. Jayne Hoskin, academic adviser; Clifford Snitgen, manager, Clinical Research Laboratory*

Consulting professors: *Federico A. Arcari, Duane L. Block, John P. Cullen, Kenneth L. Urwiller, John R. Ylvisaker, Richard J. Zunker*

Clinical professors: *Seymour Gordon, Myron M. LaBan, Moon J. Pak, John R. Pfeifer*

Clinical associate professors: *Ali A. Abbasi, George R. Gerber, David R. Pieper, Jeanne M. Riddle, Alexander Ullmann*

Clinical assistant professor: *Nitin C. Doshi*

General Information

The School of Health Sciences offers degree and non-degree programs in health and medically related fields. Currently, programs leading to the Bachelor of Science degree include industrial health and safety and medical laboratory sciences. A program leading to the Master of Physical Therapy degree is offered to students initially completing a required undergraduate pre-physical therapy curriculum and a Bachelor of Science in health sciences. A program leading to the Master of Science degree is offered in exercise science. Non-degree programs at the undergraduate level include exercise science and health behavioral sciences.

The Meadow Brook Health Enhancement Institute is a university facility which cooperates closely with the School of Health Sciences. The institute offers programs addressing the important elements of health enhancement, including nutrition, weight control, physical fitness and other issues. The institute also provides programs for cardiac rehabilitation, industrial health and movement re-education.

The School of Health Sciences' Clinical Research Laboratory provides facilities and expertise to university and subscribing hospital investigators involved with biomedical research.

Admission to any program offered by the School of Health Sciences may be granted competitively if the balance between applicants and available instructional resources requires such action to maintain the academic integrity of the program.

High school students considering a major in any of the programs offered by the School of Health Sciences should consult the *Admissions* section of the catalog for specific preparation requirements.

Health Science core curriculum

The health science core curriculum is a common component of introductory course work required for each of the baccalaureate programs offered through the School of Health Sciences. The core curriculum also represents an appropriate starting point for undecided health science students, since its flexibility allows for entry into any of the health science programs at Oakland University, as well as most health science degree programs at other universities.

Students pursuing the physical therapy degree are initially required to complete a pre-professional program (pre-physical therapy) which entails the health science core curriculum.

Following this step, students must apply for admission to major standing in physical therapy which is both selective and competitive. The limited number of students accepted into the major program must complete the Bachelor of Science in health sciences and Master of Physical Therapy degree in order to function professionally as physical therapists.

The programs in industrial health and safety and medical laboratory sciences do not incorporate a pre-professional component; thus, students may declare either major upon entry to the university. In these cases, the core curriculum will be completed during the course of the baccalaureate program. Early completion of some of the core curriculum courses is recommended, since they are prerequisites to required advanced courses in the industrial health and safety or medical laboratory sciences programs.

The academic requirements for each of the baccalaureate programs of the school are described in the pages that follow. In addition to the core curriculum, the requirements include additional prerequisite-level course work that complements the core curriculum, the program major course requirements, the university general education requirements and the university writing proficiency requirement.

Students completing the core curriculum course work at Oakland University may, in some instances, substitute equivalent or higher level courses for core curriculum courses; this action must be approved by the appropriate program director and the School of Health Sciences Committee on Instruction. Students transferring from other universities or colleges to Oakland University must have their transcripts evaluated by the School of Health Sciences to determine which core curriculum or program course work requirements have been met. See *Transfer student information* for additional information.

Core curriculum courses*

BIO 200; 207 or 321
CHM 144-145
MTH*
STA 225 or 226
PHY 101-102 or 151-152
HBS 200
HS 101

*See the academic requirements of the individual health science programs for core curriculum course preferences or requirements.

Approved minors

School of Health Sciences students may elect to complete a minor in another discipline offering such an option. It is recommended that students who are considering declaring a minor consult as early as possible with the School of Health Sciences academic adviser and the minor field adviser. Credits earned toward a degree in the School of Health Sciences can be double counted toward any minor to which they would otherwise apply offered by the other schools or the college.

Petition of exception

For students enrolled in health science programs, all petitions of exception must be reviewed by a faculty member or the academic adviser and reviewed by the appropriate program director before referral to the Health Sciences Committee on Instruction. See the *Academic Policies and Procedures* section of the catalog for further information *(Petition of exception)*.

Course Offerings

HS 101 Careers in the Health-Related Professions (0)
Seminar/survey of professional opportunities in the various health fields such as medical technology, histotechnology, cytotechnology, nuclear medicine technology, exercise science, industrial health and safety, medical physics, physical therapy, occupational therapy, respiratory therapy and pharmacy.

HS 201 Health in Personal and Occupational Environments — Ideas, Concepts, Issues and Applications (4)
Current information about the impact of environmental and life-style factors on health. Examination of issues related to human exposure to physical, chemical and biological stresses. The impact of exercise, weight control, substance abuse, nutrition and stress management on a person's ability to cope with environmental stresses will be analyzed. *Satisfies the university general education requirement in natural science and technology.*

HS 324 Clinical Application of Learning Theories (2)
A review of child, adolescent and adult/older adult learning theory as it relates to patient interaction. Teaching strategies are presented relating to instruction of students, peers and patients on an individual or group basis.
Prerequisite: HS or MLS majors.

HS 331 Pharmacology (2)
An introduction to the principles of pharmacology, including the principles of drug therapy and the actions of the basic classes of drugs. Will satisfy requirements for NRS 230.
Prerequisite: BIO 207 or 321.

HS 391 Research I (1)
Theory and application of the principles of problem solving and the scientific method with an emphasis on current research.
Prerequisite: HS or MLS majors.

HS 401 Introductory Pathology (4)
Basic principles of human pathology appropriate for students pursuing curricula in the health related disciplines. Diseases of the major systems of the body are studied.
Prerequisite: BIO 200 and BIO 207 or 321.

HS 405 Special Topics (2, 3 or 4)
May be repeated for additional credit.
Prerequisite: Permission of instructor.

Exercise Science Program

Interim Director: *Alfred W. Stransky*

Associate professors: *Brian R. Goslin, Robert W. Jarski, Alfred W. Stransky*

Assistant professor: *Charles R. C. Marks*

Clinical professor: *Murray B. Levin*

Clinical associate professors: *William R. Back, Barry A. Franklin, John J. Karazim, John F. Kazmierski, Creagh M. Milford, Rajendra Prasad*

Clinical assistant professors: *Joseph A. Arends, Albert A. DePolo, Timothy Ismond, Robert C. Nestor, Chandra S. Reddy, Thomas E. Schomaker, Robert L. Segula*

Lecturers: Roberta J. Dailey, Henry R. DeLorme, Lillian E. Smith, Jack T. Wilson

The exercise science program offers elective courses for students interested in the relationship among physical activity and weight control, disease prevention, stress management, nutrition and optimal health and performance.

Opportunities exist for students to establish personal programs of exercise, weight control, nutrition, stress management and substance abuse avoidance.

Disease prevention and quality of life are components of many of the course offerings. Selecting courses in exercise science can be especially meaningful to students entering a health-related career, with the recent emphasis placed on health promotion and disease prevention within the health care delivery system.

For a description of the Master of Science in exercise science program see the *Oakland University Graduate Catalog.*

Minor in Exercise Science

A minor in exercise science is available to students seeking a formal introduction to the exercise science field. An undergraduate degree focusing on exercise science may be designed by including this minor in a Bachelor of General Studies plan of work. Courses required for the minor include: HS 201; EXS 204, 304*, 350*; and six credits from the following electives: EXS 101-104* (4 credits maximum), 202, 207*, 215, 493 (2 credits maximum). Those courses denoted with an asterisk (*) represent prerequisite courses for admission to the Master of Science in exercise science program. (An additional prerequisite for admission to this graduate program is STA 225 or 226, or PSY 251.)

Course Offerings

EXS 101 Exercise (Jogging) and Health Enhancement (2)
An examination of lifestyle factors related to disease prevention and improved quality of life. This course combines regular walking-jogging exercise and health enhancement lectures. Course content in EXS 101, 102 and 104 includes the same lecture topics. Students who have received credit or who are currently enrolled in EXS 102 or 104 may not repeat the lecture material or final examination. An independent project and/or a different final examination must be completed before receiving credit.

EXS 102 Exercise (Swimming) and Health Enhancement (2)
An examination of lifestyle factors related to disease prevention and improved quality of life. This course combines regular swimming exercise and health enhancement lectures. Course content in EXS 101, 102 and 104 includes the same lecture topics. Students who have received credit or who are currently enrolled in EXS 101 or 104 may not repeat the lecture material or final examination. An independent project and/or a different final examination must be completed before receiving credit.

EXS 103 Exercise (Strength Training) and Health Enhancement (2)
An examination of lifestyle factors related to disease prevention and improved quality of life. This course combines regular exercise and health enhancement lectures. The mode of exercise in this course is strength training.

EXS 104 Exercise (Aerobics) and Health Enhancement (2)
An examination of lifestyle factors related to disease prevention and improved quality of life. This course combines regular aerobics exercise and health enhancement lectures. Course content in EXS 101, 102, and 104 includes the same lecture topics. Students who have received credit or who are currently enrolled in EXS 101 or 102 may not repeat the lecture material or final examination. An independent project and/or a different final examination must be completed before receiving credit.

EXS 202 Introduction to Exercise Science (2)
An examination of graduate and occupational opportunities in exercise science. This course includes special topics in motor learning, exercise physiology, kinesiology and sports medicine.

EXS 204 Weight Control, Nutrition and Exercise (4)
Exploration of the role of exercise and optimal nutrition in weight control/loss. Emphasis on effective eating, energy balance, physiology of weight loss, behavior modification, and health risks of obesity. Includes practical laboratory experiences. Recommended for students wishing to develop successful weight loss/control skills and improved nutritional habits.

EXS 207 American Red Cross Advanced First Aid (2)
Understanding of procedures in the immediate and temporary care of victims of an accident or sudden illness. In addition, course content includes "safety-proofing" facilities and equipment.

EXS 211 American Red Cross Senior Lifesaving and Water Safety Instruction (2)
Principles and procedures for swimming, lifesaving and water safety with student participation. ARC certification upon successful completion of course.

EXS 215 Stress Management (2, 3 or 4)
Concepts and techniques to enable students to manage stress more effectively.

EXS 304 Exercise Physiology (4)
Effects of exercise and physical training on the physiological systems of the body, with emphasis on cardiorespiratory systems. Includes muscle contraction mechanisms, circulatory and respiratory adjustment during exercise, and nutrition for physical activity. Laboratory experiences are provided for insight into the dynamics of human performance.
Prerequisite: BIO 200 and 207.

EXS 350 Human Motion Analysis (4)
The study of basic mechanical and kinesiological principles and their functions, interrelationships, and involvement with the mechanics of human motion.
Prerequisite: BIO 205.

EXS 493 Independent Study and Research (1, 2, 3 or 4)
Special study areas and research in exercise science. May be repeated for additional credit.
Prerequisite: Departmental permission.

