OAKLAND UNIVERSITY

Volume 3

School of Health Sciences (SHS)
School of Business Administration (SBA)
School of Education and Human Services (SEHS)
School of Engineering and Computer Science (SECS)
Honors College (HC)
School of Nursing (SON)

2020-2021
UNDERGRADUATE CATALOG

School of Health Sciences

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Tom Spring - Director, HAP Health and Wellness, 3 time OU Alumnus

Bharat Trivedi - Pharmaceutical Consultant and Scientific Advisor

John Waugh - System Vice President, Henry Ford Health System

Mission

The School of Health Sciences provides an exceptional environment of collaborative, academic and clinical learning that helps transform students into leaders impacting the health needs of our communities in diverse wellness and health-related practices.

The School of Health Sciences is passionate about providing students with the best science-based health education, high-quality academic preparation, interdisciplinary teaching and excellence in instruction in the classroom and clinical laboratory.

Undergraduate Programs

The School of Health Sciences offers degree and non-degree programs in health and clinically related fields. Bachelor of Science degree options include Applied Health Sciences, Clinical and Diagnostic Sciences (Pre- Clinical Professions, Medical Laboratory Science, Histotechnology, Radiologic Technology, and Nuclear Medicine Technology), Environmental Health and Safety, Exercise Science (Pre-Physical Therapy), Health Sciences (Pre-Health Professional Studies, Pre-Pharmacy, and Holistic Health), and Wellness and Health Promotion. Minors are offered in Community Health Engagement, Exercise Science, Environmental Health and Safety, Holistic Health, Nutrition and Health, and Wellness and Health Promotion.

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 counted also toward any minor to which they would otherwise apply that is offered by the other schools or the college.

School Honors

Honors are awarded to School of Health Sciences graduating students who have earned a GPA of 3.50 or above in courses completed in the School.

Graduate Programs

The School offers a Master of Public Health and Master of Science degrees in Exercise Science and Safety Management. The School of Health Sciences also offers both an entry-level Doctor of Physical Therapy degree for students who want to become physical therapists, and a post-professional Doctor of Science in Physical Therapy degree for licensed physical therapists.

Graduate Certificates and Continuing Education

Graduate certificates are available in orthopedic manual physical therapy, orthopedic physical therapy, oncology rehabilitation, teaching and learning for rehabilitation professionals, clinical exercise science, corporate and worksite wellness, and exercise science at the graduate level.

Continuing education is offered by the School of Health Sciences Center for Professional Development in order to meet the educational needs of health sciences professionals. Specialized contract programs are also provided to meet the unique professional staff development needs of employers in health care, business and industry, government and other settings. Programs are individually tailored to meet the specific workplace needs of professionals and employers. Programs and courses are offered either for university credit or noncredit. When noncredit programs and courses are offered, they carry the nationally recognized Continuing Education Unit (CEU).

Admission to any program offered by the School of Health Sciences may be considered on a competitive basis if the balance between applicants and available instructional resources requires such action to maintain the academic integrity of the program.

School programs with laboratory and internship components require that physical, cognitive, and psycho-social technical standards be met. Students with disabilities who have questions about meeting these standards are encouraged to contact the Office of Disability Support Services, 103A North Foundation Hall, (248) 370-3266.

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.

The academic requirements for each of the baccalaureate programs of the School are described in the pages that follow. The requirements include prerequisite-level course-work that complements each program's core curriculum, the program major course requirements, and the university General Education Requirements and U.S. diversity requirements. Students changing majors are required to follow the program requirements listed in the catalog no earlier than the one in effect at the time of admission to the new program. (A change from pre-major to major standing in the same field does not constitute a change of program).

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.

Petition of Exception

For students enrolled in School of Health Sciences programs, all petitions of exception are completed by the student with assistance from an SHS adviser as needed. The petition must be reviewed by an academic adviser and the appropriate Program Director or Chair (when there is not a Program Director appointed) before referral to the Chair of the School of Health Sciences Committee on Instruction. See the Academic Policies and Procedures section of the catalog for further information (Petition of exception).

Academic Advising

Professional academic advisers are available to assist students with degree requirements, plans of study, course scheduling, transfer course evaluation, establishing academic goals, health career choices and the process of achieving major standing. The School of Health Sciences academic advising office is located in room 3070, Human Health Building. For advising appointments, please call (248) 370-2369. Freshman and transfer orientation is required of all entering students. Undecided School of Health Sciences students should meet with an academic adviser early in their programs of study. Thereafter, students are required to make appointments with an academic adviser annually to monitor their progress. School of Health Sciences faculty members are also available to assist with curriculum and course questions once students are enrolled in their major course work.

Students are required to schedule advising appointments at least once a year. Academic advisers are here to assist students in planning for their major programs. Ultimately, students are responsible for understanding and fulfilling the degree requirements for graduation as set forth in this catalog.

ECLIPSE Program

The explorations in collaborative leadership and interprofessional education (ECLIPSE) program is one of only a few interprofessional-specific leadership programs in the country. Unique to the School of Health Sciences, the ECLIPSE program is a professional development experience that aims to develop health professionals who impact individuals and populations of people through the power of interprofessional work and collaborative leadership.

Participants in the ECLIPSE program are required to register for Interprofessional Education (IPE) courses. Students register for courses in both the fall and winter semesters and receive "satisfactory" or "unsatisfactory" grades.

ECLIPSE - Explorations in Collaborative Leadership and InterProfessional Education Program

ECLIPSE - Explorations in Collaborative Leadership and InterProfessional Education Program

Human Health Building

433 Meadow Brook Road

Rochester, MI 48309-4452

(248) 364-8678

kdowd@oakland.edu

Coordinator for Student Services, Leadership, and Engagement: Kelli Dowd

The Explorations in Collaborative Leadership and InterProfessional Education (ECLIPSE) program at Oakland University is a novel leadership initiative designed to foster interdisciplinary collaboration

longitudinally between students within the School of Health Sciences (SHS). Through ECLIPSE, SHS students build a foundation for effective interprofessional teamwork, communication, and collaboration before advancing to their careers or further education.

The ECLIPSE program offers collaborative leadership and interprofessional education experiences in all majors within the SHS. Students engaged in the program develop the competencies of interprofessional education (communication, values, roles/responsibilities, and teamwork) through: 1) participation in ECLIPSE workshops 2) reflections on interprofessional experiences in and outside of academic courses 3) peer mentorship 4) a culminating community impact project. As students participate in ECLIPSE activities, mentoring, and other collaborative leadership experiences on and off campus, they submit reflections detailing the knowledge and skills gained through their experiences. Students complete an e-portfolio, documenting their leadership experiences and personal growth over the course of their education at Oakland University.

Requirements to participate in ECLIPSE

Students interested in participating in ECLIPSE must have declared a School of Health Sciences major. Students can become involved in ECLIPSE at any time; however, those nearing the end of their degree should consult with the ECLIPSE Coordinator.

Department of Clinical and Diagnostic Sciences

Human Health Building

433 Meadow Brook Road

Rochester, MI 48309-4452

(248) 370-3562

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Acting Chair: Sumit Dinda, Ph.D.

Professor: Sumit Dinda

Associate professors: Kristin Landis-Piwowar, Dale Telgenhoff

Special Instructors: Christina Lim, Sara Rivard

Adjunct Instructor: Bill Van Dyke

Visiting Instructor: Stephanie Mabry

Special Lecturer: Lisa DeCeunick

Clinical associate professors: Barbara Anderson, Ann Marie Blenc, Martha J. Higgins

Clinical instructors: Nancy E. Ramirez, Dawn Taylor, Bernarda Wroblewski, Jamie Pert, Caroline Loomis, Ryan Smith, Tyler Swift, Brent Vasicek, Sara Wagner

The Department of Clinical and Diagnostic Sciences offers programs designed to prepare students for professional opportunities in a variety of settings. Graduates may find employment in hospital or commercial clinical laboratories, research laboratories or public health facilities. Positions within biomedical corporations, including research and development, quality assurance and sales or service may also be prospective sources for employment. Furthermore, because it meets basic academic requirements, the Clinical and Diagnostic Sciences curricula provide excellent preparation for entry into post-baccalaureate professional programs including physician assistant, medicine, dentistry and osteopathy.

In response to new technologies, many areas of specialization have evolved to ensure the expertise of individuals performing the required tasks. As health care professionals, biomedical and clinical scientists play an integral part in patient care. Some are involved in detection and diagnosis of disease while others provide therapy to patients. The Clinical and Diagnostic Sciences Department at Oakland University offers several specializations including histotechnology, medical laboratory science, nuclear medicine technology, pre-clinical professions, pre-pharmacy, and radiologic technology. Histotechnologists are involved in the diagnosis of disease based on alterations in cells or tissues (anatomic pathology). Medical laboratory scientists perform a wide variety of tests, including chemical, microscopic, bacteriological and immunological procedures used in the diagnosis and study of disease (clinical pathology). Nuclear medicine technologists use small amounts of radioactive materials for diagnostic evaluation of anatomic or physiologic conditions of the body and provide therapy with radioactive sources. Radiologic technologists utilize ionizing radiation to image internal structures of the body (x-ray and subspecialties).

Generally, employment in a hospital or community clinical laboratory requires certification in a specialization field. Students are eligible to sit for national certification examinations in their specialization upon completion of the appropriate clinical internship at an accredited institution. Professional certification is obtained by successfully passing the examination.

Admission to Specializations

Students are admitted to the Clinical and Diagnostic Sciences major directly from high school or by transfer from other colleges or universities. Students have the option of earning the Clinical and Diagnostic Sciences degree by completing a clinical specialization internship (described below in "admission to clinical specialization internship"). A medical laboratory science internship is completed post-baccalaureate. Acceptance into the internship programs is competitive and based on grade point average, personal interview, and letters of recommendation. The application process for each of the specializations is unique. Students are advised to read carefully about their chosen specialization. In some cases, it is the policy of the affiliate institution that a criminal background check, at the student's expense, is required for acceptance into a clinical program.

All students should select their desired area of specialization by the end of sophomore year, since the coursework in the junior year is different for each specialization. The actual acceptance into a student's chosen clinical program (specialization) shall define specialization standing for course prerequisites and

professional course requirements. The junior and senior year curricula will vary depending upon the specialization.

Pre-Professional Concentration

Students who wish to pursue post-baccelaurate degrees (MD, DO, PA, PhD, etc.) may complete the Clinical and Diagnostic Sciences Pre-Professional Concentration. Such students may still be eligible to apply for clinical internship opportunities either before or after graduation, if desired.

Clinical and Diagnostic Sciences, B.S.

Requirements for clinical and diagnostic sciences, B.S.

Students pursing a Clinical and Diagnostic Sciences degree are required to complete a minimum of 120 credits and fulfill the requirements described below.

1. Meet the university general education requirements (see General Education Requirements). Note that several courses under requirement number three below satisfy general education requirements and Clinical and Diagnostic Sciences degree requirements. See courses marked with "*".
2. Complete the university U.S. diversity requirement.
3. Complete the Clinical and Diagnostic Sciences core curriculum.
4. Complete the specialization course requirements specified under one of the following specializations: histotechnology, medical laboratory science, nuclear medicine technology, or radiologic technology, or pre-professional concentration.
5. Complete all Clinical and Diagnostic Sciences major program course-work with a cumulative GPA of 2.80 or higher.

Clinical and Diagnostic Sciences core curriculum courses

- BIO 1200 - Biology I (4) *
- BIO 2100 - Human Anatomy (4)
- BIO 2101 - Human Anatomy Laboratory (1)
- BIO 2600 - Human Physiology (4) *
- CDS 2010 - Careers in Clinical and Diagnostic Sciences (1)
- CDS 2050 - Contemporary Issues in Health Care Organizations and Practice (2)
- CDS 2100 - Medical Terminology (1)
- CDS 2260 - Introduction to Laboratory Theory and Techniques (2) (not required for RAD or NMT specialization)
- CHM 1440 - General Chemistry I (4) *
- CHM 1470 - General Chemistry Laboratory I (1)

- CHM 1450 - General Chemistry II (4)
- CHM 1480 - General Chemistry Laboratory II (1)
- HS 4500 - Ethics in Health Care (4)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4) * or STA 2222 Statistical Methods for Biology (4) or STA 2226 Applied Probability and Statistics (4)
- WRT 1050 - Composition I (4) or 4 approved elective credits (not required for NMT specialization)

Admission to clinical specialization internship

To be accepted in a clinical specialization internship, students must submit a formal application for each program for which they seek consideration. Applications for the histotechnology and radiologic technology internship programs are processed in the winter semester of the sophomore year (or Winter semester following completion of the Clinical and Diagnostic Sciences core curriculum). Applications for nuclear medicine internships are processed during the fall or winter semester of the junior year (depending on desired start of clinical program) and applications for the MLS internships are processed during the summer prior to the senior year. It is recommended that students have at least a 3.00 overall GPA. Students with lower grade point averages may be admitted provisionally pending satisfactory completion of appropriate fall semester, junior-year course work. Students should check the clinical program's websites for exact application dates.

Grade point policy

Students in the professional specializations HTL, MLS, NMT, or RAD whose cumulative grade point average falls below a 2.80 are not able to graduate with the professional specialization designation. In these cases, students are eligible to graduate with a Clinical and Diagnostic Sciences Pre-clinical professions degree.

In order to remove program probationary status, students must raise their cumulative major grade point average to 2.80 or higher.

Specialization in Medical Laboratory Science (MLS)

Medical Laboratory Scientists perform diagnostic tests that provide important information to determine the presence, extent, or absence of disease as well as data to evaluate the effectiveness of treatment. They work with all types of body tissues and fluids, from blood and urine to cell samples. Major areas of specialization within the laboratory include hematology, clinical chemistry, microbiology, serology, urinalysis, immunohematology (blood bank) and molecular diagnostics.

Students may apply for specialization standing in MLS after completing the CDS core curriculum, generally at the end of the sophomore year. The junior and senior years consist of the prescribed professional course requirements at Oakland University. A clinical internship is required for national certification as a medical laboratory scientist (certification required for most hospital and private laboratory employment positions). Application to clinical internship (if desired) is made during the summer semester prior to the senior year. Internships are between six and ten months in length (depending on the clinical site), and are done post-graduate. Oakland University is affiliated with the following accredited MLS clinical programs: Detroit Medical Center University Laboratories, Detroit;

Ascension St. John Hospital, Detroit; and Beaumont Health, Royal Oak. Acceptance into the internship program is competitive and based on grade point average, personal interview, and letters of recommendation.

Medical laboratory science specialization professional course requirements

Students in the medical laboratory science specialization must complete the following courses:

- PHY 1080 - Principles of Physics I (4)
- PHY 1090 - Principles of Physics II (4)
- CHM 2340 - Organic Chemistry I (4)
- CDS 4000 - Medical Genetics (4)
- CDS 4020 - Molecular Diagnostics (3)
- CDS 4140 - Hematology/Hemostasis I (3)
- CDS 4150 - Hematology/Hemostasis Laboratory I (1)
- CDS 4160 - Hematology/Hemostasis II (4)
- CDS 4170 - Hematology/Hemostasis Laboratory II (1)
- CDS 4230 - Medical Immunology (3)
- CDS 4240 - Immunohematology (3)
- CDS 4241 - Immunohematology Laboratory (1)
- CDS 4250 - Medical Biochemistry (4)
- CDS 4270 - Clinical Chemistry (4)
- CDS 4280 - Clinical Chemistry Laboratory (1)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4310 - Clinical Microbiology Laboratory (1)
- CDS 4350 - Clinical Parasitology, Mycology, Virology (3)
- CDS 4360 - Clinical Parasitology, Mycology, Virology Lab (1)
- CDS 4400 - Clinical Correlations (3)
  And three elective credits from the following courses:
- BIO 4100 - Advanced Visceral Human Anatomy (4)
- BIO 4112 - Advanced Musculoskeletal Human Anatomy (4)
- BIO 4620 - Advanced Human Physiology (4)
- BIO 4622 - Endocrinology (4)
- CDS 4010 - Human Pathology (4)
- CDS 4995 - Directed Research (1 TO 4)
- CDS 4997 - Apprentice College Teaching (1 TO 3)
- CHM 2350 - Organic Chemistry II (4)
- EHS 1150 - Environmental Health and Safety at Work (2)
- EHS 4450 - Introduction to Ergonomics (3)
- MTH 1441 - Precalculus (4)
- MTH 1554 - Calculus I (4)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 4100 - Nutrition and Lifecycles (4)
- PH 3000 - Introduction to Public Health (3)
- PHY 1100 - General Physics Lab I (1)
- PHY 1110 - General Physics Lab II (1)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)

or additional electives as approved.

Note

Some clinical programs may require MTH 1441. Check the individual clinical programs for current requirements.

Specialization in Histotechnology

Histotechnologists perform a variety of diagnostic and research procedures in the anatomic sciences. During the clinical internship, students learn histological techniques that involve processing, sectioning and staining of tissue specimens that have been removed from humans or animals by biopsy, surgical procedures or autopsy. Advanced techniques include muscle enzyme histochemistry, electron microscopy, immunofluorescence and immunoenzyme procedures, molecular pathology techniques including in situ hybridization and image analysis, and medical photography. Techniques in education methodology, management, research, technical writing and presentation of scientific information are also included in the curriculum.

Students may apply for specialization standing in histotechnology after completing the Clinical and Diagnostic Sciences core curriculum. Application to the hospital-based internship is typically made during the winter semester of the sophomore year. Students will be informed of acceptance in June and begin the internship in August of the next calendar year. Application for specialization standing and internship usually coincide for histotechnology.

The junior year consists of the prescribed professional course requirements at Oakland University. The senior year consists of a 12-month internship at the Beaumont Health, Royal Oak, School of Histotechnology. Acceptance into the internship program is competitive and based on grade point average, personal interview and letters of recommendation.

Histotechnology specialization professional course requirements

Students in the histotechnology specialization must complete the following courses

- BIO 3140 - Histology (4)
- BIO 3141 - Histology Laboratory (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4010 - Human Pathology (4)
- CDS 4020 - Molecular Diagnostics (3)
- CDS 4140 - Hematology/Hemostasis I (3)
- CDS 4250 - Medical Biochemistry (4)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4350 - Clinical Parasitology, Mycology, Virology (3)
- CDS 4360 - Clinical Parasitology, Mycology, Virology Lab (1)
- HT 4010 - Basic Histotechnique and Histochemical Staining Methods (12)
- HT 4020 - Basic Electron Microscopy (3)
- HT 4030 - Immunohisto-Cytochemistry (5)
- HT 4040 - Special Techniques (4)
  And nine elective credits from the following courses:

- BIO 1300 - Biology II (4)
- BIO 4620 - Advanced Human Physiology (4)
- BIO 4622 - Endocrinology (4)
- CDS 4050 - Pharmacology (3)
- CDS 4929 - Directed Readings (1 TO 3)
- EHS 1150 - Environmental Health and Safety at Work (2)
- EHS 4450 - Introduction to Ergonomics (3)
- MTH 1441 - Precalculus (4)
- MTH 1554 - Calculus I (4)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 3000 - Nutrition Research Methods (3)
- PHY 1080 - Principles of Physics I (4)
- PHY 1090 - Principles of Physics II (4)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)
- WHP 3250 - Issues in Women's Health (4)
  or additional electives as approved.

Specialization in Nuclear Medicine Technology

Nuclear Medicine Technologists utilize small amounts of radioactive materials for diagnosis, therapy and research. Diagnosis can involve organ imaging using gamma counters to detect radioactive material administered to the patient or analysis of biologic specimens to detect levels of various substances. Therapeutic doses of radioactive materials are also given to patients to treat specific diseases.

The Nuclear Medicine Technology (NMT) specialization is available to School of Health Sciences students through a partnership between the Department of Clinical and Diagnostic Sciences, and the Nuclear Medicine Institute at the University of Findlay (Findlay, Ohio). Admission to the University of Findlay Nuclear Medicine Technology program is through a competitive admissions process. Once accepted, Oakland students will need to 1) apply to be a guest student at the University of Findlay while they are in the Nuclear Medicine program; 2) send a letter of acceptance to their academic adviser; and 3) register for classes and pay tuition through the University of Findlay.

The Findlay program has two start dates per year, in August and January. Application for the clinical program is made during the junior year and should be made 9-12 months prior to the desired beginning class date (November 1st for an August start date or April 1st for the following January start date). The senior year of study consists of a 12-month program, one semester on the University of Findlay campus, and two semesters of full-time clinical education at a clinical affiliate. Currently available clinical affiliates in the Detroit metropolitan area include Children's Hospital of Michigan, Detroit; Harper Hospital, Detroit; University of Michigan Health System, Ann Arbor; and the Veterans Affairs Ann Arbor Healthcare System, Ann Arbor. The Findlay NMT program has over 60 clinical affiliates, in 10 states, so additional options are available if the student so desires. Upon completion of the NMT program at the University of Findlay, the student will receive their B.S. in Clinical and Diagnostic Sciences, Specialization in NMT, from Oakland University. Students are responsible for sending their final, official transcripts from Findlay University to the records office at Oakland University at the end of their final semester in order to confer the degree. Acceptance into the University of Findlay Nuclear Medicine Technology program is competitive and based on grade point average, personal interview and letters of recommendation.

Nuclear Medicine Technology Specialization professional course requirements

Students in the nuclear medicine technology specialization must complete the following courses:

- COM 2000 - Public Speaking (4)
- CDS 4010 - Human Pathology (4)
- MTH 1441 - Precalculus (4)
- PHY 1080 - Principles of Physics I (4)
- PHY 1090 - Principles of Physics II (4)

Degree completion at the Nuclear Medicine Institute, University of Findlay, OH

To complete the nuclear medicine technology specialization, students must complete the following courses at the University of Findlay:

- NMED 406 Molecular Imaging Mathematics (3)
- NMED 416 Molecular Imaging Physics (2)
- NMED 425 Molecular Imaging Radiobiology (1)
- NMED 435 Molecular Imaging Radiation Protection (2)
- NMED 445 Molecular Non-Imaging Procedures (3)
- NMED 455 Molecular Imaging Procedures (5)
- NMED 462 Radionuclide Therapies (1)
- NMED 465 Radiochemistry and Radiopharmaceuticals (3)
- NMED 472 Molecular Imaging Instrumentation (3)
- NMED 475 Molecular Imaging Spect (1)
- NMED 477 Molecular Imaging Pet (1)
- NMED 485 Clinical Nuclear Medicine I (12)
- NMED 486 Clinical Nuclear Medicine II (12)
- NMED 487 Molecular Imaging Capstone (1)

Specialization in Radiologic Technology

A Radiologic (X-ray) Technologist is a professional responsible for the administration of ionizing radiation for diagnostic or research purposes. The radiologic technologist must integrate complex knowledge and advanced technical skills in the imaging of internal structures. Radiologic technologists apply knowledge of anatomy, physiology, positioning and radiographic technique in the performance of their duties.

Individuals interested in a radiography career must be able to communicate effectively with patients and other health care professionals. The radiologic technologist must display compassion, competence and concern in order to meet the special needs of the patient. Direct contact is required when maneuvering the patient into position for various procedures. Radiography is a rewarding career that combines patient care with modern medical technology.

Students may apply for admission into the Radiologic Technology specialization after completing the Clinical and Diagnostic Sciences core curriculum requirements. Radiologic Technology is currently the only Clinical and Diagnostic Sciences specialization for which Oakland University holds the programmatic accreditation. The admission process occurs during Winter semester prior to the August start date of each year. Acceptance into the program is competitive and based on math and science grade point average, personal interview and letters of recommendation. Applicants are required to have current CPR ("Healthcare Provider") certification through the American Heart Association. Patient contact

experience, volunteering with patients and advanced course work are considered favorably in the admissions process. The didactic course work is completed at Oakland University and the supervised clinical experience in the Radiologic Technology Department at Beaumont Health.

Radiologic technology specialization professional course requirements

Students in the radiologic technology specialization must complete the following courses:

- PHY 1080 - Principles of Physics I (4)
- PHY 1090 - Principles of Physics II (4)
- RAD 3110 - Methods of Patient Care I (2)
- RAD 3310 - Radiologic Physics I (3)
- RAD 3330 - Principles of Radiographic Exposure I (3)
- RAD 3340 - Principles of Radiographic Exposure II (2)
- RAD 3410 - Radiographic Procedures I (4)
- RAD 3420 - Radiographic Procedures II (2)
- RAD 3430 - Radiographic Procedures III (2)
- RAD 3450 - Radiographic Image Evaluation I (2)
- RAD 4070 - Radiation Biology and Protection (2)
- RAD 4110 - Methods of Patient Care II (1)
- RAD 4310 - Radiologic Physics II (3)
- RAD 4330 - Principles of Radiographic Exposure III (2)
- RAD 4340 - Principles of Radiographic Exposure IV (3)
- RAD 4410 - Radiographic Procedures IV (3)
- RAD 4420 - Radiographic Procedures V (3)
- RAD 4440 - Medical Imaging Practices (4)
- RAD 4970 - Senior Seminar (2)
- RAD 4960 - Clinical Practicum I (3)
- RAD 4961 - Clinical Practicum II (3)
- RAD 4962 - Clinical Practicum III (3)
- RAD 4963 - Clinical Practicum IV (3)
- RAD 4964 - Clinical Practicum V (3)
- RAD 4965 - Clinical Practicum VI (3)

Advanced Modalities for Radiologic Technologists

Professionals who are currently ARRT registered may expand on their existing knowledge in the areas of Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Mammography, in affiliation with Beaumont Health. Each course is approximately one semester (15 - 17 weeks) in length and includes 4 days of clinical and one 3 hour class day per week. Clinical hours take place on days and afternoon shifts at various Beaumont Health locations. Other clinical sites, locations and hours of attendance may be required. Clinical shifts vary based on the clinical rotation schedule, as assigned. With permission, additional clinical time may be allowed. These advanced modality courses demand a high level of student professionalism, personal commitment, and academic focus.

Students may apply for admission to one of the modality courses listed below, through the Radiologic Technology program application process. Applicants are required to hold current ARRT registration or

become registered with the ARRT within two weeks after the modality course start date and they must also hold current CPR ("Healthcare Provider") certification through the American Heart Association. Applications are accepted year round and the courses may be scheduled any semester based on the number of applicants. Acceptance into a modality course is based on previous math and science grade point average, personal interview, and letters of recommendation.

Modality Courses in Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Mammography

- RAD 4801 - Computed Tomography (6)
- RAD 4802 - Interventional Radiology (7)
- RAD 4803 - Magnetic Resonance Imaging (7)
- RAD 4804 - Mammography (6)

Pre-professional studies for medicine, dentistry, physician assistant, optometry, and veterinary medicine

The Bachelor of Science degree in Clinical and Diagnostic Sciences (CDS) provides excellent preparation for admission to a variety of professional schools. The curricula for some CDS specializations may require additional courses, depending on the individual professional program requirements. For a student desiring greater flexibility in planning their academic program, the Pre-Professional Concentration may be of interest. Students should consult with the CDS adviser as to the academic option most suitable for the individual student's academic career goals.

Pre-Professional Concentration course requirements

Students in the Pre-Professional Concentration must complete the following courses:

- PHY 1010 - General Physics I (4) and PHY 1100 - General Physics Lab I (1)
- PHY 1020 - General Physics II (4) and PHY 1110 - General Physics Lab II (1)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- CDS 4000 - Medical Genetics (4)
- CDS 4140 - Hematology/Hemostasis I (3)
- CDS 4230 - Medical Immunology (3)
- CDS 4250 - Medical Biochemistry (4)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4310 - Clinical Microbiology Laboratory (1) or CDS 4320 - Medical Microbiology Laboratory (1)
  And electives (21 credits) from the following courses:
- BIO 3140 - Histology (4) and BIO 3141 - Histology Laboratory (1)
- BIO 3620 - Medical Physiology (4)
- BIO 4100 - Advanced Visceral Human Anatomy (4)
- BIO 4112 - Advanced Musculoskeletal Human Anatomy (4)
- BIO 4620 - Advanced Human Physiology (4)
- BIO 4622 - Endocrinology (4)

- CDS 4010 - Human Pathology (4)
- CDS 4020 - Molecular Diagnostics (3)
- CDS 4150 - Hematology/Hemostasis Laboratory I (1)
- CDS 4160 - Hematology/Hemostasis II (4)
- CDS 4170 - Hematology/Hemostasis Laboratory II (1)
- CDS 4270 - Clinical Chemistry (4) and CDS 4280 - Clinical Chemistry Laboratory (1)
- CDS 4350 - Clinical Parasitology, Mycology, Virology (3) and CDS 4360 - Clinical Parasitology, Mycology, Virology Lab (1)
- CDS 4400 - Clinical Correlations (3)
- CDS 4929 - Directed Readings (1 TO 3)
- CDS 4995 - Directed Research (1 TO 4)
- EHS 1150 - Environmental Health and Safety at Work (2)
- EHS 4450 - Introduction to Ergonomics (3)
- EXS 3010 - Exercise Physiology (3)
- EXS 3015 - Exercise Physiology Laboratory (1)
- MTH 1441 - Precalculus (4)
- MTH 1554 - Calculus I (4)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 4100 - Nutrition and Lifecycles (4)
- PH 3000 - Introduction to Public Health (3)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)
- SW 3101 - Human Behavior and Social Environment (4) /SW 3201 - Human Behavior and Social Environment (4)
- WHP 3250 - Issues in Women's Health (4)
  or additional electives as approved

Specialization in Pre-Pharmacy

Students pursuing a Bachelor of Science with a major in Clinical and Diagnostic Sciences at Oakland University with a pre-pharmacy specialization may pursue admission to any accredited Doctor of Pharmacy program. Students admitted to an accredited PharmD program must complete their final year of undergraduate coursework at that program and credits earned from courses must be transferred back to OU to complete the requirements for the Bachelor of Science with a major in Clinical and Diagnostic Sciences. It is highly recommended that students consult with the academic adviser prior to enrolling in any of these classes, as completion of coursework does not guarantee admission or completion of the program. Admission to a PharmD program is through a competitive admissions process. Once accepted, Oakland students will need to 1) send a letter of acceptance to their academic adviser; and 2) register for classes and pay tuition through the PharmD school; 3) send official transcripts after the first year (fall/winter semesters) of the PharmD program to Oakland University.

Students not accepted into a PharmD program may complete the degree program outlined below for a Bachelor of Science with a major in Clinical and Diagnostic Sciences.

Pre-Pharmacy specialization professional course requirements

Students in the Pre-Pharmacy specialization must complete the following courses:

- CDS 3300 - Microbiology of Infectious Diseases (3)
- CDS 3310 - Microbiology of Infectious Diseases Laboratory (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4050 - Pharmacology (3)
- CDS 4140 - Hematology/Hemostasis I (3)
- CDS 4150 - Hematology/Hemostasis Laboratory I (1)
- CDS 4160 - Hematology/Hemostasis II (4)
- CDS 4170 - Hematology/Hemostasis Laboratory II (1)
- CDS 4230 - Medical Immunology (3)
- CDS 4240 - Immunohematology (3)
- CDS 4241 - Immunohematology Laboratory (1)
- CDS 4250 - Medical Biochemistry (4)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- MGT 1100 - Contemporary World Business (4)
- MTH 1554 - Calculus I (4)
- PHY 1010 - General Physics I (4)
- PHY 1100 - General Physics Lab I (1)
- PharmD coursework minimum of 13 credits transferred to Oakland University

Specialization in Pre-Pharmacy (3+1) Manchester University

Students pursuing a Bachelor of Science with a major in Clinical and Diagnostic sciences at Oakland University with and a pre-pharmacy specialization may pursue admission to the Doctor of Pharmacy (Pharm D) at Manchester University.

Manchester University will reserve two (2) seats in each annual cohort of students entering its Doctor of Pharmacy program for qualified students of Oakland University. These students would also qualify for a reserved seat in the Dual Degree PharmD/MS in Pharmacogenomics (PGX) cohort for that entry year. Qualified students must complete the application process for admission to the Manchester Pharmacy program according to the established deadlines.

Pre-Pharmacy specialization professional course requirements

Students in the Pre-Pharmacy specialization must complete the following courses:

- CDS 3300 - Microbiology of Infectious Diseases (3)
- CDS 3310 - Microbiology of Infectious Diseases Laboratory (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4050 - Pharmacology (3)
- CDS 4250 - Medical Biochemistry (4)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- MGT 1100 - Contemporary World Business (4)
- MTH 1554 - Calculus I (4)

- PHY 1010 - General Physics I (4)
- PHY 1100 - General Physics Lab I (1)
- PharmD coursework minimum of 13 credits transferred to Oakland University

Department of Human Movement Science

Human Health Building

433 Meadow Brook Road

Rochester, MI 48309-4452

(248) 370-4041

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Chairperson: Kristine A. Thompson, Ph.D.

Exercise Science Director: Charles R.C. Marks

Physical Therapy Director: John R. Krauss

Professors Emeritus: Alfred W. Stransky, Robert W. Jarski

Professor: John R. Krauss

Associate professors: Sara Arena, R. Elizabeth Black, Douglas S. Creighton, Deborah J. Doherty, Jacqueline S. Drouin, Daniel Goble, Melodie D. Kondratek, Charles R. C. Marks, Kristine A. Thompson

Assistant professor: Myung D. Choi, Joshua Haworth, Christopher Wilson

Special instructors: Jacqueline Scully, Christine Stiller

Adjunct Assistant Professor: Sheri Brown

Clinical professors: Barry A. Franklin, Steven J. Keteyian, Beth C. Marcoux

Clinical associate professor: Jeffery H. Declaire, John F. Kazmierski, Cathy Larson

Clinical assistant professors: Clinton A. Brawner, Scott Eathorne, Johnathan Ehrman, Dennis Kerrigan, Frederick D. Pociask,

Senior clinical instructors: Robert S. Burns, Jamie Janes, David A. Tomsich

Clinical instructors: Kathleen Jakubiak Kovacek, Peter R. Kovacek, Sheldon Levine, Mary Anne Mikus, Kimberly Schwartz, Janet Siedel, Michael Vito

The Exercise Science program offers a Bachelor of Science in Exercise Science, a minor in Exercise Science, and a concentration in pre-Physical Therapy as well as elective courses for students interested in the relationship among physical activity, weight control, disease prevention, stress management and nutrition for 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 current emphasis placed on health promotion and disease prevention within the health care delivery system.