Health Behavioral Sciences Program

Director: *Carl R. Vann*

Professors: *Philip Singer, Carl R. Vann*

Clinical professor: *Daniel E. DeSole*

Clinical associate professor: *Ruben S. Kurnetz*

Clinical assistant professors: *Jay W. Eastman, Jed G. Magen, Anthony R. Tersigni*

Adjunct assistant professor: *William Dobreff*

Courses in health behavioral sciences are recommended as electives for students pursuing degree programs offered by the School of Health Sciences. Students interested in a program in health services administration should consult the Department of Political Science in order to combine courses in health behavioral sciences with a program in public administration.

Concentration in health behavioral sciences

The concentration in health behavioral sciences should be taken in conjunction with a regular departmental major or independent major. Its purpose is to offer a multidisciplinary perspective of the behavioral sciences on the many and varied aspects of the health disciplines, problems and concerns. It provides a cross-cultural as well as an American perspective. It is especially relevant to students seeking careers in health-related fields and it offers significant insights and opportunities for study to students pursuing programs in general education, administration and law.

The requirement for the concentration in health behavioral sciences is successful completion of 20 credits, chosen from: HBS 200, 300, 359, 400 and 499; AN 333 and 420; ECN 467; and PA 568 and 569.

Course Offerings

HBS 200 Health Care Dimensions (4)
Development, present status, and dynamics of the American health care system emphasizing structure of the various health professions and the problems, opportunities, and constraints of health care delivery, and professionalism. Other topics are relationships between the health care cultures and personality and professional roles of health care practitioners, and issues involving hospitals and health care.

HBS 300 Independent Study in the Health Behavioral Sciences (4, 8, 12 or 16)
A semester of off-campus independent study and applied research. Projects are developed with and supervised by faculty within the framework of methodology and explanation in the behavioral sciences. May be repeated for a maximum of 16 credits.

HBS 359 Public Policy and Health Care (4)
Identical with PS 359.

HBS 400 Field Practicum in Health Behavioral Sciences (4, 8, 12 or 16)
Primarily for students seeking careers in health-related fields, this course is a supervised field placement combined with academic content and individually guided research. Students are placed with hospitals, government and voluntary health agencies, comprehensive medical service organizations, etc. May be repeated for a maximum of 16 credits.

HBS 499 Senior Seminar in Health Behavioral Sciences (4)

Industrial Health and Safety Program

Director: *Sherryl A. Schultz*

Associate professor: *Richard J. Rozek*

Assistant professor: *Sherryl A. Schultz*

Adjunct assistant professors: *Klaus Blache, Stephen Song*

Adjunct instructors: *Frank M. Cleary, Daniel P. Glazier, Jane Meikle, Sarunas S. Mingela*

Industrial health and safety is a specialized branch of the health professions focusing on the environment of workers. Professionals in this field strive to find and eliminate conditions in the work place that may result in occupational injury or disease. This is achieved through a process of anticipation, recognition, evaluation and control of the various stresses that contribute to unsafe working environments. These stresses may be of a physical, chemical, biological or ergonomic nature.

The industrial health and safety program is multidisciplinary in nature, providing students with relevant exposure to basic science and behavioral science subjects as well as a thorough introduction to industrial hygiene and industrial safety concepts. A one-semester internship requirement provides students in the senior year of the program with first-hand field experience in the practice of this profession.

Graduates of the program will find employment opportunities within industrial firms, insurance companies, professional associations, local, state and federal government, and labor organizations.

Requirements for the Bachelor of Science Degree with a Major in Industrial Health and Safety

Students seeking the Bachelor of Science degree with a major in industrial health and safety must complete a minimum of 136 credits, including the following requirements:

1. Complete the writing proficiency requirement. In satisfying this requirement, students may need to complete (with grades of 2.0 or better) RHT 100 and RHT 101 (or their equivalent at another college or university). Not all credits associated with these courses will apply to the 136 credits required for the degree.
2. Meet the university general education requirements (see *Undergraduate degree requirements*). In completing the health science core curriculum, industrial health and safety majors will automatically satisfy the requirements in mathematics, logic and computer science, and in natural science and technology.
3. Complete the health science core curriculum. The biology sequence of BIO 200, 207 is preferred.
4. Complete BIO 205, CHM 203-204, MTH 141 and PHY 158 which complement the core curriculum.
5. Complete the major courses: HS 201; IHS courses numbered 301, 302, 304, 311, 312, 313, 320, 350, 352, 403, 430, 440; ENV 355.

6. Complete 14 credits of program perspective course work. Perspective courses may not be counted toward both the general education requirements and this requirement.
7. Complete all math and science prerequisite courses within the health science core curriculum and all industrial health and safety required IHS courses with grades of 2.0 or higher.

Industrial health and safety program perspective requirement

Program perspective courses are designed to give students greater insight into various aspects of industrial health and safety. Students must complete 14 credits from the list of courses below. Courses cannot be double counted toward both general education and the program perspective requirement.

AN 333, 392, 420
BIO 319, 325, 341
CHM 225
CSE 125
ECN 150, 309, 310, 326, 328, 338
ENV 308, 312, 372, 373, 390, 461, 484, 486
EXS 304
HBS 400
HST 302
IHS 351, 353
ORG 330
PS 350
PSY 100, 350, 351
SOC 100, 345, 357

Minor in environmental health

Industrial health and safety students can complete the program perspective requirement by completing a minor in environmental health. See the description of this minor in the College of Arts and Sciences section of the catalog.

Minor in industrial health and safety

A minor in industrial health and safety is available to students majoring in other programs, such as environmental health, general studies, engineering, biology or chemistry. Courses required for the minor include: IHS 301, 302, 304, 311, 312 and two of the following: IHS 313, 350, 351, 352, 353, 403.

Grade point policy

Industrial health and safety majors must achieve minimum course grades of 2.0 in science core prerequisite courses and in required IHS courses. A final course grade below 2.0 places a student on probation, which requires a meeting with the program director or his designated representative to discuss a method of remediation. In most cases, the method of remediation involves repeating the course in which the unsatisfactory grade was earned. See *Repeating courses* for additional information.

Course Offerings

IHS 301 Industrial Hygiene I (3)
A course concerned with the recognition of hazardous substances in the work place, methods to monitor them and the corrective measures necessary to control them.
Prerequisite: CHM 144 (or CHM 164).

IHS 302 Industrial Hygiene II (3)
Advanced methods of environmental testing. Focus on air contaminants in the work environment. Analysis of toxic fumes and gases, dusts, and fibers. Analytical techniques for laboratory and field applications.
Prerequisite: IHS 301, CHM 145 (or CHM 165), MTH 141 or 154.

IHS 304 Introduction to Epidemiology (3)
An introduction to the uses of epidemiology in public health practice, using selected diseases to illustrate the development of knowledge on disease causation and the application of such knowledge to disease control.
Prerequisite: IHS 302, STA 225 or 226.

IHS 311 Industrial Safety I (3)
Safety assessment for occupational environments. Analytical techniques, structural analysis, strength of materials, electrical safety, fire life-safety, medical management of injuries, personal protective clothing.

IHS 312 Industrial Safety II (3)
Introduction to concepts in security and protection of property, disaster response planning, hazardous materials handling during transport, and safety planning and management. Report preparation, writing, and oral presentations.
Prerequisite: IHS 311.

IHS 313 Fire Prevention and Protection (2)
Fundamentals of flame generation and propagation; fire behavior in open and confined spaces; theory of fire fighting methods, methods and devices for fire detection and suppression.
Prerequisite: IHS 302, IHS 312.

IHS 320 Industrial Hygiene Controls (3)
A course designed to study the various control methods (engineering, personal protective equipment and administrative) as they relate to the physical, chemical and toxic properties of air contaminants or energy interactions with humans.
Prerequisite: IHS 302, IHS 312.

IHS 350 Robotic Safety (2)
Information and issues related to worker safety in industrial environments where robots are used will be presented. The state-of-the-art of advanced automation will be surveyed with emphasis on system safety and injury prevention features required to assure an adequate worker/robot interface.
Prerequisite: IHS 302, IHS 312.

IHS 351 Industrial Ventilation (2)
Design and control applications for reducing worker exposure to airborne contaminants. Concepts and principles of dilution and local exhaust ventilation will be presented. Methods for assessment of industrial ventilation systems required to prevent the accumulation of flammable or explosive concentrations of gases, vapors, or dusts.
Prerequisite: IHS 302, IHS 312, MTH 141.

IHS 352 Industrial Noise Control (3)
Concepts in engineering controls required in the management of noise overexposure in industrial environments. Analysis of engineering design options and mechanical modifications effective in controlling worker exposure to undesirable industrial noise will be presented. Laboratory experience included to demonstrate principles of noise and its control.
Prerequisite: IHS 302, IHS 312.

IHS 353 Radiation Safety (2)
Safety aspects of occupational hazards associated with the use of ionizing radiation in industry will be presented. Methods for the identification, evaluation, and control of potential worker overexposure conditions will be reviewed. Biological effects of acute and chronic worker exposure will also be reviewed.
Prerequisite: IHS 302, IHS 312, PHY 102, PHY 158.

IHS 403 Industrial Toxicology (3)
Introduction to the basic concepts and techniques of toxicology with special attention given to industrial work environments. Evaluation of the effects of toxic substances on the human body. Focus on responses of various systems within the body to selected toxic agents.
Prerequisite: IHS 302, IHS 312, CHM 204, BIO 207.

IHS 404 Ergonomics (2)
Ergonomics and related change management concepts; anthropometry, biomechanics, metabolic energy expenditure, capabilities and limitations of workers; design and analysis of the workplace, hand tools, controls and products; application of the NIOSH lifting guidelines and other standards.

IHS 405 Special Topics (2, 3, or 4)
May be repeated for additional credit.
Prerequisite: Permission of instructor.

IHS 430 Environmental Standards (3)
Examines ambient and work place air, noise, radiation, water and pesticide standards. Topics will be analyzed in terms of standard development, enforcement at state and federal levels, and the validity of the standard's ability to protect health.
Prerequisite: IHS 302, IHS 312, PHY 102, PHY 158.

IHS 440 Advanced Industrial Health and Safety Internship (4)
Field training in industrial safety and health in close collaboration with professional industrial hygiene and safety personnel. Exposure to health and safety program planning and evaluation. Graded S/U.
Prerequisite: Advanced standing and departmental permission.

IHS 490 Independent Study (1, 2, 3 or 4)
Student initiated and problem-oriented independent study focusing on occupational health and safety issues. May be repeated for additional credit. Graded S/U.
Prerequisite: Departmental permission.