The exercise science major allows students opportunities for practicum, research, and laboratory experiences. The major prepares graduates for positions in the field and for competitive graduate degree programs. There is also an option for a concentration in pre-Physical Therapy. The pre-physical therapy concentration is designed to prepare students for the traditional application requirements for the Oakland University Doctor of Physical Therapy (DPT).

Exercise Science, B.S.

Requirements for the B.S. degree with a major in Exercise Science

Students pursuing a degree in Exercise Science must complete a minimum of 120 credits, including the following requirements.

1. Meet the university general education requirements (see General Education Requirements). Note that several foundational courses satisfy general education requirements and Exercise Science degree requirements. See courses marked with "*".
2. Complete the foundational courses
3. Complete the exercise science core courses
4. Complete the pre-physical therapy academic concentration, or electives to meet minimum of 124 credits. Students are encouraged to complete a minor to contribute to the elective requirements.

Foundational courses for the exercise science degree

- BIO 1200 - Biology I (4)
- BIO 2100 - Human Anatomy (4)
- BIO 2101 - Human Anatomy Laboratory (1) or BIO 3621 - Physiology Laboratory (1)
- BIO 2600 - Human Physiology (4) or BIO 3621 - Physiology Laboratory (1)
- CHM 1440 - General Chemistry I (4) * and CHM 1470 - General Chemistry Laboratory I (1)
- MTH 1441 - Precalculus (4) or MTH 1554 - Calculus I (4) or MTH 1331 - College Algebra (4) and MTH 1332 - Trigonometry (3)
- PHY 1010 - General Physics I (4) * or PHY 1510 - Introductory Physics I (4)
- PHY 1100 - General Physics Lab I (1)
- PSY 1000 - Introduction to Psychology (4)
- PSY 2500 - Research Design in Psychology (4)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4)

Core courses for the exercise science degree

- HS 2000 - Introduction to Health and Health Behaviors (3)
- EXS 1000 - Exercise (Strength Training) and Health Enhancement (2) or EXS 1100 - Cardiovascular Fitness Training (2)
- EXS 2200 - Introduction to Exercise Science (2)
- EXS 2410 - Nutrition for Exercise, Sport and Health (3) or NTR 2500 - Human Nutrition and Health (3) and NTR 3200 - Nutrition and Physical Activity (2)
- EXS 2700 - Safety and First Aid in Exercise Settings (2)
- EXS 3010 - Exercise Physiology (3)
- EXS 3020 - Biomechanics (3)
- EXS 3030 - Motor Control (3)
- EXS 4030 - Assessment and Interventions Laboratory (3)
- EXS 4715 - Integrated Laboratory in Exercise Science (3)
- EXS 4960 - Practicum in Exercise Science (3) or EXS 4995 - Directed Research (3)
- Electives in exercise science (to total 4 credits; EXS 4960 or EXS 4995 are required, but may be repeated once for credit with permission)

Core course electives

- EXS 1000 - Exercise (Strength Training) and Health Enhancement (2)
- EXS 1100 - Cardiovascular Fitness Training (2)
- EXS 1500 - Exercise (Judo) and Health Enhancement (2)
- EXS 2000 - Group Exercise Instruction I (2)
- EXS 2100 - Group Exercise Instruction II (2)
- EXS 2510 - Laboratory Safety (1)
- EXS 2520 - Practice Management (1)
- EXS 3015 - Exercise Physiology Laboratory (1)
- EXS 3510 - Clinical Assessments (3)
- EXS 3520 - Material Characteristics (2)
- EXS 3530 - Patient Management (1)
- EXS 3540 - Fit, Function and Modifications (3)
- EXS 4100 - Introduction to Personal Training (2)
- EXS 4110 - Advanced Personal Training (2)
- EXS 4200 - Physical Activity and Aging (2)
- EXS 4210 - Children and Exercise (2)
- EXS 4300 - Human Performance Enhancement (2)
- EXS 4310 - Environment and Human Performance (2)
- EXS 4400 - Obesity and Physical Activity (2)
- EXS 4500 - Healthy Lifestyle Choices (2)
- EXS 4600 - Health and Disease (2)
- EXS 4620 - Clinical Biomechanics (2)
- EXS 4630 - Basic Athletic Training (2)
- EXS 4640 - Exercise Electrocardiography (2)
- EXS 4650 - Yoga Therapy (3)
- EXS 4700 - Corporate and Worksite Wellness Programs (2)

- EXS 4800 - Exercise Endocrinology (2)
- EXS 4900 - Special Topics (1 TO 4)
- EXS 4996 - Independent Study (1 TO 4)
- EXS 4997 - Apprentice College Teaching (1 TO 3)

Pre-Physical therapy academic concentration course requirements

Students may choose the pre-physical therapy academic concentration (see below) or complete elective credits to meet a minimum of 124 credits and satisfy university requirements for 3000/4000 level courses.

Required courses:
- CDS 2100 - Medical Terminology (1)
- CDS 4010 - Human Pathology (4)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- PHY 1020 - General Physics II (4) or PHY 1520 - Introductory Physics II (4)
- PHY 1110 - General Physics Lab II (1)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)
- PT 3020 - Physical Therapy as a Profession (2)
- Elective (to total 1 credit)

(OR)

Elective course requirements
Students are required to take 18 - 22 credit hours of electives. Students can apply courses taken as part of a minor towards the elective requirement.

Exercise Science Minor

A 20-credit minor in Exercise Science is available to students in any major, other than the exercise science major, seeking a formal introduction to the exercise science field.

Courses required for the minor include

- EXS 1000 - Exercise (Strength Training) and Health Enhancement (2) * or EXS 1100 - Cardiovascular Fitness Training (2) *
- EXS 2200 - Introduction to Exercise Science (2)
- EXS 3010 - Exercise Physiology (3)
- EXS 3020 - Biomechanics (3)
- EXS 3030 - Motor Control (3)

and 3-4 credits from the following electives:

- EXS 1000 - Exercise (Strength Training) and Health Enhancement (2) *
- EXS 1100 - Cardiovascular Fitness Training (2) *
- EXS 1500 - Exercise (Judo) and Health Enhancement (2)

- EXS 2000 - Group Exercise Instruction I (2)
- EXS 2100 - Group Exercise Instruction II (2)
- EXS 2200 - Introduction to Exercise Science (2)
- EXS 2510 - Laboratory Safety (1)
- EXS 2520 - Practice Management (1)
- EXS 2700 - Safety and First Aid in Exercise Settings (2) *
- EXS 3510 - Clinical Assessments (3)
- EXS 3015 - Exercise Physiology Laboratory (1)
- EXS 3520 - Material Characteristics (2)
- EXS 3530 - Patient Management (1)
- EXS 3540 - Fit, Function and Modifications (3)
- EXS 4100 - Introduction to Personal Training (2)
- EXS 4110 - Advanced Personal Training (2)
- EXS 4200 - Physical Activity and Aging (2)
- EXS 4210 - Children and Exercise (2)
- EXS 4300 - Human Performance Enhancement (2)
- EXS 4310 - Environment and Human Performance (2)
- EXS 4400 - Obesity and Physical Activity (2)
- EXS 4500 - Healthy Lifestyle Choices (2)
- EXS 4600 - Health and Disease (2)
- EXS 4620 - Clinical Biomechanics (2)
- EXS 4630 - Basic Athletic Training (2)
- EXS 4640 - Exercise Electrocardiography (2)
- EXS 4650 - Yoga Therapy (3)
- EXS 4700 - Corporate and Worksite Wellness Programs (2)
- EXS 4800 - Exercise Endocrinology (2)
- EXS 4900 - Special Topics (1 TO 4)
- EXS 4996 - Independent Study (1 TO 4)
- EXS 4997 - Apprentice College Teaching (1 TO 3)
- HS 2000 - Introduction to Health and Health Behaviors (3)
- HS 2150 - Stress Management (3)
- HS 4420 - Mind-Body Medicine (2)
- WHP 3170 - Advanced First Aid/CPR Instruction (2)
- WHP 3600 - Wellness Facilitation (4)

Additional Information

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 2220 or STA 2226 or PSY 2510.

Department of Interdisciplinary Health Sciences

Human Health Building

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Department Chairperson: Jennifer F. Lucarelli, Ph.D.

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Assistant professors: Ed Rohn, Laurel Stevenson, Emily Van Wasshenova

Clinical professors: Craig Hartrick, Moon J. Pak

Clinical associate professor: Joseph H. Guettler

Clinical instructors: Sarah Hojnacki, Maureen Husek, Barbara Main, Donna Morrison, Jeanne Stevenson

Special lecturers: James Boniface, Terry Dibble, Teri Kolar, Kate Masely, Teresa Taggart

A Bachelor of Science in Health Sciences degree combines a broad spectrum of behavioral sciences, social sciences and health sciences course requirements and electives for students who desire a generalized health sciences academic credential. In addition, students choose one of three academic concentrations to obtain greater exposure to a specific health discipline: including holistic health, pre-health professional studies, and pre-pharmacy. The holistic health concentration prepares students for many traditional and non-traditional health and service-oriented professions and graduate programs. The pre-health professional studies concentration incorporates basic science courses to prepare students for the traditional application requirements for medical, dental, optometric, physician assistant, and other professional schools. The pre-pharmacy concentration prepares students for application to the Doctor of Pharmacy programs at Wayne State University and other institutions.

The Applied Health Sciences degree is uniquely positioned to allow students to combine courses from the university curriculum with specific Associate of Applied Sciences (AAS) degrees from accredited community colleges. The degree completion program provides for the transfer of up to 84 semester credits from accredited two-year community colleges. Students who have completed AAS degrees in health-related fields including dental assisting, health information technology, medical assistant, occupational therapy assistant, pharmacy technician, physical therapist assistant, respiratory therapy, or surgical technology may qualify for the Applied Health Sciences program. Students with AAS degrees in a health-related field not listed may seek permission to enroll from the Interdisciplinary Health Sciences Chair. Concurrent enrollment in a community college AAS program and Oakland University's AHS program is not permitted.

The Applied Health Sciences program requires that courses accepted for transfer must have a grade of C or above, and that all course-work has been taken at accredited institutions. For additional information regarding transfer policies, see the Transfer Student Information section of the catalog.

Applied Health Sciences, B.S.

Requirements for the major in Applied Health Sciences, B.S.

1. Have already completed the course requirements for and earned the Associate of Applied Science degree in one of the following academic areas from an accredited community college or other institution of higher education:

dental assisting, health information technology, medical assistant, occupational therapy assistant, pharmacy technician, physical therapist assistant, respiratory therapy, or surgical technology. Students who hold an AAS degree in any other medical or health-related field not listed above may seek permission to enroll from the Applied Health Sciences Program Director.

2. Provide appropriate documentation of the AAS degree:

Submit official transcripts showing AAS degree and all coursework completed with a minimum 2.0 GPA. Concurrent enrollment in a community college AAS program and Oakland University's AHS program is not permitted.

3. Meet the university general education requirements

(see Undergraduate degree requirements). Note that some of the courses under #5 and 6 below satisfy general education requirements and Applied Health Sciences degree requirements. See courses marked with "*".

4. Complete the university U.S. diversity requirement.

For Applied Health Sciences majors, this requirement is satisfied by completing PH 3000.

5. Complete the following courses:

- AHS 3320 - Delivering Safe Patient Care (4)
- AHS 3340 - Hospital Safety and Health (4)
- HS 2000 - Introduction to Health and Health Behaviors (3)
- HS 4500 - Ethics in Health Care (4)
- PH 3000 - Introduction to Public Health (3)
- Courses that also satisfy the university general education requirement

6. Select and complete the required courses from either the Health Care Leadership Track or Health Promotion Track

Number of elective credits required varies based on core courses completed and are selected with assistance from your academic adviser, based on your career goals, from an approved list of

courses. Students must achieve a minimum of 120 credits with a minimum of 32 upper level (3000-4000) credits and satisfy all University degree requirements to graduate.

A. Health Care Leadership Track: A minimum of 20 credits of electives

- HRD 3100 - Introduction to Human Resource Development (4)
- HRD 3230 - Fundamentals of Human Interaction (4)
- HRD 3330 - Presentation and Facilitation (4)
- HRD 3510 - Principles of Leadership (4)
- HRD 3600 - Lean Principles and Practices in Organizations (4)

B. Health Promotion Track: A minimum of 20 credits of electives

- AHS 3310 - Health Care Safety (4)
- CDS 2010 - Careers in Clinical and Diagnostic Sciences (1)
- CDS 2050 - Contemporary Issues in Health Care Organizations and Practice (2)
- CDS 2100 - Medical Terminology (1)
- CDS 2260 - Introduction to Laboratory Theory and Techniques (2)
- CDS 3300 - Microbiology of Infectious Diseases (3)
- CDS 3310 - Microbiology of Infectious Diseases Laboratory (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4010 - Human Pathology (4)
- CDS 4020 - Molecular Diagnostics (3)
- CDS 4140 - Hematology/Hemostasis I (3)
- CDS 4150 - Hematology/Hemostasis Laboratory I (1)
- CDS 4160 - Hematology/Hemostasis II (4)
- CDS 4170 - Hematology/Hemostasis Laboratory II (1)
- CDS 4230 - Medical Immunology (3)
- CDS 4240 - Immunohematology (3)
- CDS 4241 - Immunohematology Laboratory (1)
- CDS 4250 - Medical Biochemistry (4)
- CDS 4270 - Clinical Chemistry (4)
- CDS 4280 - Clinical Chemistry Laboratory (1)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4320 - Medical Microbiology Laboratory (1)
- CDS 4350 - Clinical Parasitology, Mycology, Virology (3)
- CDS 4360 - Clinical Parasitology, Mycology, Virology Lab (1)
- CDS 4400 - Clinical Correlations (3)
- CDS 4900 - Special Topics (1 TO 4)
- CHM 1440 - General Chemistry I (4) * and CHM 1470 - General Chemistry Laboratory I (1)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- CHM 2340 - Organic Chemistry I (4)
- EHS 2250 - Environmental Health and Safety Training Methods (3)
- EHS 2350 - Occupational Safety and Health Standards (3)
- EHS 2450 - Professional Practice and Leadership Development (3)
- EHS 3300 - Safety and Health Administration and Programs (3)
- EHS 3330 - Fire Prevention and Protection (3)

- EHS 3350 - Fundamentals of Occupational Hygiene (3)
- EHS 3360 - Applied Environmental and Occupational Hygiene with Laboratory (4)
- EHS 3380 - Environmental Health and Safety Engineering and Technology (3)
- EHS 3420 - Advanced Quantitative Methods for Environmental Health and Safety (4)
- EHS 4230 - Radiation Safety (3)
- EHS 4340 - Ventilation and Emerging Technologies (4)
- EHS 4350 - Radiation Exposure Control (2)
- EHS 4410 - Accident/Incident Investigation and Analysis (3)
- EHS 4420 - Construction Safety (3)
- EHS 4430 - Robotic and Automation System Safety Analysis (3)
- EHS 4440 - Environmental Standards (3)
- EHS 4450 - Introduction to Ergonomics (3)
- EHS 4460 - Industrial and Environmental Toxicology (3)
- EHS 4500 - Medical Geology (Geo-Medicine) (4)
- EXS 2200 - Introduction to Exercise Science (2)
- EXS 2700 - Safety and First Aid in Exercise Settings (2)
- EXS 3010 - Exercise Physiology (3)
- EXS 3015 - Exercise Physiology Laboratory (1)
- EXS 3020 - Biomechanics (3)
- HS 2150 - Stress Management (3)
- HS 2250 - Research Methods in Health Science (3)
- HS 3400 - Contemporary Topics in Health (2)
- HS 3430 - Sociology of Health and Medicine (4)
- HS 3440 - Introduction to Community Engagement (4)
- HS 3450 - Leadership and Healthcare (4)
- HS 3460 - Community Engaged Research Experience (4)
- HS 3500 - Health Behavior Theories (3)
- HS 4410 - Integrative Holistic Health (4)
- HS 4430 - Modalities for Healing (4)
- HS 4440 - Healing Traditions (4)
- HS 4450 - Laughter as Therapeutic Modality (4)
- HS 4460 - Mindfulness (3)
- HS 4550 - Qualitative Research Methods (4)
- HS 4900 - Special Topics (2 TO 4)
- HS 4995 - Directed Study (1 TO 4)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 2600 - Nutrition Assessment Methods (3)
- NTR 2700 - Introduction to Food Science (3)
- NTR 2750 - Introduction to Cooking and Culinary Science (2)
- NTR 3120 - Community Nutrition (4)
- NTR 3200 - Nutrition and Physical Activity (2)
- NTR 3210 - Herbs Supplements Nutrition (2)
- NTR 3220 - Eating Disorders (2)
- NTR 3230 - Foodborne Illnesses (2)
- NTR 3260 - Food Politics (2)
- NTR 4100 - Nutrition and Lifecycles (4)
- NTR 4200 - Communication and Counseling in Nutrition Practice (4)

- NTR 4300 - Food Service Management (4)
- NTR 4350 - Nutrient Metabolism (4)
- PH 3350 - Principles of Environmental Health Sciences (4)
- PH 4650 - Social Determinants of Health (4)
- PH 4750 - Global Health and Social Issues (4)
- PHY 1010 - General Physics I (4) * and PHY 1100 - General Physics Lab I (1)
- PHY 1020 - General Physics II (4) * and PHY 1110 - General Physics Lab II (1)
- WHP 3500 - Health Program Implementation (4)
- WHP 3600 - Wellness Facilitation (4)
- WHP 3700 - Culture, Ethnicity and Well-being (3)
- WHP 3800 - Persuasion and Marketing in Health Promotion (4)
- WHP 4000 - Assessment and Interventions in Wellness (4)
- WHP 4030 - Laboratory in Assessment and Interventions (4)
- WHP 4350 - Environmental Justice (4)
- WHP 4900 - Special Topics (1 TO 4)

Health Sciences, B.S.