Medical Laboratory Sciences Program

Director: *J. Lynne Williams*

Associate professor: *J. Lynne Williams*

Visiting instructor: *Mary Ann Weller*

Clinical professors: *Jay Bernstein, John D. Crissman, Richard H. Walker*

Clinical associate professors: *Alireza Armin, Billy B. Baumann, William B. Fuqua, Barbara J. Jenkins, Raymond E. Karcher, Sudah Kini, John H. Libcke, Aaron Lupovitch, Boris K. Silberberg*

Clinical assistant professors: *Elena I. Dvorin, Michael M. Joh, Deanna Dupree Klosinski, Richard G. Soper*

Clinical instructors: *James Adams, Barbara J. Cahalan, Ellen Chapin, Harriet L. Cronin, Susan Dingler, Margaret M. Kluka, Ross R. Lavoie, Melanie Madercic, Joseph Roszka, Joyce Salancy, Carolyn A. Shalhoub, Deborah Thompson, Robert Weimer, Peggy Wenk*

Adjunct instructor: *Barbara M. Adams*

The medical laboratory sciences program is designed to prepare students for professional opportunities in a variety of settings. Graduates may find employment opportunities in hospital or commercial clinical laboratories, research facilities, biomedical industries (sales or service representatives, research and development, quality assurance) and public health centers/laboratories. In addition, the medical laboratory sciences curriculum meets basic requirements for entry into post-baccalaureate professional programs, including medicine, dentistry and osteopathy.

Medical laboratory scientists perform many routine and specialized laboratory tests for the purpose of developing data for the determination of the presence and extent of disease, as well as implications pertaining to the cause of disease. Laboratory science is a very diversified field. Many areas of specialization have evolved within the profession to ensure the expertise of individuals performing in clinical settings. Generally, employment in a hospital or community clinical laboratory requires certification in a specialization field. Professional certification is obtained by completing an accredited clinical internship program and satisfying other applicable licensure requirements, depending on the specialization.

The Oakland University program addresses each of the major laboratory science specializations, including cytotechnology, histotechnology, medical technology and nuclear medicine technology. Cytotechnologists and histotechnologists are involved in the diagnosis of disease based on cellular or tissue alterations. Medical technologists perform a wide range of diagnostic procedures, including chemical, microscopic, bacteriological and immunological procedures used in the diagnosis and study of disease. Nuclear medicine technologists utilize small amounts of radioactive materials for diagnostic evaluations of the anatomic or physiologic conditions of the body and to provide therapy with radioactive sources.

Students may be admitted as medical laboratory sciences majors directly from high school or by transfer from other colleges or universities. As described below *(Admission to clinical specializations)*, students have the option of completing the medical laboratory sciences degree by completing a hospital-based clinical internship specialization program in cytotechnology, histotechnology, medical technology or nuclear medicine technology during their senior year. Acceptance into these internship programs is selective and based on grades, personal interviews and letters of recommendation. Application for acceptance into a specialization internship program will occur either at the completion of the sophomore year or during the junior year depending on the specialization. The junior year curriculum will vary for students depending on the specialization followed.

Students not wishing to pursue professional certification or not selected in a clinical specialization internship program may complete the medical laboratory sciences degree by following the academic program for one of the medical laboratory sciences specializations and substituting adviser-approved electives for the clinical year (internship) course work. Such students will be eligible to reapply for clinical internship opportunities either before or after graduation, if desired.

Requirements for the B.S. degree with a major in medical laboratory sciences

Students seeking the Bachelor of Science degree with a major in medical laboratory sciences must complete a minimum of 136 credits, including the following requirements:

1. Complete the writing proficiency requirement. In satisfying this requirement, students may need to complete RHT 100 and RHT 101 (with grades of 2.0 or better), or their equivalents, at another college or university. Credits associated with these courses are not included in the 136 credits required for this degree.
2. Meet the university general education requirements (see *Undergraduate degree requirements*). In completing the health science core curriculum, medical laboratory sciences majors will automatically satisfy the requirements in mathematics, logic, and computer science and in natural science and technology.
3. Complete the health science core curriculum.
4. Complete BIO 322 or 206, CHM 149, CHM 203-204, MTH 121 or 141 and MLS 201, all of which complement the core curriculum.
5. Complete the major course requirements specified under one of the four medical laboratory sciences specializations (cytotechnology, histotechnology, medical technology or nuclear medicine technology).
6. Complete all medical laboratory sciences major program course work with a cumulative GPA of 2.50 or higher.

Admission to clinical specializations

To be accepted in a clinical specialization, students must complete appropriate application processes with individual (hospital based) accredited programs. Applications for the histotechnology, cytotechnology and nuclear medicine technology programs are processed in the spring semester following the sophomore year (or following completion of the health science core curriculum). Applications for medical technology clinical programs are processed during fall semester of the junior year. Students should have a 3.00 overall grade point average. Students with lower grade point averages may be admitted provisionally pending satisfactory completion of appropriate fall semester, junior year course work.

Grade point policy

Students must maintain a cumulative grade point average of 2.50 in all course work applied to the medical laboratory sciences major. Students in a specialization will be placed on probation if they earn a grade less than 2.0 in any course or if their cumulative grade point average in major course work falls below 2.50. Students who earn a second grade less than 2.0 must have their programs reviewed by the faculty to determine remediation or termination from the program.

In order to remove probationary status, students must raise their major grade point average to 2.50 or higher.

Specialization in cytotechnology

Director: *Sudah Kini*

A cytotechnologist is a trained medical laboratory technologist who detects cell disease by light microscopic examination of cell samples from all areas of the human body.

Students may be accepted into the cytotechnology specialization after completing the health science core curriculum, the courses that complement the core curriculum and the university general education requirements. In the junior year, students follow the prescribed academic program at Oakland University. The senior year consists of a 12-month internship at an approved hospital school of cytotechnology. The internship includes an integrated presentation of didactic material, microscopic study, specimen preparation, clinical observation, cytogenetics, laboratory management, and a research project.

Cytotechnology specialization course requirements

Students accepted into the cytotechnology specialization must complete the following courses: BIO 205, 305, 306, 307, 325, 326, 341, 393 and 423; MLS 312; and 28 credits in clinical courses, CT 401 and 402.

Specialization in histotechnology

Director: *Alireza Armin*

Histotechnologists perform a variety of diagnostic and research procedures in the anatomic sciences. Basic histologic techniques involve the processing and staining of tissue specimens that have been removed from humans or animals by biopsy or autopsy. Advanced techniques involve the use of the electron microscope, immunofluorescence microscopy, autoradiography, cytogenetics and medical photography.

Students may be accepted into the histotechnology specialization after completing the health science core curriculum and the university general education requirements. In the junior year, students follow the prescribed academic program at Oakland University. The senior year consists of a 12-month affiliation at William Beaumont Hospital School of Histotechnology.

Histotechnology specialization requirements

Students accepted into the histotechnology specialization must complete the following courses: BIO 205, 305, 306, 307, 325, 341, 423, 429 and 430; MLS 312; and 28 credits in clinical courses, HT 401, 402, 403 and 404.

Specialization in medical technology

Medical technologists perform a wide range of diagnostic procedures, including procedures in hematology, clinical chemistry, microbiology, serology, urinalysis and immunohematology (blood banking).

Students may be accepted into the medical technology specialization after completion of the health science core curriculum, the courses that complement the core curriculum and the university general education requirements. The junior year consists of the prescribed academic program at Oakland University and the senior year consists of a 9 or 12-month affiliation at an approved hospital school of medical technology. Upon completion of the internship, the student must pass a national certification examination to become a registered medical technologist.

Currently, the following hospitals are affiliated with Oakland University: Detroit Receiving Hospital, Detroit; Garden City Osteopathic Hospital, Garden City; Holy Cross Hospital, Detroit; Pontiac General Hospital, Pontiac; Providence Hospital, Southfield; St. John Hospital, Detroit; St. Joseph Hospital, Flint; and William Beaumont Hospital, Royal Oak. Internships have also been arranged with other Michigan hospital programs under individually approved agreements.

Oakland University is studying modifications of the medical technology program that would alter the curriculum to include four years of on-campus academic work followed by a shortened clinical rotation at an affiliated hospital. Students are encouraged to consult periodically with the School of Health Sciences academic adviser for information on these modifications.

Medical technology specialization requirements

Students accepted into the medical technology specialization must complete the following courses: BIO 325 (or CHM 453, 454), 365, 366, 421, 422, 423; MLS 313, 314, 316, 317, 326, 327, 328; and 28 credits in clinical courses, MT 415, 416, 418, 421, 423 and 428, or adviser-approved electives.

Specialization in nuclear medicine technology

Medical director: *Michael M. Joh*

Program coordinator: *Ellen Chapin*

Nuclear medicine technologists utilize small amounts of radioactive materials for diagnostic evaluations of the anatomic or physiologic conditions of the body and to provide therapy with radioactive sources.

Students are accepted into the nuclear medicine technology specialization after completion of the health science core curriculum, the courses that complement the core curriculum and the university general education requirements. The junior year consists of the prescribed academic program at Oakland University. The senior year consists of a 12-month affiliation at St. John Hospital School of Nuclear Medicine Technology.

Nuclear medicine technology specialization requirements

Students accepted for nuclear medicine technology major standing must complete the following courses: BIO 205, 206, 325, 423; PHY 158, 490 (radiation biology), PHL 318; HS 331, 401; MLS 210, 312, 325, 328; and 28 credits in clinical courses, NMT 401, 402.

Course Offerings

CYTOTECHNOLOGY

CT 401 Clinical Internship (14)

Microscopic study of cellular alterations indicative of cancer and precancerous conditions, bacterial, viral and parasitic infections, and hormonal abnormalities; cytogenetics; and a research project.

CT 402 Clinical Internship (14)
Continuation of CT 401.

HISTOTECHNOLOGY

HT 401 Basic Histotechnique and Histochemical Staining Methods (12)
Didactic and practicum experience in preparing histologic sections for light microscopy, including the study of over 50 different histologic staining methods and their specific applications.

HT 402 Basic Electron Microscopy (8)
Didactic and practicum experience in basic biological electron microscopy. Electron microscopic histochemistry and special techniques are also covered. Emphasis is on the electron microscope as a medical diagnostic tool.

HT 403 Immunohisto-cytochemistry (4)
A course designed to teach basic and advanced procedures of fluorescent and enzyme-labeled antibody techniques. The course includes the preparation of tissues, staining with labeled antibodies and the use of the fluorescence microscope in clinical medicine and research.

HT 404 Cytogenetics (4)
An intensive course in human cytogenetics. Human chromosome methodology, chromosome identification and chromosomal abnormalties and their application in clinical medicine.

MEDICAL LABORATORY SCIENCES

MLS 201 Careers in Medical Laboratory Sciences (0)
An introductory seminar in medical laboratory sciences, including career opportunities in clinical settings (medical technology, histotechnology, cytotechnology, nuclear medicine technology, industrial sales and/or research and development, basic medical research, and education).

MLS 210 Medical Terminology (1)
This course is designed as an independent study using a programmed text. Initial emphasis is on learning Greek and Latin word parts and rules for combining them, with cumulative study directed to the analysis and definition of medical terms. Graded S/U.

MLS 312 Hematology/Cellular Pathophysiology (3)
Topics include current concepts of hematopoiesis, including selected topics in red blood cell, white blood cell, and platelet morphogenesis, physiology and pathophysiology; an introduction to the basic principles involved in cellular disease mechanisms.
Prerequisite: BIO 207 or 321; permission of instructor.

MLS 313 Immunohematology (3)
Discussion of the immunologic and genetic basis for the study of red cell antigen/antibody systems, including physiologic and pathophysiologic consequences of foreign antigen exposure. Laboratory included.
Prerequisite: BIO 207 or 321; permission of instructor.

MLS 314 Hemostasis (3)
In depth study of the basic physiology and pathophysiology of the human hemostatic system. Laboratory included.
Prerequisite: BIO 207 or 321; permission of instructor.

MLS 316 Medical Hematology (4)
Theory and techniques in hematology, including red blood cell, white blood cell and platelet morphogenesis, physiology, and pathophysiology.
Prerequisite: BIO 207 or 321; permission of instructor.

MLS 317 Hematology Laboratory (1)
To accompany MLS 316.
Prerequisite: Permission of instructor.

MLS 325 Special Topics in Instrumentation and Clinical Analysis (1)
An introduction to theoretical and practical aspects of instrumentation and clinical analysis applicable to nuclear medicine technology. Laboratory included.
Prerequisite: Specialization in nuclear medicine technology.

MLS 326 Instrumentation and Clinical Analysis (3)
An introduction to theoretical and practical aspects of instrumentation and clinical analysis. Includes practical experience in the calibration, operation, and preventive maintenance of laboratory instruments. Laboratory included.
Prerequisite: Permission of instructor.

MLS 327 Clinical Chemistry (3)
A theoretical introduction to the fundamentals of clinical chemistry with emphasis on pathophysiology and clinical correlations.
Prerequisite: BIO 325.

MLS 328 Clinical Chemistry Laboratory (1)
Provides practical experience in the application of clinical instrumentation and current clinical methodologies to the performance of clinical chemistry assays.
Prerequisite: Successful completion of MLS 326 with grade of 2.0 or better.

MLS 405 Special Topics (1, 2, 3 or 4)
May be repeated for additional credit.
Prerequisite: Permission of instructor.

MLS 451 Clinical Education (6)
Prerequisite: Permission of instructor.

MLS 490 Individual Laboratory Work (2, 3, 4)
May be repeated for additional credit.
Prerequisite: Permission of instructor.

MLS 497 Apprentice College Teaching (2)
Directed teaching of selected undergraduate courses. May be repeated for a maximum of 4 credits. Graded S/U.
Prerequisite: Permission of instructor.

MEDICAL TECHNOLOGY

MT 415 Clinical Practicum — Urinalysis/Coagulation (3)
Didactic and practicum experience at an affiliated hospital school of medical technology, in the fields of urinalysis and coagulation.
Prerequisite: Permission of instructor.

MT 416 Clinical Practicum — Hematology (5)
Didactic and practicum experience at an affiliated hospital school of medical technology, in the area of hematology.
Prerequisite: Permission of instructor.

MT 418 Clinical Practicum — Immunohematology (4)
Didactic and practicum experience at an affiliated hospital school of medical technology, in the field of immunohematology.
Prerequisite: Permission of instructor.

MT 421 Clinical Practicum — Microbiology (7)
Didactic and practicum experience at an affiliated hospital school of medical technology, in the field of medical microbiology, including parasitology and mycology.
Prerequisite: Permission of instructor.

MT 423 Clinical Practicum — Serology (2)
Didactic and practicum experience at an affiliated hospital school of medical technology, in the field of serology.
Prerequisite: Permission of instructor.

MT 428 Clinical Practicum — Chemistry (7)
Didactic and practicum experience at an affiliated hospital school of medical technology, in the field of clinical chemistry.
Prerequisite: Permission of instructor.

NUCLEAR MEDICINE TECHNOLOGY

NMT 401 Clinical Internship I (14)
Didactic and clinical experience in clinical nuclear medicine including instrumentation, radiopharmacy, ligand assay, organ imaging and therapy with radionuclides.

NMT 402 Clinical Internship II (14)
Continuation of NMT 401.

Physical Therapy Program

Director: *Jane M. Walter*

Associate professors: *Osa Jackson, Jane M. Walter*

Assistant professor: *Kornelia Kulig*

Special instructors: *Faye M. Cobb, Christine Pillow, Kristine A. Thompson*

Clinical professors: *A. Charles Dorando, Freddy M. Kaltenborn, Clarence B. Vaughn*

Clinical associate professor: *Allen Silbergleit*

Clinical assistant professors: *Allen L. Babcock, Jack E. Belen, Peter M. Boruta, Dale V. Hoekstra, Frank Kava, Kristie S. Kava, Michael R. Lubetsky, Frederick P. Maibauer, Ricky E. Olson, Kanamarlapudi Rao*

Senior clinical instructor: *Cathy Larson*

Clinical instructors: *Michael R. Beauvais, Reyna T. de Blumentritt, Henry D. Boutros, David K. Gilboe, Philip H. Keila, Kathleen Jakubiak Kovacek, Peter R. Kovacek, James C. Pipp, Linda M. Pipp, Marilyn J. Raymond, Daniel A. Selahowski, Dorothy J. Smith, Lasse Thue, Kenneth M. Woodward*

General Information

The physical therapy program prepares students for the master of physical therapy degree and professional careers in physical therapy. The program builds upon the liberal arts, reinforcing the role of the physical therapist as an actively contributing member of society and a rational and morally sensitive professional. The program is accredited by the Commission on Physical Therapy Education, a body which is given its accreditation authority by the Council on Post-secondary Accreditation (COPA) and the Department of Education (DOE).

Physical therapists are concerned with the prevention and treatment of acute and chronic conditions which cause disorders of movement. Physical therapists evaluate the musculoskeletal, neuromuscular, cardiopulmonary, and associated systems, drawing on the basic sciences (biology, chemistry and physics) and the behavioral sciences (psychology) for their interpretations. Patient programs are then developed to resolve movement dysfunctions. Physical therapists work in concert with all members of the health care team through a variety of referral relationships.

Admission

Entry into the physical therapy program is competitive, and is contingent upon satisfactory completion of the health science core curriculum, required courses complementing the core curriculum, and the university general education requirement. Acceptance is based on academic performance, letters of recommendation, exposure to the profession, personal interviews and Allied Health Professions Admissions Test scores. Application to the physical therapy program typically occurs in the winter semester of the sophomore year and may be initiated by Oakland University students or by students transferring from other institutions. Transfer students must demonstrate completion of a pre-professional curriculum equivalent to Oakland University's in terms of both content and semester hour total (75 semester hour credits). Transfer students are reminded that a maximum of 62 semester hour credits are transferable from a community or junior college (see *Transfer student information*). Preference will be given to students who have completed a majority of their credits at Oakland University.

Program description

Students accepted into the physical therapy professional program are required to complete the Bachelor of Science in health sciences degree as outlined in this section, followed by a graduate level curriculum which culminates in the awarding of the Master of Physical Therapy degree. The Bachelor of Science in health sciences is awarded when a minimum of 138 semester hours have been earned. This degree is a reflection of academic achievement but does not allow the student to practice physical therapy. The Master of Physical Therapy is awarded upon completion of a minimum of 49 additional semester hours of graduate level course work. This degree allows the graduate to apply to sit for the professional licensure examination. The duration of the professional program is three years for full-time students. Students who already hold a bachelor's degree are not required to earn a second degree. However, such students must still complete the preprofessional core requirements prior to admission to the professional program and all professional course requirements prior to receiving the master's degree.

A description of the 49 semester hours of graduate level course work required to complete the physical therapy program and earn the Master of Physical Therapy degree is provided in the *Oakland University Graduate Catalog.*

Requirements for the B.S. degree with a major in health sciences

Students seeking the Bachelor of Science degree with a major in health sciences must complete a minimum of 138 credits, including the following requirements:

1. Complete the writing proficiency requirement. In satisfying this requirement, students may need to complete RHT 100 and RHT 101 (with grades of 2.0 or better) or their equivalent at another college or university. Not all credits associated with these courses will apply to the 138 credits required for this degree.
2. Meet the university general education requirements (see *Undergraduate degree requirements*). In completing the health science core curriculum and major program requirements, physical therapy majors will automatically satisfy the requirements in mathematics, logic and computer science, in natural science and technology, and in social science.
3. Complete the health science core curriculum.
4. Complete BIO 322, MTH 141, MTH 122 or 154, PHY 158, PSY 100 or 130, and PSY 331, all of which complement the core curriculum.
5. Be admitted to major standing in the professional program.
6. Complete the major program as follows: BIO 381 and 460; EXS 304; HS 324, 331, 391, and 401; PHY 325; PT 300, 311, 330, 331, 332, 333, 334, 340, 351, 370, 420, 442, 452, and 460.

Grade point policy

A 3.00 grade point average for all course work taken in the professional program is required for graduation. Progress toward this requirement during the three-year professional program will be monitored, with probation, suspension or dismissal from the program as possible consequences of not meeting the following criteria:

1. A minimum semester GPA of 2.70 must be achieved for each and every semester enrolled in the program. Students receiving a semester GPA of less than 2.70 during enrollment in the program will be placed on probation. For purposes of this policy, the spring/summer terms of the first year will count as one semester. Students receiving a semester GPA of less than 2.70 more than once during enrollment in the professional program are subject to suspension from the program for a period of one year.
2. A minimum course grade of 2.0 must be achieved for each required course in the program. Students receiving one course grade below 2.0 during any semester are subject to probation or suspension from the program. Suspension involves temporary ineligibility to take additional major course work until such time as the course(s) completed unsatisfactorily or their equivalent are again offered and are satisfactorily completed. This period is typically one year.

3. Students are subject to dismissal from the program as a result of any one of the following conditions: receipt of two course grades below 2.0 during completion of the professional program, being subject to probation more than twice or to suspension more than once. Once dismissed, students may not reenter the physical therapy program.
4. Students will be informed of all probation, suspension and dismissal decisions in writing, including the grounds for the decision, a time frame for probation/suspension, and any remedial work or repeat course work that must be completed prior to continuing in the program.
5. All decisions regarding the imposition of probation, suspension or dismissal, any remedial work to be completed and the removal of probation or suspension will be made by the Physical Therapy Honors and Promotion Committee. Appeals of Physical Therapy Honors and Promotion Committee decisions may be made to the dean of the School of Health Sciences. The dean's decision shall be final. For additional information on general university policies on repeats, see *Repeating courses*.

Code of ethics

Since ethical conduct is critical to a health profession, students are required to abide by the Code of Ethics and Guide for Professional Conduct, published by the American Physical Therapy Association. Violations will be reviewed by the Physical Therapy Honors and Promotion Committee and could result in dismissal from the program.