Requirements for the B.S. degree with a major in health sciences concentration areas

1. Meet the university general education requirements

(see Undergraduate degree requirements). Note that several courses under #3 below satisfy general education requirements and Health Sciences degree requirements. See courses marked with "*".

2. Complete the university U.S. diversity requirement.

For health science majors, this requirement is satisfied by completing PH 3000.

3. Complete the prescribed number of credits from the following courses

- BIO 1200 - Biology I (4) *
- BIO 2100 - Human Anatomy (4)
- BIO 2101 - Human Anatomy Laboratory (1) or BIO 3621 - Physiology Laboratory (1)
- BIO 2600 - Human Physiology (4) or BIO 3620 - Medical Physiology (4) or BIO 4620 - Advanced Human Physiology (4)
- HS 2000 - Introduction to Health and Health Behaviors (3) *
- HS 4500 - Ethics in Health Care (4)
- PSY 1000 - Introduction to Psychology (4)
- PH 3000 - Introduction to Public Health (3)
- *Courses that also satisfy the university general education requirement.

4. Complete the course requirements specified under one of the following academic concentration areas:

Holistic Health concentration course requirements

Students completing the Bachelor of Science in health sciences with an academic concentration in holistic health must complete a minimum of 120 credits and satisfy all University degree requirements, including the following courses:

1. Required courses

- HS 2250 - Research Methods in Health Science (3) or PSY 2500 Research Design in Psychology (4)
- HS 3400 - Contemporary Topics in Health (2)
- HS 3500 - Health Behavior Theories (3)
- HS 4410 - Integrative Holistic Health (4)
- HS 4430 - Modalities for Healing (4)
- HS 4440 - Healing Traditions (4)
- HS 4450 - Laughter as Therapeutic Modality (4)
- PSY 3180 - Biological Psychology (4)
- WHP 3500 - Health Program Implementation (4)
- WHP 3700 - Culture, Ethnicity and Well-being (3)

2. Number of required elective credits varies

Number of required elective credits varies based on core courses completed and are selected with assistance from your academic adviser, based on your career goals, from an approved list of courses. Students must achieve a minimum of 120 total course credits with a minimum of 32 upper level (3000-4000) course credits and satisfy all University degree requirements to graduate.

Minimum of 34 credits from these Holistic Health concentration elective courses.

Note: Courses required for the major and the concentration cannot be counted as an elective.

- AHS 3310 - Health Care Safety (4)
- AHS 3320 - Delivering Safe Patient Care (4)
- AHS 3340 - Hospital Safety and Health (4)
- AHS 4310 - Ergonomics in the Health Care Industry (3)
- AHS 4320 - Risk Reduction Safety Culture Improvement in Healthcare (2)
- AN 3220 - Medical Anthropology (4)
- BIO 1201 - Biology Laboratory (1)
- BIO 1300 - Biology II (4)
- BIO 3130 - Developmental Biology (4)
- BIO 3230 - Fundamentals of Biochemistry (4)
- BIO 3232 - Biochemistry I (4)
- BIO 3233 - Biochemistry I Laboratory (1)
- BIO 3330 - Ecology (5)
- BIO 3332 - Field Biology (4)

- BIO 3400 - Genetics (4)
- BIO 3401 - Genetics Laboratory (1)
- BIO 3500 - General Microbiology (4)
- BIO 3501 - General Microbiology Laboratory (1)
- BIO 4120 - Neuroanatomy (4)
- CDS 2100 - Medical Terminology (1)
- CDS 4010 - Human Pathology (4)
- CDS 4250 - Medical Biochemistry (4)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4320 - Medical Microbiology Laboratory (1)
- CDS 4050 - Pharmacology (3)
- CHM 1040 - Introduction to Chemical Principles (4)
- CHM 1440 - General Chemistry I (4) and CHM 1470 - General Chemistry Laboratory I (1)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- CHM 2010 - Introduction to Organic and Biological Chemistry (4)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- CHM 4254 - Biochemistry I (3)
- CHM 4257 - Biochemistry Laboratory (3)
- COM 2000 - Public Speaking (4)
- COM 1500 - Introduction to American Sign Language (4)
- EXS 2200 - Introduction to Exercise Science (2)
- EXS 2700 - Safety and First Aid in Exercise Settings (2)
- EXS 3010 - Exercise Physiology (3)
- EXS 3015 - Exercise Physiology Laboratory (1)
- EXS 3020 - Biomechanics (3)
- EXS 4100 - Introduction to Personal Training (2)
- EXS 4300 - Human Performance Enhancement (2)
- EXS 4400 - Obesity and Physical Activity (2)
- EXS 4500 - Healthy Lifestyle Choices (2)
- EXS 4600 - Health and Disease (2)
- EXS 4620 - Clinical Biomechanics (2)
- EXS 4630 - Basic Athletic Training (2)
- EXS 4650 - Yoga Therapy (3)
- EXS 4810 - Physical Activity Epidemiology (2)
- HS 1000 - Careers in Health (1)
- HS 2150 - Stress Management (3)
- HS 3430 - Sociology of Health and Medicine (4)
- HS 3440 - Introduction to Community Engagement (4)
- HS 3450 - Leadership and Healthcare (4)
- HS 3460 - Community Engaged Research Experience (4)
- HS 4420 - Mind-Body Medicine (2)
- HS 4460 - Mindfulness (3)
- HS 4550 - Qualitative Research Methods (4)
- HS 4900 - Special Topics (2 TO 4)
- MTH 1441 - Precalculus (4)

- MTH 1554 - Calculus I (4)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 2700 - Introduction to Food Science (3)
- NTR 3120 - Community Nutrition (4)
- NTR 3140 - Food, Nutrition, and Culture (3)
- NTR 3200 - Nutrition and Physical Activity (2)
- NTR 3210 - Herbs Supplements Nutrition (2)
- NTR 3220 - Eating Disorders (2)
- NTR 3230 - Foodborne Illnesses (2)
- NTR 3260 - Food Politics (2)
- NTR 4100 - Nutrition and Lifecycles (4)
- NTR 4350 - Nutrient Metabolism (4)
- PH 3350 - Principles of Environmental Health Sciences (4)
- PH 4650 - Social Determinants of Health (4)
- PH 4750 - Global Health and Social Issues (4)
- PHY 1010 - General Physics I (4)
- PHY 1020 - General Physics II (4)
- PHY 1080 - Principles of Physics I (4)
- PHY 1090 - Principles of Physics II (4)
- PHY 1100 - General Physics Lab I (1)
- PHY 1110 - General Physics Lab II (1)
- PHY 1510 - Introductory Physics I (4)
- PHY 1520 - Introductory Physics II (4)
- PHY 3260 - Medical Physics (4)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)
- PSY 3210 - Child Development (4)
- PSY 3220 - Adolescence and Youth (4)
- PSY 3230 - Adulthood and Aging (4)
- PSY 3330 - Motivation (4)
- PSY 3450 - Health Psychology (4)
- SOC 1000 - Introduction to Sociology (4)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4)
- WHP 3250 - Issues in Women's Health (4)
- WHP 3600 - Wellness Facilitation (4)
- WHP 3800 - Persuasion and Marketing in Health Promotion (4)
- WHP 4000 - Assessment and Interventions in Wellness (4)
- WHP 4030 - Laboratory in Assessment and Interventions (4)
- WHP 4310 - Crisis Intervention and Prevention of Self Harm (4)
- WHP 4350 - Environmental Justice (4)
- WHP 4850 - Population Health, Health Policy, and Healthcare Delivery (4)
- WHP 4900 - Special Topics (1 TO 4)
- WRT 1050 - Composition I (4)
- or any other course approved by the program director in writing through approved petition of exception form.

Pre-health professional studies academic concentration course requirements

Number of required elective credits varies based on core courses completed and are selected with assistance from your academic adviser, based on your career goals, from an approved list of courses. Students must achieve a minimum of 120 total course credits with a minimum of 32 upper level (3000-4000) course credits and satisfy all University degree requirements to graduate.

1. Required courses

- BIO 1300 - Biology II (4) *
- CDS 4000 - Medical Genetics (4) OR BIO 3400 - Genetics (4)
- CDS 4250 - Medical Biochemistry (4) or BIO 3232 - Biochemistry I (4)
- CHM 1440 - General Chemistry I (4) * and CHM 1470 - General Chemistry Laboratory I (1)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- HS 2250 - Research Methods in Health Science (3) or PSY 2500 Research Design in Psychology (4) or PSY 2250 Introduction to Life-Span Developmental Psychology (4)
- HS 3500 - Health Behavior Theories (3)
- NTR 2500 - Human Nutrition and Health (3)
- MTH 1441 - Precalculus (4) or MTH 1554 - Calculus I (4)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4) or EHS 2550 Basic Statistics for Health Sciences (3)
- PHY 1010 - General Physics I (4) * or PHY 1510 Introductory Physics I (4)
- PHY 1100 - General Physics Lab I (1)

2. Complete a minimum of 11 credits from the following: (At least 10 credits at 3000-4000 level)

Note: Courses required for the major and the concentration cannot be counted as an elective.

- AHS 3310 - Health Care Safety (4)
- AHS 3320 - Delivering Safe Patient Care (4)
- AHS 3340 - Hospital Safety and Health (4)
- BCM 4254 - Biochemistry I (3)
- BIO 1201 - Biology Laboratory (1)
- BIO 3000 - Biology and Society (4)
- BIO 3130 - Developmental Biology (4)
- BIO 3230 - Fundamentals of Biochemistry (4)
- BIO 3232 - Biochemistry I (4)
- BIO 3233 - Biochemistry I Laboratory (1)
- BIO 3330 - Ecology (5)

- BIO 3332 - Field Biology (4)
- BIO 3400 - Genetics (4)
- BIO 3401 - Genetics Laboratory (1)
- BIO 3500 - General Microbiology (4)
- BIO 3501 - General Microbiology Laboratory (1)
- CDS 2100 - Medical Terminology (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4250 - Medical Biochemistry (4)
- CHM 4254 - Biochemistry I (3)
- CHM 4257 - Biochemistry Laboratory (3)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4320 - Medical Microbiology Laboratory (1)
- EXS 3010 - Exercise Physiology (3)
- EXS 3015 - Exercise Physiology Laboratory (1)
- EXS 3020 - Biomechanics (3)
- EXS 4300 - Human Performance Enhancement (2)
- EXS 4400 - Obesity and Physical Activity (2)
- EXS 4500 - Healthy Lifestyle Choices (2)
- EXS 4600 - Health and Disease (2)
- EXS 4620 - Clinical Biomechanics (2)
- EXS 4630 - Basic Athletic Training (2)
- EXS 4810 - Physical Activity Epidemiology (2)
- HS 1000 - Careers in Health (1)
- HS 2150 - Stress Management (3)
- HS 3400 - Contemporary Topics in Health (2)
- HS 3430 - Sociology of Health and Medicine (4)
- HS 3440 - Introduction to Community Engagement (4)
- HS 3450 - Leadership and Healthcare (4)
- HS 3460 - Community Engaged Research Experience (4)
- HS 4450 - Laughter as Therapeutic Modality (4)
- NRS 2011 - Pathophysiology (3)
- NRS 2021 - Nursing Informatics (2)
- NRS 3041 - Pharmacology in Nursing (3)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 2600 - Nutrition Assessment Methods (3)
- NTR 2700 - Introduction to Food Science (3)
- NTR 2750 - Introduction to Cooking and Culinary Science (2)
- NTR 3120 - Community Nutrition (4)
- NTR 3140 - Food, Nutrition, and Culture (3)
- NTR 3210 - Herbs Supplements Nutrition (2)
- NTR 3200 - Nutrition and Physical Activity (2)
- NTR 3220 - Eating Disorders (2)
- NTR 3230 - Foodborne Illnesses (2)
- NTR 4100 - Nutrition and Lifecycles (4)
- NTR 4200 - Communication and Counseling in Nutrition Practice (4)
- NTR 4300 - Food Service Management (4)
- NTR 4350 - Nutrient Metabolism (4)

- PH 4750 - Global Health and Social Issues (4)
- PHY 1020 - General Physics II (4) *OR PHY 1520 - Introductory Physics II (4)
- PHY 1110 - General Physics Lab II (1)
- PHY 3260 - Medical Physics (4)
- PSY 3010 - The Psychology of Human Sexuality (4)
- PSY 3020 - Evolution, Science, and Superstition (4)
- PSY 3030 - Evolutionary Psychology (4)
- PSY 3040 - Animal Behavior (4)
- PSY 3100 - Creativity and Innovation (4)
- PSY 3160 - Cognitive Psychology (4)
- PSY 3180 - Biological Psychology (4)
- PSY 3210 - Child Development (4)
- PSY 3220 - Adolescence and Youth (4)
- PSY 3230 - Adulthood and Aging (4)
- PSY 3330 - Motivation (4)
- PSY 3340 - Industrial and Organizational Psychology (4)
- PSY 3370 - Group Dynamics (4)
- PSY 3390 - Emotion (4)
- PSY 3410 - Adult Psychopathology (4)
- PSY 3430 - Child Psychopathology (4)
- PSY 3440 - Behavior Analysis (4)
- PSY 3450 - Health Psychology (4)
- WHP 3250 - Issues in Women's Health (4)
- WHP 3500 - Health Program Implementation (4)
- WHP 3600 - Wellness Facilitation (4)
- WHP 3800 - Persuasion and Marketing in Health Promotion (4)
- WHP 4000 - Assessment and Interventions in Wellness (4)
- WHP 4030 - Laboratory in Assessment and Interventions (4)
- WHP 4310 - Crisis Intervention and Prevention of Self Harm (4)
- WHP 4850 - Population Health, Health Policy, and Healthcare Delivery (4)
- WHP 4900 - Special Topics (1 TO 4)
- WRT 1050 - Composition I (4)
- or any other course approved by the program director in writing through approved petition exception form

Professional School Admission Requirements

Students are required to review the professional school admission requirements before selecting elective credits.

Pre-pharmacy academic concentration course requirements

Students must achieve a minimum of 120 total course credits with a minimum of 32 upper level (3000-4000) course credits and satisfy all University degree requirements to graduate. Completion of this concentration requires at least one year of a professional accredited pharmacy school with no fewer

than 20 credits of professional PharmD coursework. Students are required to meet with their assigned academic adviser to discuss the details of the degree requirements.

Concentration courses

- CDS 2100 - Medical Terminology (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4250 - Medical Biochemistry (4) or CDS 4000 - Medical Genetics (4) or BIO 3400 - Genetics (4)
- CDS 4300 - Clinical Microbiology (4) or BIO 3500 - General Microbiology (4)
- CDS 4320 - Medical Microbiology Laboratory (1) OR BIO 3501 - General Microbiology Laboratory (1)
- CHM 1440 - General Chemistry I (4) * and CHM 1470 - General Chemistry Laboratory I (1)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- COM 2000 - Public Speaking (4)
- HS 3500 - Health Behavior Theories (3)
- MTH 1554 - Calculus I (4)
- PHY 1010 - General Physics I (4) * or PHY 1510 Introductory Physics I (4)
- PHY 1100 - General Physics Lab I (1)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4) or EHS 2550 Basic Statistics for Health Sciences (3)

Pre-Pharmacy Tracks

Students pursuing a Bachelor of Science with a major in health sciences at Oakland University with a pre-pharmacy concentration may pursue admission to any accredited Doctor of Pharmacy program. Students may complete their senior year of coursework at any PharmD program and credits earned from courses at this program will be transferred back to OU to complete the requirements for the Bachelor of Science with a major in health sciences program. It is highly recommended that students consult with the academic adviser prior to enrolling in any of these classes, as completion of coursework does not guarantee admission or completion of the program. Admission into an accredited PharmD program is required to complete this maturation. Admission to a PharmD program is through a competitive admissions process. Once accepted, Oakland students will need to 1), send a letter of acceptance to their academic adviser; and 2) register for classes and pay tuition through the PharmD school; 3) send official transcripts after the first year (fall/winter semesters) of the PharmD program to Oakland University.