Course Offerings

PT 300 Kinesiology (3)
Study of selected anatomical, structural and functional properties of human muscular, skeletal and connective tissue structure. Normal human movement is emphasized to develop a base of knowledge for clinical assessment and treatment. Laboratories in surface anatomy and gait analysis are included. Abnormalities and physical dysfunctions are discussed on a limited basis.

PT 311 Biomechanics (3)
The study of mechanical principles of human movement and its analysis. Anthropometry, muscle mechanics, mechanics of materials, and coordination are studied. Instrumentation for kinetic and kinematic evaluation of human motion are presented. Advanced gait analysis is included.

PT 330 Introduction to Patient Care (3)
Theory and practice of basic therapeutic techniques utilized in physical therapy. Modules include: professional orientation, patient records, gait training, transfer training, wheelchair management, assistive device prescription, range of motion, history taking and massage. All of these aspects will be integrated into a problem solving/case study approach.

PT 331 Evaluation Procedures I (2)
Basic principles and techniques of evaluation procedures used in physical therapy. Lecture, laboratory, demonstration, discussion and clinical site visits will be used to teach students principles and techniques of palpation, manual muscle testing, goniometry, anthropometric measurement, posture and gait analysis, and vital signs.

PT 332 Physical Agents (3)
Lecture/laboratory focusing on the principles and procedures for using physical agents. Modules focus on superficial and deep heat, cryotherapy, infrared, ultraviolet, hydrotherapy, compression garments and traction.

PT 333 Clinical Medicine and Physical Therapy (4)
Lecture/discussion covering the etiology, pathology, symptomatology, treatment and prognosis of patient disorders associated with the medical specialty areas covered in this course, which include: cardiopulmonary, oncology, burn care, orthopedics, rheumatology and neuromuscular diseases.

PT 334 Evaluation Procedures II (4)
Study of basic evaluation principles and procedures for the patient with musculoskeletal and neuromuscular problems.

PT 340 Personal Movement Analysis I (1)
Systematic exploration of movement habits/options based on the sensorimotor integration of the individual student. Self-exploration of facilitation techniques that enhance sensorimotor integration will be explored. Effects of cognitive, affective and psychomotor factors on movement will be considered.

PT 351 Clinical Education I (1)
Orientation to clinical education including the practice of basic patient evaluation through supervised experience in the clinical environment.

PT 370 Therapeutic Exercise (4)
Introduction to principles and techniques of therapeutic exercise. Students will begin to formulate treatment programs to resolve patient problems and foster awareness of the ramifications of these procedures on the client and his/her life.

PT 420 Neurophysiology and Clinical Neuroscience (3)
Integration of neuroanatomy and neurophysiology as it forms a rationale for patient evaluation and treatment planning. Special emphasis is given to neurophysiology/neuroanatomy rationale related to neuromuscular and skeletal dysfunctions. Lecture, laboratory and practical experiences.

PT 442 Emotional Aspects of Patient-Therapist Interaction (2)
Study of the various factors impinging upon the patient, the family or meaningful others, other members of the medical team and ultimately the patient-therapist relationship and what the physical therapist needs to consider when interacting with the patient or family or meaningful others.

PT 452 Clinical Education II (2)
Clinical education including advanced patient evaluation and initiation of treatment planning and implementation under direct supervision in the clinical environment.

PT 460 Physical Therapy and the Human Life Cycle I: Infancy through Adolescence (3)
Examines the human developmental progression from conception up to and including adolescence and the special physical therapy adaptations that are required at each stage of development. Course format is varied with discussion, demonstration, lectures, small group activities, field observations and patient assessment.

SCHOOL OF NURSING

434 O'DOWD HALL (313) 370-4071

Interim Dean: *Penny S. Cass*

Office of the Dean: *W. W. Kent, assistant to the dean; Sue Lindberg, coordinator, academic advising; Linda Wright, adviser*

Associate professors: *Penny S. Cass, Gary Moore, Carol Zenas*

Assistant professors: *Melinda G. Beaudry, Janice E. Fries, Rita Munley Gallagher, Frances C. Jackson, Mary A. Johnson, Patricia Ketcham, Norman Kloosterman, Anahid Kulwicki, Mary E. Mittelstaedt, Nancy O'Connor, Clementine Rice, Darlene Schott-Baer, Diane Wilson*

Special instructors: *Virginia R. Hosbach, Ramune Mikaila, Jean Mohan*

Visiting assistant professor: *Joann Richards*

Visiting instructors: *Jane Lukacs, Linda Munro, Mary Ruhana, Suzanne Skowronski*

Lecturers: *Jesse E. Bateau, Joan E. Blakley, Caroljo T. Catron, Martha A. Gotshall, Nancy J. Hauff, Mary Jane Heaney, Frances E. Jurack, Michelle A. Kluka, Carmon V. Nicholson-Weekes, Elizabeth C. Patterson, Jean E. Postma, Mary Swingle, Nancy C. Thompson, Catherine Vincent, Joan E. Woodhead*

Adjunct professors: *Clara Adams-Ender, Karen S. Ehrat, Shahrokh Mansoori*

Adjunct associate professor: *Joanne Napiewocki*

Adjunct assistant professor: *Alice Joan Schmidt*

Adjunct instructors: *Kathy Geering, Barbara S. Lloyd, Cynthia Osborn, Cynthia Petrack, Gary Plagens, Deborah Rusert, Stephen Tackitt, Lenora Ward, Mary Lou Wesley*

Board of Visitors

The Board of Visitors for the School of Nursing is composed of community leaders in the greater Detroit area. It assists the school in developing goals and objectives, curricula design, and clinical and research programs to meet the rapidly changing and expanding requirements of the health care field. Board members are available individually or collectively for consultation on such matters as facilities, equipment requirements, special topics and long-range planning. Members of the Board of Visitors are:

Maggie Allesee, Birmingham, Michigan
Ernest W. Baker, Chairperson, DDB Needham
David Benfer, Executive Vice President, Henry Ford Hospital
Glenn Betts, Representative, United Auto Workers
Donald J. Bortz, Jr., President, Bortz Health Care Corporation
Charles L. Crissman, Manager, Crissman Lincoln/Mercury Sales & Leasing
Alan S. Funk, Executive Vice President, Jewish Home for the Aged
Joseph F. Galvin, Attorney, Miller, Canfield, Paddock & Stone
Betty Gerisch, R.N., Bloomfield Hills, Michigan
Dorothy Hanna, R.N., Associate Hospital Director, William Beaumont Hospital, Royal Oak
Ruth Huebner, Rochester, Michigan
Robert Hutton, Grosse Pointe Park, Michigan, Honorary Member
Harold C. L. Jackson, Jr., Manager, General Publicity, General Motors Corporation

Kathleen M. Korbelak, Vice President Nursing Services, Saint John Hospital and Medical Center
Richard Prior, M.D., Honorary Member
Boris G. Sellers, Executive Director, The Beaumont Foundation
Robert Shapiro, Vice President for Pharmacy Services, Perry Drug Stores
Terry Treiber, Birmingham, Michigan
William R. Yaw, Jr., Senior Vice President, Standard Federal Bank

Programs Offered

Undergraduate Program

The School of Nursing offers instruction leading to the Bachelor of Science in Nursing (BSN). The course of study combines general education in the humanities and the social, biological and natural sciences with education in the theory and practice of nursing. Graduates qualify for employment as professional nurses in a variety of settings. A registered nurse sequence is provided for RN students who wish to earn the BSN.

The purposes of the program are to:

1. Provide a program of quality baccalaureate nursing education grounded on a firm foundation in the liberal arts and sciences.
2. Prepare a generalist nurse for entry into professional practice.
3. Foster professional role development and commitment to continued personal and professional growth.
4. Prepare a graduate to take the licensure examination of the State Board of Nursing.
5. Prepare a graduate for application to graduate school.

Graduate Program

The School of Nursing offers a program leading to the Master of Science in Nursing (MSN). This program prepares nurses for advanced nursing practice in nursing administration, nurse anesthesia, or adult health nursing. For more information, see the *Oakland University Graduate Catalog.*

Admission

The prenursing year

Students wishing to enter prenursing should have completed two years of high school mathematics, including algebra; one year of college preparatory biology; and one year of chemistry, with a grade of 2.8 or better in each. A cumulative average of 2.80 or better is required for admission. See the *Admissions* section for additional information.

During the prenursing year, students take introductory courses in the natural and social sciences and the humanities. The following courses are required for admission to the nursing program:

CHM 104	Introduction to Chemical Principles (4)
CHM 201	Introduction to Organic and Biological Chemistry (4)
BIO 200	Biology (4)
RHT 100	Composition I (4)
RHT 101	Composition II (4)
PSY 100	Foundations of Contemporary Psychology or
or 130	Psychology and Society (4)
PSY 270	Lifespan Developmental Psychology (4)

Admission to the School of Nursing

Application for admission to the nursing program occurs during the winter semester. To be considered for admission a student must complete all required prenursing courses with a cumulative grade point average of 3.00, and earn a minimum grade of 2.0 in each prenursing course. Calculation of the grade point average is based on all prenursing courses whether taken at Oakland University or another institution. Completion of minimum requirements does not guarantee admission. Positions are filled with applicants best qualified to succeed in the nursing program. Preference is given to students who have completed a majority of their prenursing credits at Oakland University. The School of Nursing encourages and actively seeks male and minority applicants. In addition, admission to the nursing program beginning at the sophomore year, is contingent upon:

1. Submission of a completed health history and physical examination, including inoculation for tetanus, skin testing for tuberculosis (possible chest x-ray), rubella titer, and correction of any correctable physical limitations (at the student's expense).
2. Obtaining malpractice insurance of at least $1,000,000 coverage for the sophomore, junior and senior years (at the student's expense).
3. Completion of an approved Heartsaver or BCLS/BLS class within the last year.

All of the required information must be submitted to the School of Nursing by specified deadlines.

Advising

The School of Nursing advising office is located in 449 O'Dowd Hall (370-4073). All students should schedule an advising appointment during the prenursing year to review degree requirements. In addition, students are required to attend a School of Nursing orientation prior to registration for nursing courses. A plan of study for each student is completed at the orientation. The plan of study is a timetable of courses to be taken and assures progress toward satisfying degree requirements.

Transfer policy

Programs offered by the School of Nursing are designed to meet National League for Nursing accreditation criteria as well as to reflect the Oakland University philosophy of education. Thus, the program is more than a mere assemblage of courses. Records of students transferring to Oakland University from other academic institutions are evaluated and transfer credit is granted as appropriate. Once matriculated at Oakland, students are expected to complete all remaining course work for the degree at Oakland. Exceptions that permit taking courses at another institution must have the prior consent of the School of Nursing Committee on Instruction. **A student who has completed 62 semester hours of credit from any accredited institution(s), including Oakland University, may not transfer additional credits from a community or junior college.** See *Transfer student information* for additional information.

Requirements for the Bachelor of Science in Nursing Degree

To earn the Bachelor of Science in Nursing degree, students must complete a minimum of 125 credits and meet the following requirements:

1. Complete the writing proficiency requirement.
2. Complete all credits and courses prescribed in the degree curriculum, including: 32 credits in general education (see *Undergraduate degree requirements*); 60 credits in the nursing component; and 25 credits in the humanities and the social and natural sciences as prescribed by the School of Nursing.
3. Maintain a cumulative grade point average of at least 2.50 in all nursing courses.
4. Complete at least 32 credits at the 300-level or above.
5. Be in compliance with all legal regulations of the School of Nursing.

Standard Program Plan

Fall			Winter		
Prenursing			**Prenursing**		
*CHM 104	Introduction to Chemistry	(4)	*RHT 101	Composition II	(4)
*RHT 100	Composition I	(4)	*BIO 200	Biology	(4)
*PSY 100	Foundations of Contemporary Psychology	(4)	*CHM 201	Organic and Biological Chemistry	(4)
OR			*PSY 270	Lifespan Developmental Psychology	(4)
PSY 130	Psychology & Society				
General Education		(4)			
Sophomore			**Sophomore**		
NRS 205	Health Assessment	(2)	NRS 234	Introduction to Professional Nursing II	(6)
NRS 223	Introduction to Professional Nursing I	(6)	NRS 230	Pharmacology in Professional Nursing	(2)
NRS 225	Effective Communication	(2)	BIO 207	Human Physiology	(4)
BIO 205	Human Anatomy	(4)	BIO 307	Medical Microbiology	(4)
BIO 206	Human Anatomy Lab	(1)			
Junior			**Junior**		
NRS 322	Pathophysiology	(3)	NRS 323	Nursing Care of Children	(4)
NRS 333	Emotional Disorders	(4)	NRS 334	Emerging Family	(4)
NRS 324	Nursing Care of Adults I	(4)	NRS 325	(continued)	
NRS 325	Learning Resource Lab	(1)	General Education		(4)
General Education		(4)	General Education		(4)
Senior			**Senior**		
NRS 420	Professional Nursing in the Community	(8)	NRS 430	Leadership	(3)
NRS 422	Nursing Research	(3)	NRS 434	Nursing Care of Adults II	(3)
General Education		(4)	NRS 436	Practicum	(5)
			General Education		(4)

Total: 125 credits

NOTE: MTH 011 (Elementary Algebra) is a corequisite to CHM 104. MTH 012 (Intermediate Algebra) is a prerequisite to some general education courses in the mathematics, logic and computer science category. Credits for MTH 011/012 do not apply to the B.S.N.

*Courses required for admission to the nursing program.

Annual requirements

Each year students in the nursing program must supply written validation of:

1. Skin testing for tuberculosis and/or chest x-ray.
2. Malpractice insurance of at least $1,000,000 coverage.
3. Completion of an approved Heartsaver or BCLS/BLS (CPR) class.

Students who have not submitted all of the above items prior to beginning clinical experiences will be excluded from clinical agencies until they have met all the above requirements.

Course sequencing

The nursing curriculum is developed based upon full-time study. Students who complete non-nursing courses prior to entering the program may have a lighter course load, but will not complete the program earlier.

Students must complete all designated course requirements for each level in the nursing program before progressing to the next level. Students who are ineligible to progress are placed on inactive status. Their return to the program is contingent upon availability of space. Students who return to the nursing program from inactive status must comply with all School of Nursing policies currently in effect.

Clinical placements

Nursing students are placed in clinical settings each semester. These clinical experiences provide students with opportunities to apply theory to practice in caring for individuals, families or groups.

Cooperating agencies are located throughout the metropolitan Detroit area. Students are responsible for providing their own transportation to and from the clinical agency. Students must have access to their own car for community health clinical placements in the senior year.

Academic standing policy

Grade point policy

Each student's program progress will be reviewed at the end of each nursing course. The periods between reviews are grading periods. Grades are either numerical or S/U (satisfactory/unsatisfactory) as specified for the course. The term grade means:

1. an overall grade for a course, or
2. either a clinical grade or a theory grade, when a course contains both components (the component grade).

Probation/termination

1. In courses or course components graded numerically, a student assigned a course or component grade below 2.5 is automatically placed on probation. A student assigned a course or component grade below 2.0 is subject to academic dismissal from the program. In the latter case, the school may impose a remediation program while probation continues or may immediately terminate the student from the nursing program. A student on probation who in the next grading period has no nursing grade(s) of unsatisfactory (U) or below 2.5 will be removed from probation if this is consistent with any remediation program imposed. A student on probation, who in the next grading period has a grade or grades of unsatisfactory or below 2.5, may be immediately terminated from the nursing program or may have a remediation program imposed while probation continues, as the school shall determine.
2. In courses or course components graded satisfactory/unsatisfactory (S/U), a student assigned a course or component grade of unsatisfactory (U) is automatically placed on probation. The school may impose a remediation program while probation continues. A student on probation who, in the next grading period, has no nursing grade(s) of U or below 2.5 will be removed from probation if this is consistent with any remediation program imposed. A student on probation who, in the next grading period, has a grade or grades of U or below 2.5 may be immediately terminated from the nursing program or may have a remediation program imposed while probation continues, as the school shall determine.
3. A student must maintain a G.P.A. of at least 2.50 in all nursing courses to remain in good academic standing. If a student's nursing G.P.A. falls below 2.50, the student is automatically placed on probation. If a student increases the nursing G.P.A. to at least 2.50 within the next two grading periods, the student will be removed from probation. If not, the school may impose a remediation program while probation continues or immediately terminate the student from the nursing program.
4. A student who earns course or component grades of unsatisfactory or below 2.5 in two nursing courses within the same grading period may be immediately terminated from the nursing program or may have a remediation program imposed while on probation, as the school shall determine.
5. A student who is placed on probation by the School of Nursing more than one time may be immediately terminated from the nursing program or may have a remediation program imposed while on probation, as the school shall determine.

Eligibility for graduation

In addition to satisfying other stated requirements, to be recommended for graduation:

1. A student must be in good academic standing (non-probationary).
2. A student must have a cumulative G.P.A. of at least 2.50 in nursing courses.
3. A student must have a grade of at least 2.0 in all required non-nursing courses.

A student placed on probation at the expected time of graduation may have a remediation program imposed as the school shall determine.

Degree completion sequence for registered nurses

The School of Nursing offers registered nurses an opportunity to earn a Bachelor of Science in Nursing. The purposes, philosophy and objectives of the B.S.N. program are the same for basic and registered nurse students. However, flexible teaching methodologies take into account the professional and life experiences of R.N. students. The first course in the nursing sequence is NRS 222, specifically designed as a transition course for registered nurses.

Students who have satisfactorily completed a diploma or associate degree program in nursing and who possess a valid Michigan R.N. license may apply for admission to the B.S.N. program. Registered nurses must complete all credits and/or courses in the degree program.

Completion may be achieved in several ways, including:

1. CLEP (College Level Examination Program) credit, National League for Nursing achievement tests and ACT Proficiency Examination Program (PEP) credit. Academic credit may be granted in courses for what students know, regardless of where or how they acquired the knowledge.
2. Transfer of credits. The School of Nursing evaluates previous course work to determine equivalency.
3. Credit by examination at Oakland University. Registered nurses may demonstrate competency by passing competency examinations, except as noted below.
4. Required course enrollment. When course requirements cannot be fulfilled by the above methods, R.N. students must enroll and successfully complete courses. All R.N. students are required to enroll in NRS 222, NRS 420, NRS 422, NRS 430 and NRS 436.

This program is designed to allow students to proceed at their own pace.

Additional Information

Accreditation and program review

The Oakland University School of Nursing is accredited by the National League for Nursing and has approval from the Michigan State Board of Nursing.

Sigma Theta Tau

Theta Psi, the local chapter of Sigma Theta Tau International Honor Society in Nursing, was chartered in April 1986 at Oakland University. Candidates for membership are selected on the basis of superior scholastic achievement and evidence of professional leadership potential.

National Student Nurses' Association

Prenursing and nursing students are eligible and encouraged to become members of the National Student Nurses' Association. NSNA is the mechanism through which students participate in planning and formulating policies related to the School of Nursing.

Qualification for R.N. licensure

Licensure is obtained through satisfactory performance on the licensing examination prescribed by the State of Michigan. Upon registration of the license, a nurse is known as a registered nurse (R.N.). Licensure in one state entitles a qualified holder to seek licensure by endorsement in other states.

Applicants who have been convicted of charges other than minor traffic violations may be denied a license to practice nursing.

Course Offerings

Nursing courses may include student learning experiences in the classroom, learning resource laboratory, and clinical agencies in the community. Admission to the nursing program is required for enrollment in any required nursing course.

NRS 205 Health Assessment (2)
Introduces students to the process of health assessment. Emphasis is on multidimensional assessment and techniques for communicating data collected to other health personnel.
Corequisite: BIO 205 and 206, and NRS 223.

NRS 222 Transition to Professional Nursing (5)
Introduces framework of nursing curriculum, including the concepts of man, environment, health and nursing. Opportunity for the demonstration of clinical competency. For registered nurses only.

NRS 223 Introduction to Professional Nursing I (6)
Introduces framework of nursing curriculum, including the concepts of man, environment, health and nursing. Basic nursing skills are applied to the care of healthy clients.

NRS 225 Effective Communication in Clinical Practice (2)
Focus on effective communication as the basis for implementing the nursing process. Initiates development of skills in deliberative communication, and presents behavioral theory related to successful application of communication skills in both non-clinical and clinical interpersonal encounters.

NRS 230 Pharmacology in Professional Nursing (2)
Focuses on basic concepts of pharmacology and their application in the clinical setting.
Corequisite: BIO 207.

NRS 234 Introduction to Professional Nursing II (6)
Continuation of NRS 223. Examines general principles involved in care of clients experiencing common health deviations. Gordon's Functional Health Framework is utilized as the basis for the assessment, planning, implementation and evaluation of nursing care to assigned clients.
Prerequisite: BIO 205 and 206, and NRS 205.
Corequisite: NRS 230.

NRS 322 Pathophysiology (3)
Examines how physiological functions are modified by disease processes.
Prerequisite: Completion of all sophomore level courses.

NRS 323 Nursing Care of Children (4)
Implications of variables related to health and illness in children. Emphasis is on the interaction of biological responses to stressors from birth through adolescence. Study provides the base for expanding competence in nursing skills centering on care function and more sophisticated application of nursing process with clients in various clinical settings.
Prerequisite: Completion of all sophomore level courses.
Corequisite: NRS 325.

NRS 324 Nursing Care of Adults I (4)
Explores the effect of variables related to health and illness in the adult. Emphasis is on the interaction of biological responses to stressors in the adult life cycle. Study provides the base for expanding competence in nursing skills centering on care functions and more sophisticated application of nursing process with clients in acute care clinical settings.
Prerequisite: Completion of all sophomore level courses.
Corequisite: NRS 325.