Students not entering a PharmD program may substitute an equivalent number of elective credits. Number of required elective credits required varies based on core courses completed and are selected with assistance from your academic adviser, based on your career goals, from an approved list of courses.

Note: Pre-Pharmacy electives are the same as the Pre-Professional concentrations listed above

Nutrition, B.S.

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

Students completing a degree Nutrition must complete a minimum of 120 credits. They must also meet the University general education requirements and the University diversity requirements. All nutrition majors must complete the core nutrition courses.

Number of required elective credits varies based on core courses completed and are selected with assistance from your academic adviser, based on your career goals, from an approved list of courses. Students must achieve a minimum of 120 total course credits with a minimum of 32 upper level (3000-4000) course credits and satisfy all University degree requirements to graduate.

Core Nutrition courses

- BIO 1200 - Biology I (4)
- BIO 2600 - Human Physiology (4) and BIO 3621 - Physiology Laboratory (1) or BIO 2006 - Clinical Anatomy and Physiology (5)
- CDS 2100 - Medical Terminology (1)
- CDS 3300 - Microbiology of Infectious Diseases (3) or BIO 3500 - General Microbiology (4) or BIO 3520 - Introduction to Human Microbiology (4)
- CDS 4250 - Medical Biochemistry (4)
- CHM 1440 - General Chemistry I (4)
- CHM 1450 - General Chemistry II (4)
- CHM 1470 - General Chemistry Laboratory I (1)
- CHM 1480 - General Chemistry Laboratory II (1)
- CHM 2340 - Organic Chemistry I (4)
- EHS 2550 - Basic Statistics for Health Sciences (3) or STA 2220 - Introduction to Statistical Concepts and Reasoning (4)
- HS 2000 - Introduction to Health and Health Behaviors (3)
- HS 3500 - Health Behavior Theories (3)
- NTR 1000 - Careers in Nutrition (1)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 2600 - Nutrition Assessment Methods (3)
- NTR 2700 - Introduction to Food Science (3)
- NTR 2750 - Introduction to Cooking and Culinary Science (2)
- NTR 3000 - Nutrition Research Methods (3)
- NTR 3120 - Community Nutrition (4)
- NTR 3140 - Food, Nutrition, and Culture (3)
- NTR 3230 - Foodborne Illnesses (2)

- NTR 4100 - Nutrition and Lifecycles (4)
- NTR 4350 - Nutrient Metabolism (4)
- NTR 4400 - Medical Nutrition Therapy I (4)
- PH 3000 - Introduction to Public Health (3)
- PSY 1000 - Introduction to Psychology (4) or SOC 1000 - Introduction to Sociology (4)
- WRT 1060 - Composition II (4)

Communication and ethics requirements

Students are required to take communication and ethic courses related to health and nutrition. Dietetics specialization students are required to take the NTR 4200 - Communication and Counseling in Nutrition Practice and NTR 4500 - Professional Practice & Ethics in Nutrition.

- NTR 4200 - Communication and Counseling in Nutrition Practice (4) or WHP 2800 - Introduction to Health Literacy(4) or COM 4402 - Health Communication(4)
- NTR 4500 - Professional Practice & Ethics in Nutrition (3) or HS 4500 - Ethics in Health Care(4)

Other requirements

Students are required to take 12 credit hours of electives OR Dietetics Specialization.

Electives for the Nutrition major

- AN 3133 - The Food Quest (4) or ENV 3220 - The Food Quest (4)
- AN 3220 - Medical Anthropology (4)
- BIO 2100 - Human Anatomy (4)
- BIO 2101 - Human Anatomy Laboratory (1)
- BIO 3360 - Organic Farming (4)
- BIO 3361 - Applied Organic Farming (1)
- BIO 3400 - Genetics (4)
- BIO 4220 - Cell Biology of Cancer (4)
- BIO 4338 - Food Systems Biology (4)
- BIO 4900 - Selected Topics in Biology (1 TO 5)
- CDS 2010 - Careers in Clinical and Diagnostic Sciences (1)
- CDS 2050 - Contemporary Issues in Health Care Organizations and Practice (2)
- CDS 2100 - Medical Terminology (1)
- CDS 3310 - Microbiology of Infectious Diseases Laboratory (1)
- CDS 4000 - Medical Genetics (4)
- CDS 4010 - Human Pathology (4)
- CDS 4300 - Clinical Microbiology (4)
- CDS 4310 - Clinical Microbiology Laboratory (1)
- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- COM 2000 - Public Speaking (4)
- COM 2001 - Professional Communication (4)
- COM 2403 - Group Dynamics and Communication (4)

- COM 3200 - Persuasion (4)
- COM 3402 - Communication in Leadership (4)
- ECN 2000 - Principles of Macroeconomics (4)
- ECN 2010 - Principles of Microeconomics (4)
- ECN 3670 - Economics of Health Care (3)
- EXS 2700 - Safety and First Aid in Exercise Settings (2)
- EXS 3010 - Exercise Physiology (3)
- EXS 3015 - Exercise Physiology Laboratory (1)
- EXS 3020 - Biomechanics (3)
- EXS 3030 - Motor Control (3)
- EXS 4100 - Introduction to Personal Training (2)
- EXS 4200 - Physical Activity and Aging (2)
- EXS 4210 - Children and Exercise (2)
- EXS 4300 - Human Performance Enhancement (2)
- EXS 4400 - Obesity and Physical Activity (2)
- EXS 4500 - Healthy Lifestyle Choices (2)
- EXS 4600 - Health and Disease (2)
- EXS 4620 - Clinical Biomechanics (2)
- EXS 4630 - Basic Athletic Training (2)
- EXS 4800 - Exercise Endocrinology (2)
- EXS 4810 - Physical Activity Epidemiology (2)
- HRD 4320 - Program Evaluation (4)
- HS 1000 - Careers in Health (1)
- HS 2150 - Stress Management (3)
- HS 3430 - Sociology of Health and Medicine (4)
- HS 3440 - Introduction to Community Engagement (4)
- HS 3450 - Leadership and Healthcare (4)
- HS 3460 - Community Engaged Research Experience (4)
- HS 4410 - Integrative Holistic Health (4)
- HS 4420 - Mind-Body Medicine (2)
- HS 4430 - Modalities for Healing (4)
- HS 4440 - Healing Traditions (4)
- HS 4450 - Laughter as Therapeutic Modality (4)
- HS 4460 - Mindfulness (3)
- HS 4550 - Qualitative Research Methods (4)
- HS 4900 - Special Topics (2 TO 4)
- MIS 3020 - Information Systems and Healthcare Informatics (3)
- MKT 4040 - Consumer Behavior (4)
- MTH 1554 - Calculus I (4)
- NTR 3200 - Nutrition and Physical Activity (2)
- NTR 3210 - Herbs Supplements Nutrition (2)
- NTR 3220 - Eating Disorders (2)
- NTR 3260 - Food Politics (2)
- PHY 1010 - General Physics I (4)
- PHY 1100 - General Physics Lab I (1)
- PHY 1020 - General Physics II (4)
- PHY 1110 - General Physics Lab II (1)

- PS 3340 - Public Policy and Health Care (4)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)
- PSY 2360 - Introduction to Individual Differences and Personality Psychology (4)
- PSY 3210 - Child Development (4)
- PSY 3220 - Adolescence and Youth (4)
- PSY 3230 - Adulthood and Aging (4)
- PSY 3330 - Motivation (4)
- PSY 3440 - Behavior Analysis (4)
- PSY 3450 - Health Psychology (4)
- PSY 3500 - Introduction to Psychometrics (4)
- SOC 3430 - Sociology of Health and Medicine (4)
- WHP 2800 - Introduction to Health Literacy (4)
- WHP 3000 - Wellness for Special Populations (4)
- WHP 3500 - Health Program Implementation (4)
- WHP 3600 - Wellness Facilitation (4)
- WHP 3800 - Persuasion and Marketing in Health Promotion (4)
- WHP 4000 - Assessment and Interventions in Wellness (4)
- WHP 4030 - Laboratory in Assessment and Interventions (4)
- WHP 4350 - Environmental Justice (4)
- WHP 4850 - Population Health, Health Policy, and Healthcare Delivery (4)
- WHP 4900 - Special Topics (1 TO 4)
- WRT 1050 - Composition I (4)
- or any other course approved by the program director in writing through approved petition exception form

Nutrition, B.S. Specialization in Dietetics

Dietetics Specialization prepares students to become an entry-level dietetic technician, registered (DTR) through specialized coursework and experiential learning activities.

Students in the dietetics specialization take the same core coursework as the Nutrition Major with the additional classes:

- NTR 3100 - Dietetics Seminar (1)
- NTR 4300 - Food Service Management (4)
- NTR 4450 - Medical Nutrition Therapy II (4)
- NTR 4600 - Community Nutrition Practicum (4)

Applications for entry into the dietetics specialization:

- B- or higher in NTR 2500
- Grade point average for science courses (recommended minimum 2.0)
- Overall GPA (recommended minimum 2.8)

- Personal statement
- Application

To apply, students must complete (or be enrolled in):

- BIO 1200 - Biology I (4)
- BIO 2600 - Human Physiology (4) AND BIO 3621 - Physiology Laboratory (1) OR BIO 2006 - Clinical Anatomy and Physiology (5)
- CDS 3300 - Microbiology of Infectious Diseases (3) OR BIO 3500 - General Microbiology (4) OR BIO 3520 - Introduction to Human Microbiology (4)
- CHM 1440 - General Chemistry I (4)
- CHM 1450 - General Chemistry II (4)
- CHM 1470 - General Chemistry Laboratory I (1)
- CHM 1480 - General Chemistry Laboratory II (1)
- CHM 2340 - Organic Chemistry I (4)
- EHS 2550 - Basic Statistics for Health Sciences (3) OR STA 2220 - Introduction to Statistical Concepts and Reasoning (4)
- HS 2000 - Introduction to Health and Health Behaviors (3)
- NTR 1000 - Careers in Nutrition (1)
- NTR 2500 - Human Nutrition and Health (3)
- NTR 2600 - Nutrition Assessment Methods (3)
- WRT 1060 - Composition II (4)
  * Admittance will be conditional upon successful completion of courses in progress at the time of application

Graduation requirements

Students must complete all Nutrition courses with a C or higher and achieve a B- or higher in Community Nutrition Practicum and maintain a 2.5 cumulative GPA to graduate with a specialization Dietetics. They must also have documented 20 hours of nutrition-focused community service or volunteer work.

Community Health Engagement Minor

A minor in Community Health Engagement is available to students in any degree program. The minor provides students with hands-on learning opportunities focused in real-world community settings to learn about health engagement in diverse populations. A minimum of 18 credits are required for the minor including 15 core credits and a minimum of 3 elective credits.

Core required courses for the minor (15 credits):

- HS 3440 - Introduction to Community Engagement (4)
- HS 3450 - Leadership and Healthcare (4)
- HS 3460 - Community Engaged Research Experience (4)
- PH 3000 - Introduction to Public Health (3)

Elective courses (minimum of 3 credits):

- AN 3220 - Medical Anthropology (4)
- HS 3430 - Sociology of Health and Medicine (4) OR PH 4650 - Social Determinants of Health (4) OR WHP 3700 - Culture, Ethnicity and Well-being (3)
- HS 4900 - Special Topics (2 TO 4)
- HS 4995 - Directed Study (1 TO 4)
- NTR 3120 - Community Nutrition (4)
- PH 4750 - Global Health and Social Issues (4)
- WHP 3700 - Culture, Ethnicity and Well-being (3)
- WHP 4350 - Environmental Justice (4)

Holistic Health Minor

A minor in Integrative Holistic Health is available to students in any degree program. A minimum of 20 credits are required for the minor including 14 core credits and a minimum of 6 elective credits.

Courses required for the minor (14 credits):

- HS 4410 - Integrative Holistic Health (4)
- HS 4420 - Mind-Body Medicine (2)
- HS 4430 - Modalities for Healing (4)
- HS 4440 - Healing Traditions (4)

Choose at least 6 credits of electives from the following courses:

- AN 3220 - Medical Anthropology (4)
- EXS 4650 - Yoga Therapy (3)
- HS 2150 - Stress Management (3)
- HS 3400 - Contemporary Topics in Health (2)
- HS 3430 - Sociology of Health and Medicine (4) or WHP 3700 - Culture, Ethnicity and Well-being (3)
- HS 4450 - Laughter as Therapeutic Modality (4)
- HS 4460 - Mindfulness (3)
- HS 4900 - Special Topics (2 TO 4)
- HS 4995 - Directed Study (1 TO 4)
- NTR 3210 - Herbs Supplements Nutrition (2)
- PH 4650 - Social Determinants of Health (4)
- PSY 3180 - Biological Psychology (4)
- PSY 3450 - Health Psychology (4)

Nutrition and Health Minor

A minor in Nutrition and Health is available to students in any degree program. A total of 19 credits are required for the minor including 17 core credits and 2 elective credits. A minimum grade of C is required in each course for the minor.

Core courses (17 credits):

- NTR 2500 - Human Nutrition and Health (3)
- NTR 2600 - Nutrition Assessment Methods (3)
- NTR 4100 - Nutrition and Lifecycles (4)
- NTR 3120 - Community Nutrition (4)
- NTR 3140 - Food, Nutrition, and Culture (3)

Elective courses (minimum of 2 credits):

- BIO 3360 - Organic Farming (4)
- BIO 3361 - Applied Organic Farming (1)
- NTR 2700 - Introduction to Food Science (3)
- NTR 2750 - Introduction to Cooking and Culinary Science (2)
- NTR 3200 - Nutrition and Physical Activity (2)
- NTR 3210 - Herbs Supplements Nutrition (2)
- NTR 3220 - Eating Disorders (2)
- NTR 3230 - Foodborne Illnesses (2)
- NTR 3260 - Food Politics (2)
- NTR 4350 - Nutrient Metabolism (4)

Department of Public and Environmental Wellness

Human Health Building

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Chairperson: Florence J. Dallo, Ph.D.

Environmental Health and Safety Director: Thomas Schenk

Wellness and Health Promotion Coordinator: Florence J. Dallo

Public Health Director: Rebecca R. Cheezum

Associate professor: Rebecca Cheezum, Florence J. Dallo

Assistant professor: Aubrey Arain, Elise C. Brown, Caress A. Dean, Tara L. Diesbourg, Mozhgon Rajaee, Katherine M. Rougeau, Kwame S. Sakyi, Thomas Schenk

Special instructor: Charles W. McGlothlin, Jr.

Special lecturer: Charles M. Rinehart

Environmental Health and Safety Program

Environmental Health and Safety (EHS) is a specified branch of the health engineering professions, focusing on the environmental protection and occupational safety. Protecting America's workers, the environment and the general public from injury and illness in today's age of technological advancement has become one of the most challenging and rewarding professions available. Environmental Health and Safety professionals strive to identify, evaluate and eliminate or control hazards that expose people, property or the environment to danger or harm. The EHS profession applies fundamental exposure assessment techniques (both qualitative and quantitative) for environmental health protection, particularly, the physiological and/or toxicological interactions of physical, chemical, biological, mechanical, electrical and ergonomic agents, factors, and/or stressors with the human body. Environmental Health and Safety also aims to prevent occupational injuries, diseases or illnesses that may occur in the work environment. In addition, the EHS professional is involved in the prevention of accidents that could cause property or environmental damages.

The Environmental Health and Safety program is multi-disciplinary in nature, providing students with relevant exposure to basic sciences and behavioral science subjects as well as a thorough introduction to environmental health, occupational safety and industrial hygiene concepts. A one-semester internship in the senior year of the program provides students with first-hand field experience in the practice of environmental health and safety. Internship placements are approved and monitored by the program director and include manufacturing, insurance, health care, energy and engineering, construction, service, consulting, labor, and government organizations.

Graduates of the program will find employment opportunities in a wide variety of occupations, including health care facilities, industrial firms, petrochemical and energy, construction companies, insurance companies, professional associations, local, state, and federal government, and labor organizations. Oakland University's proximity to many of the national's leading industrial companies provides a wealth of experiential learning opportunities throughout the EHS curriculum, particularly for the internship placements. These world-class companies also offer employment opportunities to the EHS graduate.

Wellness and Health Promotion Program

The Wellness and Health Promotion (WHP) program is accredited by the National Wellness Institute (NWI). Wellness and Health Promotion graduates achieving an overall GPA of 2.75 may register as certified wellness practitioners (CWP) with the NWI. The WHP program prepares entry-level employment in a variety of health, commercial, industrial, government, hospital, community and non-profit organizations. A parallel secondary function of the WHP program prepares students for entry to graduate programs of study in fields such as exercise science, health education, human resources, public health, and related professional and medical fields such as a second degree in nursing, physician

assistant, or medicine. Professional skills of graduates are utilized in health enhancement, disease prevention, health education/promotion, health and fitness, corporate and work-site wellness, as well as human resource practice and management.