NRS 325 Learning Resource Lab (1-2)
Practice and validation of selected nursing care skills in the learning resource laboratory.
Prerequisite: Completion of all sophomore level courses.

NRS 333 Nursing Care of Clients with Emotional Disorders (4)
Study focuses on the care of clients in psychiatric settings. Includes exploration of variables affecting the development of psychopathology and emphasizes the development of nursing interventions to provide care for patients experiencing psychiatric problems.
Prerequisite: Completion of all sophomore level courses.
Corequisite: NRS 325.

NRS 334 Nursing Care of the Emerging Family (4)
Experience in the care of families throughout the childbearing cycle. Emphasis is on the care of mothers and infants in the labor room, delivery and post partum settings. Focus is on variables contributing to a healthy pregnancy, normal delivery and positive transition to parenthood.
Prerequisite: Completion of all sophomore level courses.
Corequisite: NRS 325.

NRS 360 Advanced Care of the Adult-Extern (4-6)
Provides precepted theoretical and clinical practice and classroom instruction in an acute care setting, working with an adult population.
Prerequisite: Completion of all junior level courses.

NRS 380 Understanding AIDS in the Community (4)
This multidisciplinary course provides a comprehensive introduction to the major concepts in the study of Acquired Immune Deficiency Syndrome (AIDS) including its prevention, transmission and effect on a variety of groups. Epidemiological, methodological, legal and ethical issues are explored.

NRS 420 Professional Nursing in the Community (8)
Exploration of the functions of the community health nurse with the individual, the family and the community. Emphasis is on analysis of client adaptation to environmental stressors, nursing actions directed toward prevention of illness, restoration, maintenance and promotion of public health, and collaboration with others in the community to achieve mutual goals.
Prerequisite: Completion of all junior level courses.

NRS 422 Nursing Research (3)
A broad overview of the research process in nursing. Includes content related to nursing theory, research design, and data analysis strategies. Major emphasis is on the use of research concepts for the purpose of evaluating relevant research for use in nursing practice.
Prerequisite: Completion of all junior level courses.

NRS 430 Leadership in Professional Nursing (3)
Seminar designed to enable students to develop a beginning framework for nursing leadership and practice. In-depth examination of management principles, theories and professional practice issues.
Prerequisite: Completion of all junior level courses.
Corequisite: NRS 436.

NRS 434 Nursing Care of Adults II (3)
Nursing of adult clients experiencing increasingly complex biopsychosocial health altercations.
Corequisite: NRS 436.
Prerequisite: Completion of all junior level courses.

NRS 436 Practicum in Professional Nursing (5)
Practicum offered in a variety of acute care settings designed to facilitate the transition from student to practicing professional. Students will apply the nursing process to acutely ill clients while functioning as a leader and an agent of change.
Prerequisite: Completion of all junior level courses.

NRS 460 Topics in Nursing (2-4)
Provides comprehensive theoretical nursing content to senior nursing students in a specialty area, e.g., critical care, maternity, industrial, intensive care, operating room, etc. Clinical experience in a health care facility may be required. May be repeated for additional credit.
Prerequisite: NRS 420 or 430.

NRS 490 Independent Study (1-12)
Options include the opportunity for selected students to participate in faculty research or preceptorships in areas of special interest. Permission of undergraduate program director is needed to enroll for more than 4 credits of independent study in one semester. May be taken more than once for a total of 12 credits.

UNIVERSITY FACULTY

This list reflects faculty appointments effective June 1, 1991 as they were available on the publication date.

Officers of Instruction

JOSEPH E. CHAMPAGNE, President of Oakland University and Professor of Management; Ph.D., Purdue University

KEITH R. KLECKNER, Senior Vice President for Academic Affairs and Provost and Professor of Engineering; Ph.D., Cornell University

The Faculty

ALI A. ABBASI, Clinical Associate Professor of Health Sciences; M.D., Damascus University

HODA ABDEL-ATY-ZOHDY, Associate Professor of Engineering; Ph.D., University of Waterloo

BONNIE F. ABIKO, Assistant Professor of Art History; Ph.D., Princeton University

BARBARA M. ADAMS, Adjunct Instructor in Medical Laboratory Sciences; M.A., Eastern Michigan University

JAMES R. ADAMS, Clinical Instructor in Medical Laboratory Sciences; M.S., Wayne State University

CLARA ADAMS-ENDER, Adjunct Professor of Nursing; M.S., R.N., University of Minnesota

JOYCE ADELSON, Adjunct Assistant Professor of Music; B.Mus., Eastman School of Music

JANICE ALBRIGHT, Adjunct Assistant Professor of Music; B.Mus.Ed., Indiana University

OSMAN D. ALTAN, Adjunct Associate Professor of Engineering; Ph.D., University of California (Berkeley)

WALLIS MAY ANDERSEN, Assistant Professor of Rhetoric; Ph.D., University of Detroit

KEVIN T. ANDREWS, Associate Professor of Mathematical Sciences; Ph.D., University of Illinois

SHELDON L. APPLETON, Professor of Political Science and Associate Provost for Undergraduate Studies; Ph.D., University of Minnesota

FREDERICO A. ARCARI, Consulting Professor of Health Sciences; M.D., Glasgow University

JOSEPH A. ARENDS, Clinical Assistant Professor of Exercise Science; M.D., Wayne State University

ALIREZA ARMIN, Clinical Associate Professor of Medical Laboratory Sciences; M.D., Tehran University

ELWOOD P. ARMOUR, Clinical Assistant Professor of Medical Physics; Ph.D., University of Texas

HARVEY J. ARNOLD, Professor of Mathematical Sciences; Ph.D., Princeton University

MARY E. ARSHAGOUNI, Assistant Professor of English; Ph.D., University of California (Los Angeles)

JOSEPH ASSENZO, Adjunct Professor of Mathematical Sciences; Ph.D., Oklahoma University

ANN H. ATKINSON, Assistant Professor of Education; Ph.D., Florida State University

JOHN W. ATLAS, Associate Professor of Education; Ed.D., Wayne State University

ALLEN L. BABCOCK, Clinical Assistant Professor of Physical Therapy; M.D., Loyola-Stritch School of Medicine (Maywood, Illinois)

WILLIAM R. BACK, Clinical Associate Professor of Exercise Science; D.O., Kirksville College

MORRIS I. BANK, Clinical Associate Professor of Medical Physics; Ph.D., University of Michigan

JAMES D. BANNON, Adjunct Professor of Sociology; Ph.D., Wayne State University

GARY C. BARBER, Visiting Assistant Professor of Engineering; Ph.D., University of Michigan

LIZABETH A. BARCLAY, Associate Professor of Management and Chairperson, Department of Management and Marketing; Ph.D., Wayne State University

JOHN BARNARD, Professor of History; Ph.D., University of Chicago

CARL F. BARNES, JR., Professor of Art History and Archaeology; Ph.D., Columbia University.

SUSAN M. BARRETT, Assistant Professor of Theatre; M.A., Texas Technological University

RICHARD F. BARRON, Associate Professor of Education; Ph.D., Syracuse University

BILLY BEN BAUMANN, Clinical Associate Professor of Medical Laboratory Sciences; M.D., Washington University (St. Louis, Missouri)
MOHAMMAD S. BAZAZ, Assistant Professor of Accounting; Ph.D., University of Oklahoma
JOHN L. BEARDMAN, Professor of Art; M.F.A., Southern Illinois University
MELINDA G. BEAUDRY, Assistant Professor of Nursing; M.S.N., R.N., Wayne State University
MICHAEL R. BEAUVAIS, Clinical Instructor in Physical Therapy; B.S., Wayne State University
ELSA R. BECK, Adjunct Assistant Professor of Medical Physics; Ph.D., Colorado State University, D.V.M., Oklahoma State University
RONALD R. BECK, Adjunct Professor of Engineering; Ph.D., University of Iowa
DAVID BECKER, Adjunct Associate Professor of Chemistry; Ph.D., University of Washington
JACK E. BELEN, Clinical Assistant Professor of Physical Therapy; D.O., Chicago College of Osteopathic Medicine
LINDA BENSON, Assistant Professor of History; Ph.D., University of Leeds (England)
BEVERLY K. BERGER, Professor of Physics; Ph.D., University of Maryland
JAY BERNSTEIN, Clinical Professor of Medical Laboratory Sciences; M.D., State University of New York
PETER J. BERTOCCI, Professor of Anthropology; Ph.D., Michigan State University
DIKKA BERVEN, Visiting Assistant Professor of French; Ph.D., University of Maryland
KEITH A. BERVEN, Associate Professor of Biological Sciences; Ph.D., University of Maryland
STAN A. BEYLER, Adjunct Assistant Professor of Biological Sciences; Ph.D., University of Illinois
WILLIAM E. BEZDEK, Associate Professor of Sociology; Ph.D., University of Chicago
BHUSHAN L. BHATT, Professor of Engineering and Associate Dean, School of Engineering and Computer Science; Ph.D., Oakland University
JANE M. BINGHAM, Professor of Education; Ph.D., Michigan State University
PETER J. BINKERT, Professor of Linguistics and Classics and Chairperson, Department of Linguistics; Ph.D., University of Michigan
KLAUS M. BLACHE, Adjunct Assistant Professor of Industrial Health and Safety; Ph.D., Wayne State University
GLORIA T. BLATT, Associate Professor of Education; Ph.D., Michigan State University
CARL E. BLEIL, Adjunct Professor of Physics; Ph.D., University of Oklahoma
DUANE L. BLOCK, Consulting Professor of Health Sciences; M.D., University of Wisconsin
MARK S. BLUMENKRANZ, Clinical Associate Professor of Biomedical Sciences; M.D., Brown University
DAVID E. BODDY, Professor of Engineering; Ph.D., Purdue University
SETH BONDER, Adjunct Professor of Mathematical Sciences; Ph.D., Ohio State University
MICHAEL J. BORRELLI, Adjunct Professor of Medical Physics; Ph.D., University of Illinois (Urbana-Champaign)
PETER M. BORUTA, Clinical Assistant Professor of Physical Therapy; M.D., Wayne State University
ELEFTHERIOS N. BOTSAS, Professor of Economics and Management; Ph.D., Wayne State University
HENRY D. BOUTROS, Clinical Instructor in Physical Therapy; M.A., Wayne State University
IAN S. BRADBURY, Assistant Professor of Mathematical Sciences; Ph.D., University of Birmingham (England)
LOUIS R. BRAGG, Professor of Mathematical Sciences; Ph.D., University of Wisconsin
DANIEL N. BRAUNSTEIN, Professor of Management and Psychology; Ph.D., Purdue University
DAVID C. BRICKER, Professor of Philosophy; Chairperson, Department of Philosophy; Ph.D., Johns Hopkins University
GOTTFRIED BRIEGER, Professor of Chemistry; Ph.D., University of Wisconsin
JANE BRIGGS-BUNTING, Professor of Journalism and Chairperson, Department of Rhetoric, Communications and Journalism; J.D., University of Detroit
MAX BRILL, Associate Professor of Psychology; Ph.D., University of Cincinnati
MARC E. BRIOD, Associate Professor of Education and Philosophy; Ph.D., Northwestern University
RICHARD W. BROOKS, Associate Professor of Philosophy; Ph.D., University of Minnesota
GREGORY GIL BROWN, Adjunct Assistant Professor of Linguistics; Ph.D., Wayne State University
JUDITH K. BROWN, Professor of Anthropology; Ed.D., Harvard University

ROBERT W. BROWN, Associate Professor of Education and Chairperson, Department of Counseling; Ph.D., Wayne State University
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The Senate carries out much of its work through its committees, all staffed mainly by faculty members but generally including student and administrative representatives as well. Currently there are 14 such committees whose responsibilities reflect the range of the Senate's concerns.

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Academic Policy and Planning Committee
Campus Development and Environment Committee
Committee on Human Relations
General Education Committee
Graduate Council
Research Committee
Senate Steering Committee
Teaching and Learning Committee
University Committee on Undergraduate Instruction

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University Requirements			
Date	**Field Category**	**Course Taken**	**Credits**
	Arts		
	Literature		
	Language		
	Western Civilization		
	International Studies		
	Social Science		
	Mathematics		
	Natural Science		

Total credits
(Mininum 32)

Writing Requirements			
	Rhetoric 100		
	Rhetoric 101		

Total credits

College or School Requirements			
Date	Field Category	Course Taken	Credits

Total credits

Major:	

Requirements

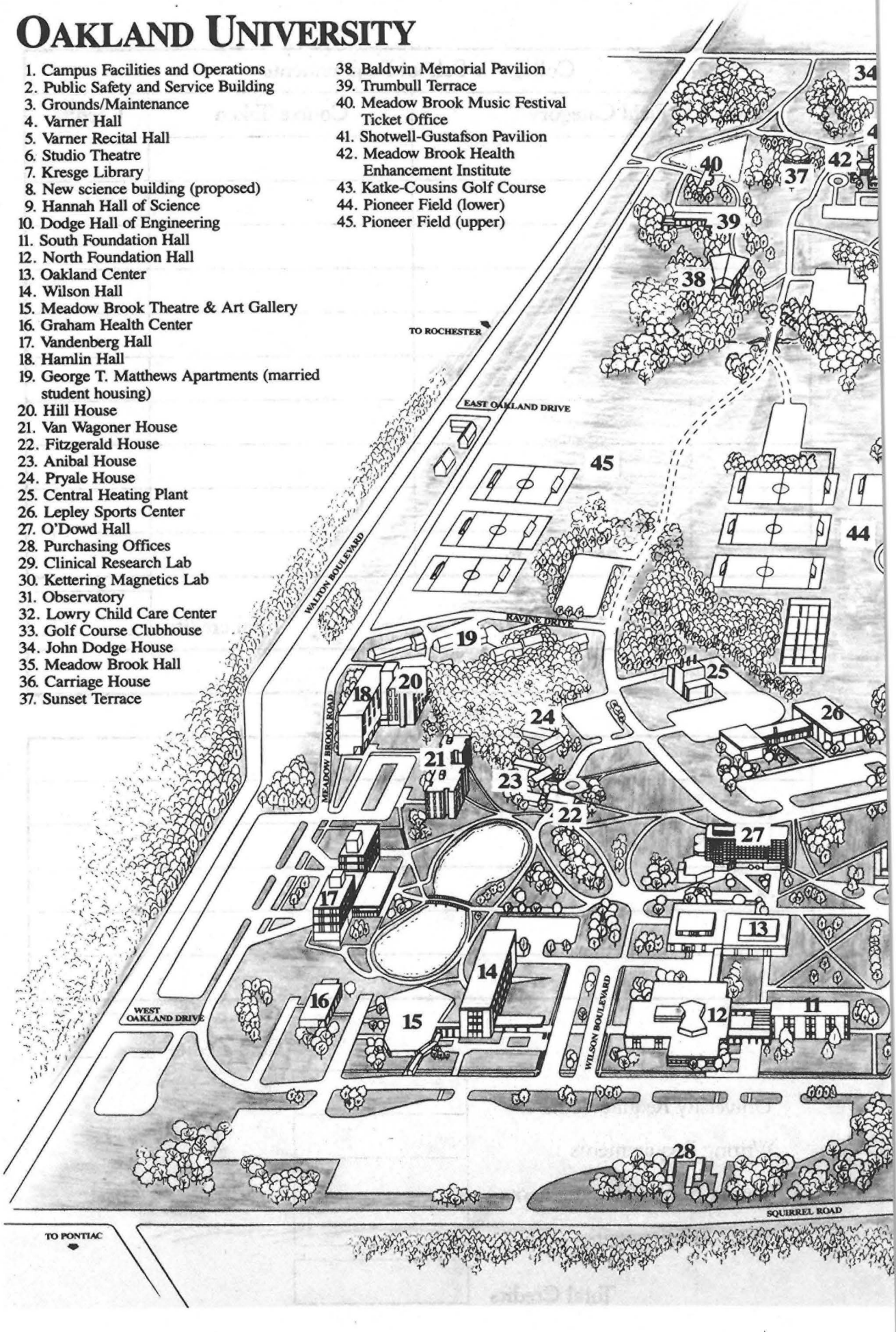
Total credits

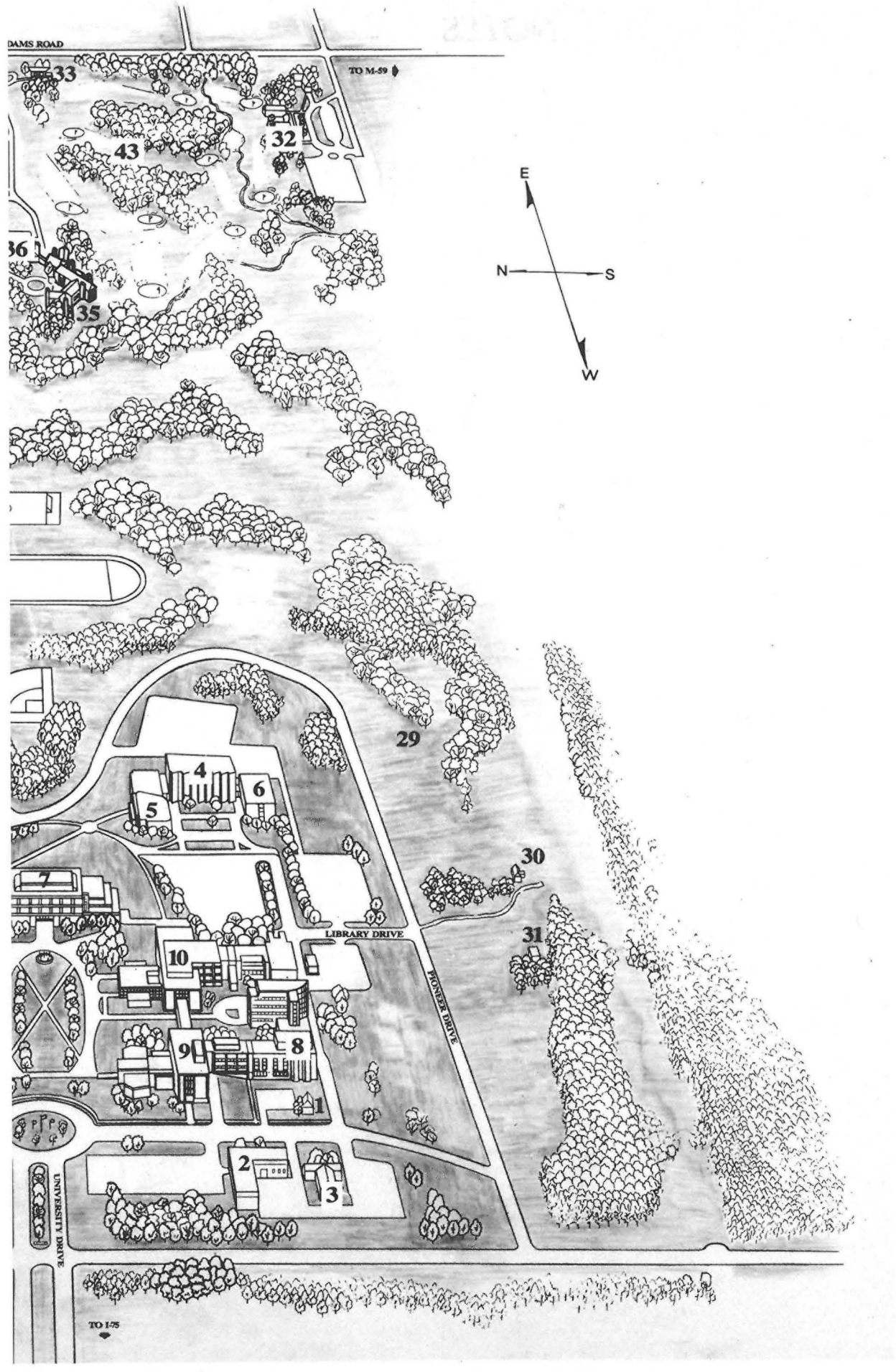
Total

University Requirements	
Writing Requirements	
College/School Requirements	
Major Requirements	
Total Credits	

OAKLAND UNIVERSITY

1. Campus Facilities and Operations
2. Public Safety and Service Building
3. Grounds/Maintenance
4. Varner Hall
5. Varner Recital Hall
6. Studio Theatre
7. Kresge Library
8. New science building (proposed)
9. Hannah Hall of Science
10. Dodge Hall of Engineering
11. South Foundation Hall
12. North Foundation Hall
13. Oakland Center
14. Wilson Hall
15. Meadow Brook Theatre & Art Gallery
16. Graham Health Center
17. Vandenberg Hall
18. Hamlin Hall
19. George T. Matthews Apartments (married student housing)
20. Hill House
21. Van Wagoner House
22. Fitzgerald House
23. Anibal House
24. Pryale House
25. Central Heating Plant
26. Lepley Sports Center
27. O'Dowd Hall
28. Purchasing Offices
29. Clinical Research Lab
30. Kettering Magnetics Lab
31. Observatory
32. Lowry Child Care Center
33. Golf Course Clubhouse
34. John Dodge House
35. Meadow Brook Hall
36. Carriage House
37. Sunset Terrace
38. Baldwin Memorial Pavilion
39. Trumbull Terrace
40. Meadow Brook Music Festival Ticket Office
41. Shotwell-Gustafson Pavilion
42. Meadow Brook Health Enhancement Institute
43. Katke-Cousins Golf Course
44. Pioneer Field (lower)
45. Pioneer Field (upper)




DAMS ROAD
TO M-59
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43
32
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W
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35
29
4
6
5
7
30
31
LIBRARY DRIVE
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PIONEER DRIVE
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3
UNIVERSITY DRIVE
TO I-75

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NON-CIRCULATING


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