Environmental Health and Safety, B.S.

Program Educational Objectives

The Environmental Health and Safety program contributes to the institution's mission by offering a high-quality baccalaureate degree that meets and exceeds the educational outcomes-based criteria established by the American Society of Safety Professionals for a B.S. degree in a safety-related career field. The graduates of the Environmental Health and Safety program are prepared to become effective safety and health professionals. During their first five years after graduation, graduates will be able to:

1. Demonstrate effective technical competencies in recognizing, evaluating & controlling workplace EHS risks and hazardous.
2. Analyze, develop and evaluate cost effective EHS programs and safe operating procedures.
3. Work collaboratively with internal and external stakeholders including labor, management, and the community to build a safe and productive organization.
4. Apply sound design methodology in multidisciplinary areas to measure, evaluate and analyze EHS performance.
5. Uphold professional, environmental, cultural, diversity, and ethical standards in EHS practice.
6. Continue professional advancement through life-long learning and opportunities.
7. Effectively apply appropriate scientific methodologies when utilizing EHS standards, regulations, and codes.
8. Demonstrate effective oral and written communication skills.
9. Demonstrate commitment to the profession through active participation in EHS organizations.

Student Outcomes

Baccalaureate degree students graduating from the Environmental Health and Safety program at Oakland University will be able to:

1. Design and evaluate a comprehensive safety and health program.
2. Utilize the techniques, skills and modern scientific and technical tools necessary for professional practice.
3. Demonstrate proficiency in written composition and oral communications.
4. Apply science knowledge to solve problems using algebra, statistics, human physiology and anatomy, physics, chemistry, as it pertains to EHS practice.
5. Anticipate, recognize, evaluate, and develop control strategies for hazardous conditions and work practices.

6. Identify and apply appropriate standards, regulations, and codes for hazard control and work programs.
7. Work effectively in multidisciplinary teams.
8. Design, conduct experiments, analyze and interpret data to provide control solutions to EHS issues.
9. Recognize and demonstrate ethical responsibilities of EHS professionals.
10. Integrate contemporary EHS issues and the impacts of their solutions within a global and societal context.
11. Engage in continued professional development through graduate study, certification. and lifelong learning.

Grade Point Policy

Environmental Health and Safety majors must achieve minimum course grades of C in all math and science courses. Environmental Health and Safety majors and minors must achieve minimum course grades of C+ in all required EHS courses. If a student earns a final course grade below the minimum, they should meet with their academic adviser and must repeat the course in which the unsatisfactory grade was earned.

Transfer Courses

Individuals who already have a degree from a regionally accredited associate or bachelor degree program may transfer a maximum of 62 credits that apply to the B.S. in Environmental Health and Safety degree program requirements.

Requirements for the B.S. degree with a major in Environmental Health and Safety

Students seeking the Bachelor of Science degree with a major in Environmental Health and Safety must complete a minimum of 120 credits, including the following requirements:

1. Meet the university general education requirements

(see Undergraduate degree requirements). Note that several courses under requirement number three below satisfy general education requirements and Environmental Health and Safety degree requirements. See courses marked with "*".

2. Complete the university U.S. diversity requirement

For Environmental Health and Safety majors, this requirement is satisfied by completing PH 3000 - Introduction to Public Health (3) or any other course under the diversity category.

3. Complete the Environmental Health and Safety required courses

- BIO 1002 - Human Biology (4) or BIO 1200 - Biology I (4)
- CHM 1040 - Introduction to Chemical Principles (4)
- CHM 2010 - Introduction to Organic and Biological Chemistry (4)
- EHS 2550 - Basic Statistics for Health Sciences (3) * or STA 2220 Introduction to Statistical Concepts and Reasoning (4) *
- HS 2000 - Introduction to Health and Health Behaviors (3)
- PHY 1200 - The Physics of Everyday Life (4) * or PHY 1010 - General Physics I (4) *
- PSY 1000 - Introduction to Psychology (4) *
- MGT 1100 - Contemporary World Business (4) *
- WRT 3082 - Business Writing (4)

4. Elective credits

Minimum 14 credits

- AHS 3310 - Health Care Safety (4)
- AHS 3340 - Hospital Safety and Health (4)
- EHS 3250 - Quantitative Methods for Environmental Health and Safety (4)
- EHS 3510 - Noise Control and Measurement (2)
- EHS 4230 - Radiation Safety (3)
- EHS 4340 - Ventilation and Emerging Technologies (4)
- EHS 4350 - Radiation Exposure Control (2)
- EHS 4998 - Environmental Health and Safety Research (3)
- ENV 3540 - Global Environmental Governance (4) or PS 3730 - Global Environmental Governance (4)
- HRD 3100 - Introduction to Human Resource Development (4)
- HRD 3330 - Presentation and Facilitation (4)
- HRD 3300 - Instructional Design (4)
- HRD 3440 - Introduction to Labor and Employment Relations (4)
- HRD 3445 - Introduction to Public Sector Labor and Employment Relations (4)
- HRD 4410 - The Study of Labor and Work Organizations (4)
- HRD 4440 - Civil Rights and Regulations in Employment (4)
- HRD 3530 - Cultural Diversity in the Workplace (4)
- HRD 4300 - Instructional Methods (4)
- MGT 3000 - Survey of Management (3)
- PH 3000 - Introduction to Public Health (3)
- PHL 1300 - Introduction to Ethics (4)
- POM 3000 - Survey of Operations Management (3)
- WRT 1050 - Composition I (4)
- or any other course approved by the program director in writing through the approved petition of exception form

5. Complete the major courses

- EHS 1000 - Introduction to Environmental Health and Safety (1) or EHS 1150 Environmental Health and Safety at Work (2)
- EHS 2250 - Environmental Health and Safety Training Methods (3)
- EHS 2350 - Occupational Safety and Health Standards (3)
- EHS 2450 - Professional Practice and Leadership Development (3)
- EHS 3300 - Safety and Health Administration and Programs (3)
- EHS 3330 - Fire Prevention and Protection (3)
- EHS 3350 - Fundamentals of Occupational Hygiene (3)
- EHS 3360 - Applied Environmental and Occupational Hygiene with Laboratory (4)
- EHS 3380 - Environmental Health and Safety Engineering and Technology (3)
- EHS 4410 - Accident/Incident Investigation and Analysis (3)
- EHS 4420 - Construction Safety (3)
- EHS 4430 - Robotic and Automation System Safety Analysis (3)
- EHS 4440 - Environmental Standards (3)
- EHS 4450 - Introduction to Ergonomics (3)
- EHS 4460 - Industrial and Environmental Toxicology (3)
- EHS 4550 - Environmental Pollution and Controls (3)
- EHS 4950 - Environmental Health and Safety Capstone Course Internship (4) (may only be taken with permission of the EHS program director)

Environmental Health and Safety, B.S. completion sequence for Certified Safety Professionals

The School of Health Sciences offers the Certified Safety Professional (CSP) an opportunity to earn a Bachelor of Science in Environmental Health and Safety (EHS) through a CSP to BS EHS completion program. The student outcomes and educational objectives established for the BS EHS program are the same for traditional and CSP students, including course objectives and teaching methodologies.

Students who have satisfactorily completed a regionally accredited associate or baccalaureate degree and who possess a valid, current CSP certification may apply for admission to the CSP to BS EHS degree completion program. A cumulative GPA of C+ or better is required for admission to the CSP to BS EHS degree completion sequence.

Certified safety professionals with a grade below C+ may be admitted to the University under pre-CSP EHS status and change to CSP BS EHS status upon completion of a minimum of 12 credits (applicable to the EHS program) at Oakland University with a grade of C+ or higher.

Certified safety professionals must complete all credits and/or courses required in the BS EHS degree program. Completion may be achieved in the following manner:

1. Graduates from a regionally accredited associate or bachelor degree program

May transfer a maximum of 62 credits from community colleges that apply to the BS EHS degree program requirements. In addition, 22 Environmental Health and Safety credits will be granted through a course competency process. This process includes:

1. Successful completion of the CSP examination
2. Evidence of a valid, current CSP certification
3. Registration for competency credits as per the OU Undergraduate Catalog
4. Registration for approved competency credit courses to include EHS 1000, EHS 2250, EHS 2350, EHS 3300, EHS 3380, EHS 4410, and EHS 4420

2. Students seeking a Bachelor of Science degree with a major in Environmental Health and Safety

Must complete a minimum of 120 credits as outlined in the official Oakland University catalog. The minimum required courses may be satisfied through a combination of credits delivered by Oakland University, transfer credits from regionally accredited institutions of higher education, and CSP competency credits. A minimum of 32 credits must be upper division credits from Oakland University.

Environmental Health and Safety, B.S. completion sequence for MIOSHA Training Institute Certificate holders

The Michigan Occupational Safety and Health Administration (MIOSHA) and Oakland University formed a new alliance establishing the MIOSHA Training Institute (MTI) to Bachelor of Science in Environmental Health and Safety Degree Program. This new program is available to those students who have a valid MTI Level 2 Safety and Health Management Systems (SHMS) certificate. Students who have the aforementioned certificate from MTI are eligible to receive up to 11 credits toward the Bachelor of Science in Environmental Health and Safety at Oakland University.

Students seeking a Bachelor of Science degree with a major in Environmental Health and Safety (EHS) must complete a minimum of 120 credits as outlined above. The minimum required courses may be satisfied through a combination of credits delivered by Oakland University, transfer credits from regionally accredited institutions of higher education, and MTI competency credits. A minimum of 32 credits must be upper division credits from Oakland University.

In order to receive a B.S. in EHS degree, each student must meet all the requirements of the program published in this catalog.

Courses for which are eligible for competency credit through the MTI-OU program are:

- EHS 1000 - Introduction to Environmental Health and Safety (1) or EHS 1150 Environmental Health and Safety at Work (2)
- EHS 2350 - Occupational Safety and Health Standards (3)
- EHS 3300 - Safety and Health Administration and Programs (3)
- EHS 4410 - Accident/Incident Investigation and Analysis (3)

Environmental Health and Safety, B.S. completion agreement for Trinidad State Junior College Associate Degree holders

The School of Health Sciences offers holders of an associate degree in Occupational Safety and Health from Trinidad State Junior College (TSJC) an opportunity to earn a Bachelor of Science in Environmental Health and Safety (EHS) through an articulation agreement. The student outcomes and educational objectives established for the BS EHS program are the same for traditional and TSJC students, including course objectives and teaching methodologies.

Students seeking a Bachelor of Science degree with a major in Environmental Health and Safety (EHS) must complete a minimum of 120 credits as outlined above. The minimum required courses may be satisfied through a combination of credits delivered by Oakland University and up to 70 transfer credits Trinidad State Junior College. A minimum of 32 credits must be upper division credits from Oakland University.

Students who have satisfactorily completed an Associate Degree in Occupational Health and Safety (OSH) at TSJC may apply for admission to the BS EHS degree completion program at Oakland University. These students will have the following benefits:

1. PSY 1000 - Introduction to Psychology will count in Oakland University's Social Science General Education category
2. EHS 1000 - Introduction to Environmental Health and Safety /EHS 1150 - Environmental Health and Safety at Work requirement will be satisfied
3. HS 2000 - Introduction to Health and Health Behaviors will be satisfied

EHS elective credits requirement will be satisfied

Wellness and Health Promotion, B.S.

Grade Point Policy

To graduate with the Wellness and Health Promotion (WHP) major a student must attain a cumulative grade point average of 2.75 in all School of Health Sciences coursework applied to the core curriculum of the major (School of Health Sciences coursework includes courses in EHS, EXS, HS, CDS, and WHP). A student completing a required WHP rubric course with a grade below C+, or whose cumulative grade point average in School of Health Sciences courses falls below 2.75, will automatically be considered to be on probation in the program. A subsequent required WHP rubric course grade below C+ will necessitate repeating the course or a change of major, which is a decision that will be made in the best interest of the student following consultation with the WHP Coordinator. Before repeating any course, students must consult with the WHP Coordinator. For Wellness and Health Promotion majors who want to register as Certified Wellness Practitioners (CWP) with the National Wellness Institute, a cumulative GPA of 2.75 for the overall degree is required.

Requirements for the B.S. degree with a major in Wellness and Health Promotion

Students seeking the Bachelor of Science degree in Wellness and Health Promotion must complete a minimum 120 credits, including the following requirements:

1. Meet the university general education requirements

(See Undergraduate degree requirements). Note that several courses under requirement number three below satisfy general education requirements and Wellness and Health Promotion requirements. See courses marked with "*".

2. Complete the university U.S. diversity requirement.

For majors in Wellness and Health Promotion, this requirement is satisfied by completing WHP 3700 Culture, Ethnicity and Well-being (3) or PH 3000 - Introduction to Public Health (3)

3. Complete the Wellness and Health Promotion core curriculum credits

- EHS 2550 - Basic Statistics for Health Sciences (3) * or STA 2220 Introduction to Statistical Concepts and Reasoning (4) *
- MGT 1100 - Contemporary World Business (4) *(satisfies writing intensive in general education)
- EXS 2700 - Safety and First Aid in Exercise Settings (2)
- HRD 3300 - Instructional Design (4)
- HS 2000 - Introduction to Health and Health Behaviors (3) *
- HS 2150 - Stress Management (3)
- HS 2250 - Research Methods in Health Science (3) or PSY 2500 Research Design in Psychology (4)
- HS 3400 - Contemporary Topics in Health (2)
- HS 4500 - Ethics in Health Care (4) or COM 3300 Multicultural Communication (4) or PS 3215 The Politics of Race and Ethnicity (4) or PS 3730 Global Environmental Governance (4) (satisfies writing intensive in the major)
- NTR 2500 - Human Nutrition and Health (3)
- PSY 1000 - Introduction to Psychology (4) *
- PSY 3450 - Health Psychology (4)
- WHP 2800 - Introduction to Health Literacy (4)
- WHP 3000 - Wellness for Special Populations (4)
- WHP 3500 - Health Program Implementation (4)
- WHP 3600 - Wellness Facilitation (4)
- WHP 3800 - Persuasion and Marketing in Health Promotion (4)
- WHP 4000 - Assessment and Interventions in Wellness (4)
- WHP 4030 - Laboratory in Assessment and Interventions (4)
- WHP 4950 - Internship in Wellness and Health Promotion (4)
- WRT 1060 - Composition II (4) *

Notes

Courses above with * after them also satisfy university general education requirements.

HS 2000 is a pre-requisite for HS 2250, HS 3400, WHP 3500, WHP 3600, WHP 4000, WHP 4030, WHP 4950

4. Complete 21 credit hours of electives

Once students have fulfilled the requirements above, students are required to take 21 credit hours of electives, either from the following recommended courses or students can apply courses taken as part of a minor toward the elective requirements. Recommended courses:

- AHS 3310 - Health Care Safety (4)
- AHS 3320 - Delivering Safe Patient Care (4)
- AHS 3340 - Hospital Safety and Health (4)
- HS 3440 - Introduction to Community Engagement (4)
- HS 3450 - Leadership and Healthcare (4)
- PH 3350 - Principles of Environmental Health Sciences (4)
- WHP 4350 - Environmental Justice (4)
- WHP 4850 - Population Health, Health Policy, and Healthcare Delivery (4)
  or any course not required for the Wellness and Health Promotion degree or used to fulfill general education requirements.

Environmental Health and Safety Minor

A minor in Environmental Health and Safety is available to complement other majors in the School of Health Sciences and in other programs, such as human resource development, engineering, biology or chemistry. A minimum of 26 credit hours is required for a minor in Environmental Health and Safety.

Requirements for the environmental health and safety minor

- EHS 1000 - Introduction to Environmental Health and Safety (1) or EHS 1150 Environmental Health and Safety at Work (2)
- EHS 2250 - Environmental Health and Safety Training Methods (3)
- EHS 2350 - Occupational Safety and Health Standards (3)
- EHS 3300 - Safety and Health Administration and Programs (3)
- EHS 3350 - Fundamentals of Occupational Hygiene (3)
- EHS 3380 - Environmental Health and Safety Engineering and Technology (3)
- EHS 4410 - Accident/Incident Investigation and Analysis (3)
- EHS 4440 - Environmental Standards (3)

Internship

An internship is recommended to enhance job placement. The internship may be taken on a for-credit or not for-credit basis. If taken for credit, the student must register for EHS 4950 - Environmental Health and Safety Capstone Course Internship (4).

Grade point policy

Environmental Health and Safety minors must achieve minimum course grades of C+ in all required EHS courses. If a student earns a final course grade below the minimum, they should meet with their academic adviser and must repeat the course in which the unsatisfactory grade was earned.

Wellness and Health Promotion Minor

A minor of 20 credit hours in Wellness and Health Promotion is available to students majoring in other programs across the University.

The following courses are required for the minor in Wellness and Health Promotion

- WHP 2800 - Introduction to Health Literacy (4)
- WHP 3500 - Health Program Implementation (4)
- WHP 3800 - Persuasion and Marketing in Health Promotion (4)
- WHP 4000 - Assessment and Interventions in Wellness (4)
- WHP 4030 - Laboratory in Assessment and Interventions (4)

Note:

HS 2000 is a prerequisite for WHP 3500, WHP 4000 and WHP 4030.

School of Business Administration

427 Elliott Hall

(248) 370-2957

Fax: (248) 370-4974

Dean: Michael A. Mazzeo

Associate Dean: Nivedita Mukherji

Office of the Dean: Roberta Badgley, assistant dean; Kristen Cometto, director of development

Department chairs: Rajeev Singhal , accounting and finance; Vijayan Sugumaran, decision and information sciences; Ronald Tracy, economics; Janell Townsend, management and marketing

Distinguished professor emeritus: Karl D. Gregory

Professors emeriti: Elefterios Botsas, Daniel N. Braunstein, Gadis J. Dillon, David Doane, Ronald Horwitz, Sid Mittra, John Tower

Professors: Lizabeth A. Barclay, Joseph H. Callaghan, Addington Coppin, Mohammad Dadashzadeh, John W. Henke, Oded Izraeli, John Kim, Thomas W. Lauer, Paul Licker, Cynthia Miree-Coppin, J. Austin Murphy, Kevin J. Murphy, Robert Nehmer, Ravi Parameswaran, Mohinder Parkash, Anandi P. Sahu, Howard Schwartz, Jonathan Silberman, Mark Simon, Rajeev Singhal, Miron Stano, Vijayan Sugumaran, Mohan Tanniru, Janell Townsend, Kenneth M. York

Associate professors: Henry Aigbedo, Ronadeb Chaudhuri, Seong-Yeon Cho, Xiaodong Deng, Eugene B. Fliedner, Liang Fu, Mark W. Isken, Joy Ruihua Jiang, Jae Kang, Karl Majeske, Kieran Mathieson, Nivedita Mukherji, Ram Orzach, R. Mohan Pisharodi, Hong Qian, James Serocki, Steve Stanton, Jennifer Thor, Kasaundra Tomlin, Ronald L. Tracy, T.J. Wharton, Sha Zhao, Ellen Zhu, Xie Zhu

Assistant professors: Venugopal Balijepally, Caitlin Demsky, Michael Greiner, Brandon Gustafon, Michelle Hammond, Jaemin Kim, Yan Lin, Yazon Roumani, Greg Thrasher, Yin Yu

Special instructors: Donna Free, Roz Nowosielski, Amy Rutledge Kathryn Schaefer, Robert Uptegraff

Graduate Program Adviser: Paul Trumbull

Professional and Community Education: Eugene Fliedner, PMP Director

Undergraduate Program Advisers: Meaghan Cole, Experiential Programs Manager; Destin Eddington, academic adviser; Steve Farver, academic adviser; Denica Holzworth, academic adviser and events coordinator, Jaclyn Keith, academic adviser; Tiffany LeDonne-Smith, academic adviser; Debbie Lengyel, director of advising services; Adam McChesney, senior academic adviser

ACHIEVE Program: Sherri Kerby, Education Program Manager; Andrea Mill, internship coordinator; Jaclyn Fortier, internship coordinator; Laurie Lawless, Office Assistant

Career Services: Ian Caulley, director of employer relations; Emily Cutlip, career consultant

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 alumni and corporate and professional leaders. Board members assist the dean with supporting its mission in the external community as well as provide consultation on goals and objectives.

The Board members are:

Craig Stinson, Executive Advisor - Wind Point Partners

George Corona, President and Chief Executive Officer - Kelly Services, Retired

Brian Edgar, Senior Vice President - UBS Investment Banking

R. Hugh Elliott, President and CEO - Elliott Group International

Kevin Gleeson, Attorney - Sullivan, Ward, Asher & Patton, PC

Raymond Gunn, - Chief Executive Officer - Blake Farms

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Robert Manilla, Vice President and Chief Investment Officer - The Kresge Foundation

Mission

The mission of Oakland University's School of Business Administration is to be a preeminent metropolitan school that provides a distinctive education with experiential learning and global understanding in order to create successful business professionals and leaders. To foster an environment for impactful research and active community engagement.

General Information

The School of Business Administration (SBA) undergraduate programs enable students to combine the intensive study of a functional area of business (i.e., accounting, actuarial science, finance, human resources management, management information systems, marketing or operations management) or business economics with a broad background in management. Alternatively, students can focus on economics, the fundamental discipline behind business processes. In these programs, a strong foundation in liberal arts is combined with a rigorous education in written and oral communications and in problem definition, analysis and resolution. This combination produces graduates who can think analytically, communicate effectively and work cooperatively with others of similar or diverse backgrounds in both domestic and international environments. Graduates of these programs are prepared to handle the increasingly complex and changing problems faced by managers in profit-oriented enterprises and not for-profit organizations, both public and private.

The programs include:

1. Bachelor of Science with majors in accounting, actuarial science, business economics, economics, finance, general management, human resources management, management information systems, and marketing and operations management;
2. Bachelor of Arts with a major in economics (offered in conjunction with the College of Arts and Sciences (see the Department of Economics section in the Arts and Sciences portion of the catalog for a description of this program);
3. Bachelor of Science with a major in actuarial science (offered in conjunction with the College of Arts and Sciences (see the Department of Economics and the Department of Mathematics and Statistics section in the Arts and Sciences portion of the catalog for a description of this program);

4. Minors in accounting, business, business analytics, economics, entrepreneurship, finance, human resources management, information security management, international management, management information systems, marketing, and operations management.

High school students who intend to pursue a major offered by the SBA should consult the Admissions section of the catalog for specific preparation requirements. Students transferring from other institutions, both international and domestic, may be requested to provide documentation of the content and scope of the courses they have taken at their previous institutions.

The SBA offers a Master of Business Administration (MBA) degree for 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, decisionmaking and leadership in any type of organization. MBA students may elect concentrations in accounting, business economics, entrepreneurship, finance, human resources management, international business, management information systems, marketing, operations management, or supply chain management. 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. Students interested in pursuing this degree should contact the Office of Graduate Business Programs, 238 Elliott Hall, (248) 370-3287 for more information.

The SBA offers a Master of Accounting degree that prepares graduates for a variety of professional accounting positions in public accounting, corporations and other organizations. It provides appropriate technical accounting coursework and results in the 150 credits required to become a Certified Public Accountant. Interested students should see the section on the Requirements for the accounting major for more information and contact the Office of Graduate Business Programs, 238 Elliott Hall, (248) 370-3287 for detailed information on admissibility into the program.

The SBA offers a Master of Science in Information Technology Management (MSITM) degree. The goal of the program is to provide a strong technical and managerial background to those who are interested in using information technology for competitive advantage. It is intended to provide business professionals with the knowledge they need to manage information technology effectively in support of their decisionmaking. It is also intended to provide information systems professionals with knowledge of the latest technologies and their use in application development. Students interested in pursuing this degree should contact the Office of Graduate Business Programs, 238 Elliott Hall, (248) 370-3287 for more information.

The SBA offers the Executive MBA (EMBA) and is designed for professionals who are already engaged in successful careers and want to build a strong business foundation while enhancing their leadership and management skills. The program offers the schedule flexibility required for a full-time executive. Students interested in pursuing this degree should contact the Office of Graduate Business Program, 238 Elliott Hall, (248) 370-3287 for more information.

Oakland University undergraduates working on majors other than those in business administration may complete their prerequisites and some core courses for the MBA program while completing their undergraduate degree. For detailed information contact the Office of Graduate Business Programs.

The SBA is accredited, on both the undergraduate and the graduate levels, by AACSB International (The Association to Advance Collegiate Schools of Business), the premier business school accreditation agency. In addition, the accounting program has achieved the separate AACSB accounting accreditation.

For more information on the SBA undergraduate programs, the MBA, the Master of Accounting program, the Master of Science in Information Technology Management program, accreditation, SBA courses and SBA faculty, visit the School's website.

Degree Requirements

The curriculum described shall be followed by students entering the School of Business Administration beginning in the fall 2020 semester. Students enrolled prior to fall 2020 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 or undecided business in the SBA (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 SBA 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. As described below, students may choose to meet the general education requirements of a different catalog.

To ensure they have met all requirements, students should seek a final program audit from one of the school's academic advisers no later than the semester before the semester in which they plan to graduate. The responsibility for meeting graduation requirements rests with the student.

The business administration programs consist of the following parts: general education (including U.S. diversity and writing foundations), the pre-core, core, major and free electives (if needed to reach 124 credits). Students in these programs must satisfy the specific requirements of each of these parts and must earn a minimum of 124 credits. (See Bachelor of Science with a major in economics for the specific requirements of that degree program.)
Each student must:

1. complete at least 124 credits, including any free electives needed to reach this total;
2. complete the university general education requirement as detailed in the general education section below, also under Undergraduate degree requirements;
3. complete the pre-core requirements as listed below and be admitted to major standing in business administration as detailed in the Admission to major standing in business administration section below;
4. complete the core program and the requirements of one of the business majors in the SBA with a minimum grade of C in each of the pre-core, core and major courses. Once admitted to the business program as a pre-business or undecided business student or major, a student must complete all of the remaining business core, major and business minor coursework for the degree at Oakland University;
5. complete at least 32 credits at the 3000 level or above;
6. complete at least 32 credits at Oakland University, of which at least 31 credits must be in courses offered by the School of Business Administration, excluding ECN 1500, ECN 2000 or ECN 2020, ECN 2010, ECN 2100 and QMM 2400 and QMM 2410. Of these 31 credits, at least 12 credits must be in the student's major;
7. earn a cumulative grade-point average of at least 2.00 in courses taken at Oakland University and in courses taken in the SBA.

Academic Advising, Mentoring and Major Standing

Students who have questions about schedule planning, degree requirements, admission to the SBA, major standing, transfer credit, petitions of exception or graduation audits should meet with the school's assigned advisers. Academic advising can be found in 232 Elliott Hall, (248) 370-3285. To avoid delays, students are encouraged to meet with their assigned adviser prior to early registration periods. Once major standing has been achieved (see Admission to major standing in Business Administration), students are encouraged to consult with faculty within their major area to discuss schedule planning within the major, career tracking and other issues relevant to making academic decisions that will enhance opportunities for success within a chosen career field.

The school offers advising and mentoring to students who plan to pursue one of its degree programs. Faculty members are available to provide support, curricular guidance and career information as students make the transition from high school or a previous college to Oakland University's business administration or economics programs. Incoming freshmen and transfer students are encouraged to seek information from these experienced faculty members.

The ACHIEVE Program

The goal of the ACHIEVE Program is to help students in the School of Business (SBA) make the transition from high school graduates to "day one professional workers" in their chosen field of study. The SBA accomplishes this goal by integrating professional and career development into its undergraduate curriculum. Business students participate in mandatory prescribed activities that enhance their career and professional skills. This professional development series is structured so that students learn about different business careers and the leadership and professional skills they will need to land a job and succeed in their chosen profession.

Requirements for Business Administration Majors

General education requirement

Students in the School of Business Administration must satisfy the General Education Requirements. Students may use one catalog for the general education requirements and another for the specific degree requirements. Students enrolled prior to fall 2020 may choose to satisfy either the general education requirements listed in this catalog or those in the catalog of the academic year in which they were initially admitted to Oakland University (or any catalog during the interim), provided that catalog is not more than six years old at the time of graduation. The general education requirements may be summarized as one course from the approved lists in each of the following categories:

- Writing: This category includes:
    a. WRT 1060 and its prerequisites;
    b. an intensive writing course in other general education requirements. This category is normally covered for business majors by WRT 3082 - Business Writing or ECN 3260; and
    c. an intensive writing course in the major. This category is normally covered for business majors by MGT 4350 - Management Strategies and Policies, STA 4002, or ECN 4050.

- Formal Reasoning: This category is normally covered for SBA majors by the required MTH 1221 or MTH 1222 or MTH 1554.
- Knowledge Explorations: The social science requirement in this category is normally covered for SBA majors by (ECN 2000 or ECN 2020) or ECN 2010. The global perspective requirement in this category is normally covered for SBA majors by ECN 2020 or ECN 3260. The rest of this category is covered by one course each in the arts, foreign language and culture, literature, natural science and technology, and Western civilization.
- Knowledge Application: This category is normally covered for business majors by QMM 2400 or QMM 2410.
- Capstone course: This category is normally covered for business majors by MGT 4350, ECN 4500, or ACS 4550.
- U.S. diversity: Select a course that meets one of the other knowledge exploration general education requirements and has the required diversity section.

SBA students are encouraged to increase their background in ethics by taking PHL 1300 - Introduction to Ethics, to satisfy the university's Western Civilization general education knowledge exploration requirement.

Pre-core requirements

As preparation for the various majors of the business administration program, students must complete the following courses in writing, speech communication, mathematics, business modeling with computers, economics, accounting and statistics with minimum grade of C in each course. Students who have taken ECN 2000 under a previous catalog will be able to count this course toward the ECN 2020 requirement.

The required writing and pre-core courses are:

WRT 1060 - Composition II (or complete the writing requirement in another manner)	0-4
COM 2000 - Public Speaking	4
or COM 2403 - Group Dynamics and Communication or COM 3401 - Communication in Organizations or COM 3402 - Communication in Leadership or COM 3403 - Interpersonal Conflict	4
MTH 1221 - Linear Programming Elementary Functions	4
and *MTH 1222 - Calculus for the Social Sciences	4
or ** MTH 1441 - Precalculus	4
and ***MTH 1554 - Calculus I	4
MIS 1000 - Business Problem Solving with Information Technology	3
ECN 2020 - Principles of Global Macroeconomics or ECN 2000 - Principles of Macroeconomics	4
and ECN 2010 - Principles of Microeconomics	4

ACC 2000 - Introductory Financial Accounting	4
ACC 2100 - Managerial and Cost Accounting I	4
QMM 2400 - Statistical Methods for Business I or (****STA 2220 or STA 2226)	3
QMM 2410 - Statistical Methods for Business II	3
TOTAL	35-41

In addition, students admitted to the SBA as pre-business or undecided business majors are required to meet the 0 credit ACHIEVE courses required for major standing (SBC 1990, SBC 2990).

*If a student places into and completes MTH 1222 or MTH 1554 with the required minimum grade, MTH 1221 or MTH 1441 is not required (students who meet this criterion under a previous catalog will be able to waive MTH 1221 or MTH 1441).

*If a student receives transfer credit for MTH 1222 or MTH 1554, MTH 1221 or MTH 1441 is not required (students who meet this criterion under a previous catalog will be able to waive MTH 1221 or MTH 1441).

** MTH 1331 and MTH 1332 can substitute for MTH 1441. Students who have taken MTH 1331 and MTH 1332 under a previous catalog may use these courses as substitute for MTH 1441. Even though the math department will allow MTH 1331 to serve as the prerequisite for MTH 1222, this does not satisfy the SBA prerequisite requirement for MTH 1221 or MTH 1441.

***If a student does not place into MTH 1222 or MTH 1554, MTH 1221 and MTH 1222 or MTH 1441 and MTH 1554 or MTH 1441 and MTH 1222 must be completed with the required minimum grade.

****Students who have taken STA 2220 or STA 2226 under a previous catalog may also use these courses as a substitute for QMM 2400.

The freshman and sophomore years of study for students pursuing the business administration program will be devoted to the writing, general education and pre-core course requirements. Special emphasis should be given during the freshman year to the completion of the university writing requirement and steady progress in the mathematics sequence. Once sophomore status has been achieved (28 credits), students will begin work on the accounting and statistics requirements. The student's specific mathematics and statistics sequence will depend on the student's math placement results but can include MTH 0661, MTH 0662, MTH 1221, MTH 1222, QMM 2400 and QMM 2410). Steady progress in the mathematics and statistics sequence is defined as one course in the sequence in each fall and winter semester until the sequence is completed.

Admission to Major Standing in Business Administration

Students are strongly recommended to apply for major standing during the semester they are completing their pre-core classes and have the minimum grade-point average. Major Standing is required to complete MGT 4350, may be required for some 3000 and 4000 level courses within a student's major, and in order to be awarded an undergraduate business degree. Applications are

available on line and can be filed with the Undergraduate Advising Office, 232 Elliott Hall.

Students who do not apply for major standing during the semester that they are completing the pre-core requirements run a high risk of registration and major completion difficulties. To be eligible to take 3000 and 4000 level business courses for which major standing is a pre-requisite, business majors must be admitted to major standing in the School of Business Administration. 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 requirement;
3. A minimum grade-point average of 2.6 in all courses taken at Oakland University (with a minimum of six credits completed at Oakland University);
4. A minimum grade of C in each of the following pre-core courses or their equivalents: ACC 2000, ACC 2100; COM 2000 or COM 2403 or COM 3401 or COM 3402 or COM 3403,((ECN 2010 and (ECN 2000 or ECN 2020)*; MIS 1000; (MTH 0661, MTH 0662 if required by the math placement); MTH 1221, MTH 1222; QMM 2400 and QMM 2410;
    *Students cannot receive credit for both ECN 2100 and (ECN 2000 or ECN 2020) or ECN 2010.
5. Submission of an "Application for Major Standing" for the desired major;
6. Completion of SBC 1990 and SBC 2990 for all SBA students admitted to Oakland University after 2008-2009 for First Time in Any College (FTIAC) students and after 2009-2010 for transfer students. Students who entered under a previous catalog should follow these requirements.

A student is classified as pre-business upon admission to Oakland University if they have a cumulative GPA of 2.80 or above and four years of college preparatory math. Transfer students are classified as pre-business if they have a cumulative transfer GPA of 2.80 or above and math through intermediate algebra. All other students are classified as undecided business and these students cannot register for most 3000- and 4000-level courses until they obtain pre-business or major standing status within the SBA. Undecided business students may register for all SBA pre-core courses and general education requirements.

To maintain pre-business status before obtaining major standing within the SBA, an OU student must maintain a cumulative GPA set by the SBA. Any pre-business student (SBA students not yet having major standing) who does not maintain an OU cumulative GPA (as set by the SBA) at the end of any term is classified as an undecided business student. During the 2020-2021 academic year, the GPA set by the SBA for pre-business status is 2.6.

Core Program

Each of the business major programs require the completion of a common core of courses introducing students to the functional areas of business. Most of the 3000-4000 level business courses in the core program (i.e., MKT 3020, ORG 3300, MIS 3000, POM 3430, FIN 3220, ORG 3310, and MGT 3500) require a student to be coded as pre-business or be in major standing (see Admission to Major Standing in Business Administration for requirements to be coded as pre-business). All core courses require a minimum grade of C.

Credits

WRT 3082 - Business Writing (or ENG 3110)*	4
MKT 3020 - Marketing	3
ORG 3300 - Introduction to Organizational Behavior	3
MIS 3000 - Management Information Systems	3
ECN 3030 - Managerial Economics	3
POM 3430 - Operations Management	3
FIN 3220 - Managerial Finance I	3
ORG 3310 - Introduction to the Management of Human Resources	3
MGT 3500 - Legal Environment of Business	3
**MGT 4350 - Management Strategies and Policies	3
TOTAL	31

 *Students who have taken this course under a previous catalog will be able to use this course to satisfy WRT 3082.

**MGT 4350 requires major standing and only business majors may take this course.

Major Programs

Students take 15-24 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. Certificates of additional majors are permitted in all areas except general management. No more than four credits of independent study (4996) courses may be used to meet the major elective requirement. Courses numbered 3800 and 4900 may be repeated for up to eight credits provided the topics are different. Students will be required to complete ACC 3990 or ECN 3990 or FIN 3990 or MGT 3990 or MIS 3990 or MKT 3990 or ORG 3990 or POM 3990 as part of their major program. (These courses require major standing.) All major courses require a 2.6 GPA or better or major standing to take these courses (excludes Economics and non-SBA major courses).

Free Electives

Students complete their program by taking a course or courses of their choice to yield a total of 124 credits. While the General Education Requirements of the degree program provides students with the range of knowledge that is the essence of an educated person, the free elective portion of the program allows students to make choices concerning coursework that responds to their individual interests and/or needs.

Business Honors Direct Admit Program (BHP)

The SBA offers a Business Honors Direct Admit Program (BHP) for high-achieving high school and transfer students. Students begin taking honors classes their first year at Oakland University. The program is cohort-based, offering students a close-knit community inside the business school. Each cohort takes customized classes in special sections open only to them and students engage in a host of unique experiences. The program includes 16 honors courses that fulfill the business pre-core and core requirements for all business majors. A Freshman Seminar and a Senior Experience course replace two required ACHIEVE courses. Students in the program are required to complete at least one Experiential Learning activity and one international experience approved by the program. The benefits of the BHP include: immersion in a highly interactive and stimulating program; access to enhanced student support services; international experience; opportunity to build strong leadership skills through required experiential learning activities; opportunity to represent Oakland in national and international competitions; and a chance to form a strong network with peers and members of the professional community. Admission to Oakland's Business Honors Direct Admit Program is limited to exceptional students who are chosen on a competitive basis. Prospective students must apply by completing a separate application. Students interested in pursuing this program should contact the Business School Undergraduate Advising office, 232 Elliott Hall, Room, (248) 370-3285 for more information.

Minors

The School of Business Administration offers 11 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.

Business majors may earn any of the following minors, except in the area in which they are majoring, and the business minor. Once admitted to the business program as a pre-business or undecided business student or as a major, business majors must take all the remaining courses in their minors at Oakland University.

To earn any of these minors (except business), and to take 3000- and 4000-level business classes, non-business students must meet with the minor coordinator and have an approved minor authorization form detailing the courses and the prerequisites required for the given minor. Once approved for the minor, students must take all the remaining courses in the minor at Oakland University. Students must complete the prescribed courses for the minor with a grade of C or better in each course and the prerequisites for each course. Transfer students planning to earn a minor must earn at least nine credits toward the minor at Oakland University; at least six of these nine credits must be in courses at the 3000 level or above.

Limit for non-business majors to less than 25 percent of credits in business: All students who are not majors in the SBA and economics majors in either the SBA 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 the total degree credits in business courses. (Students majoring in business economics are not subject to this limitation.) The maximum of 25 percent of total degree credits (usually 32 credits) includes business courses taken at Oakland University and all previous colleges. Economics (ECN) courses, QMM 2400, QMM 2410, QMM 4400 and QMM 4520 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, ENT, FIN, MGT, MIS, MKT, ORG, POM or QMM courses (excluding those noted above). All student minors are subject to the 25 percent of total degree credits maximum discussed above.

Policies and Procedures

High school admissions

For entering freshmen, admission to pre-business is restricted to those presenting a minimum 2.80 cumulative grade-point average in high school academic courses and at least four years of college preparatory mathematics courses.

Transfer policy

Transfer students must have at least a 2.80 cumulative grade-point average and mathematics through intermediate algebra (equal to MTH 0662) for admission to pre-business. Evaluation of transfer courses is a two-part process. General education and composition courses are evaluated by the Academic Records Office. Business courses, including any required computer science courses, are evaluated by the School of Business Administration. Credit for specific SBA courses is authorized for courses of similar content taken prior to attending Oakland University at other colleges and universities accredited by a regional accrediting agency. Students transferring from other institutions may be required to submit course descriptions and related materials to aid in these transfer evaluations. Once admitted to the business program as a pre-business or undecided business student or a business major, students must complete all the remaining core, major and business minor coursework for the degree at Oakland University unless the coursework is part of an approved study abroad/away program or approved articulation agreement. Students who have transfer courses that are more than seven years old may be required to retake the course at Oakland University. All transfer courses from another institution need to be a minimum of three credits for the SBA to evaluate them for transfer credit for pre-core, core, and major courses and must have a minimum grade of C to meet the requirement. See Transfer student information for additional information.

Second majors

Students who return to the SBA to complete a second major after graduating with a business major from OU must complete all courses remaining for that second major at Oakland University. Additionally, students must fulfill the stated major requirements in effect at the time they are admitted as a second major.

Second degrees

Students who currently hold a bachelor's degree from a regionally accredited institution, including Oakland University, may pursue a second undergraduate degree at Oakland University in the School of Business Administration with the exclusion of those applicants holding a bachelor's of science degree in Business Administration from Oakland University with a major in General Management.

Second degree students from regionally accredited institutions are exempt from Oakland University's general education requirements, including the undergraduate requirement for the writing foundations course at the level of WRT 1060 . Credits applied toward the first degree will be accepted as transfer credit toward the second degree. At least 32 additional credits must be taken at Oakland University, of which 31 credits must be in courses offered by the School of Business Administration, excluding ECN 1500, ECN 2000, ECN 2010 and QMM 2400 and QMM 2410. Of these 31 credits, at least 12 credits must be in the student's major. Second degree students are exempt from ACHIEVE-SBC 1990 and SBC 2990, however, they are encouraged to take these non-credit courses as part of their program.

Students considering admission for a second degree are advised and highly encouraged to investigate opportunities in the Graduate Business Programs such as a Master of Business Administration, Master of

Accounting programs or Master of Science in Information Technology Management prior to meeting with an Undergraduate Adviser.

Repeats

Repeats of a course: a student can repeat, either at Oakland University or at another approved institution, any business pre-core or core course in which a C grade or better is required. The student is limited to the university maximum of three attempts for any one course requirement, including attempts at Oakland and for the equivalent course at another institution, and must have a petition of exception approved for a fourth attempt. Students must get prior approval from an SBA Adviser in order to repeat a course at another institution. If a student repeats a course at another institution, the original grade attained in the course at OU will be included in the student's GPA. See "Repeating courses" in the Academic Policies and Procedures section of the catalog for more specific information on university rules governing course repeats.

Unsatisfactory performance

Unsatisfactory performance includes the following items:

Grades: Grades less than C and U grades are considered substandard. A course in which a grade below C has been earned may not be subsequently passed by competency examination or independent study.

Mathematics and Statistics Sequence: The SBA major is expected to take a math or statistics course each fall and winter semester until the student has completed QMM 2410 with a minimum grade of C. Failure to take a course in the mathematics and statistics sequence (MTH 0661, MTH 0662, MTH 1221, MTH 1222, QMM 2400 and QMM 2410 depending on the student's math placement) each fall and winter term or its equivalent will be considered to be unsatisfactory performance and the student may be removed from the SBA business program.

Mandatory Advising: Undecided business students whose cumulative GPA is between a 2.0 and 2.59 will be required to meet with an academic adviser in the SBA following the semester when their cumulative GPA drops below the required 2.6 and every semester thereafter until their cumulative GPA returns to at least a 2.6. First semester transfer students are also required to meet with an academic adviser each semester. In some cases, a registration hold will be placed on a student's account until they complete the requirements of Mandatory advising

Grade appeals

If a student wishes to dispute a final grade in a course, he or she must submit a written appeal to the appropriate department chair no later than the following deadlines: 1. If the course was taken in winter or summer terms, the written grade appeal must be submitted no later than the end of the subsequent fall semester. 2. If the course was taken in the fall semester, the written grade appeal must be submitted no later than the end of the subsequent winter semester.

Prerequisites

In planning their schedules, students should ensure that they satisfy prerequisite and co-requisite conditions for courses. The prerequisites for SBA programs and courses will be strictly enforced. Students approved to fulfill prerequisites at another institution will need to solicit registration assistance from the Undergraduate Advising Office, 232 Elliott Hall, 248-370-3285. Students who have registered for courses for which they do not meet the prerequisites and other conditions may be administratively dropped from courses or have their registration cancelled.

Independent study

The purpose of an Independent Study is to provide highly motivated students the opportunity to construct a unique educational experience that goes beyond the courses contained in the existing course catalog. The basic rules for Independent Study are:

1. Student must have at least a 3.00 cumulative overall GPA.
2. Students must have achieved major standing.
3. Independent Study cannot be used in lieu of a required course.
4. It is the student's responsibility to develop an appropriate area of Independent Study and to arrange for a full-time faculty member to direct the Independent Study.
5. Part-time SBA faculty members cannot supervise an Independent Study.
6. The Independent Study contract must be completed by the student and signed by the faculty-adviser, department chair and the Director of Advising Services prior to registering for the course.
7. It is expected that the student will perform an amount of work equivalent to a regular course with the same amount of credits and that a substantive tangible output (exam, written paper, computer program, etc.) will be developed.
8. Interdisciplinary cooperation is permitted and a non-SBA faculty member may co-supervise the Independent Study. An SBA faculty member must be a supervisor and is responsible for assigning a final grade.
9. The student must be made aware of the basis for grading prior to registering for an Independent Study.
10. Undergraduate students cannot register for Independent Study if they already have or are taking more than eight cumulative credits of Independent Study unless an exception is agreed to by the SBA's Committee on Exceptions.

Assurance of learning

To assist in the continuous improvement of its programs, the SBA engages in two different Assurance of Learning processes. The first type of Assurance of Learning is within each business major. This process involves evaluating student performance in a variety of discipline specific objectives. The evaluation is carried out each semester in different courses required for the major.

In evaluating the entire undergraduate business program, student assignments in core or pre-core courses are scored on whether each student exceeds, meets, or does not meet the SBA's expectations for a specific learning objective. This process occurs in different core and pre-core courses every semester. Although this score is not used in calculating a student's course grade, the assignment also receives a traditional grade from the instructor just as does other course assignments. The Learning Goals for the undergraduate business program and their corresponding Learning Objectives are:

Learning Goal 1: Critical Thinking (ECN 3030, FIN 3220, POM 3430)
Learning Objectives:

1. Identify the assumptions needed to analyze the assigned case or problem.
2. Identify the relevant and irrelevant data or information presented in the case or problem.
3. Identify the different questions or approaches that could be considered in order to answer the problem or case.

4. Derive or describe the solution to the problem or case.

Learning Goal 2: Global Business Environment (ECN 2020, MKT 3020)
Learning Objectives:

1. Show awareness of a global issue relevant to business or the economy.
2. Demonstrate understanding of factors and/or forces associated with this issue.
3. Explain the impact of this issue on the business environment.

Learning Goal 3: Information Technology and Management (MIS 1000, MIS 3000)
IT Learning Objectives:

1. Create a professional document using a word processor.
2. Conduct research using the Internet.
3. Create an effective presentation using a presentation package.
4. Collect and analyze data using a spreadsheet.
5. Use a database software.

IM Learning Objectives:

1. Identify alignment/misalignment of identified information (IS strategy) with organizational goals/objectives (organizational strategy).
2. Identify types of systems appropriate to the decisionmaking level within the organization.
3. Organize information properly for efficient storage and retrieval.
4. Identify the issues involved in creating information for decisionmaking from data sources.
5. Identify the use of IS to support decisionmaking in functional areas.

Learning Goal 4: Communications Skills (MGT 3500, MGT 4350, QMM 2410)
Written Communication Learning Objectives:

1. Be able to articulate main concept(s) in writing.
2. Be able to write logically.
3. Be able to write clearly and concisely.
4. Be able to write using correct grammar and spelling.

Oral Communication Learning Objectives:

1. Be able to articulate main concept(s) orally.
2. Be able to speak coherently.
3. Be able to keep audience's attention.
4. Be able to use time effectively.

Learning Goal 5: Real World Business Applications (MGT 4350, ORG 3310)
Learning Objectives:

1. Identify the underlying issue(s) for the given business situation or case.
2. Identify the appropriate theory (ies) or theoretical construct(s) that apply to the given business situation or case.
3. Apply theory (ies) or theoretical construct(s) to the given business situation or case to generate alternatives.

Learning Goal 6: Ethics (MGT 3500)
Learning Objectives:

1. Recognize basic concepts related to business ethics.

2. Apply an ethical decisionmaking process to an ethical dilemma presented to them.

Learning Goal 7: Foundation in Business Disciplines (MGT 4350)
Learning Objective:

1. Understand key concepts in business disciplines of accounting, economics, finance, management, marketing and operations management.

Policy regarding non-business majors

All students who are not business majors in the School of Business Administration, whether they have applied for a minor or not, are limited to no more than 25 percent of their total degree credits required for their degree in business courses (usually 32 credits). The maximum of 25 percent of total degree credits includes courses taken at Oakland University and all previous colleges. Economics (ECN) courses and QMM 2400, QMM 2410, QMM 4400 and QMM 4520 are excluded from this requirement. Therefore, students from majors outside the business administration program, including economics majors in either the School of Business Administration or the College of Arts and Sciences, may not earn more than 25 percent of their required total degree credits in transfer plus Oakland credits in ACC, FIN, MGT, MIS, MKT, ORG, POM or QMM courses (excluding those noted above). Economics majors and students from other majors at Oakland University may take 1000-and-2000 level SBA courses as long as they have all the prerequisite courses with the required grades. Economics majors and students from non- business majors at Oakland University must have an approved university concentration/minor authorization form to take 3000-and-4000 level SBA courses which have the prerequisite of major standing.

Additional Information

Gaining Career Related Experience

Career Services assists students seeking noncredit paid work experience related to their major that will enhance their classroom learning, increase their motivation to graduate, augment their career knowledge, and improve their job seeking skills and employability. Opportunities are available for career related jobs, internships (corporate and grant-funded), and cooperative education. Students in the School of Business Administration who want to combine relevant work experience with their education are encouraged to participate in such programs. Students are coached and empowered to find jobs in business, non-profit or governmental organizations similar to those held by recent Oakland University graduates. All students are encouraged to explore these programs and other job/career-related information using Handshake and by contacting the SBA Career Services office at 232 Elliott Hall, 248-370-4192.

First-time visitors to Career Services are encouraged to contact the central office at 154 North Foundation Hall, 248-370-3250. The central office also welcomes drop-in appointments for any students of the university. Please visit the website for information on the central office, including the drop-in schedule, signature events and more.

Honors, awards and scholarships

School honors are awarded by the SBA to graduating students who have completed a minimum of 32 credits in SBA courses with a minimum GPA of 3.33 in courses offered in the school. 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:

American Marketing Award: The Detroit chapter of the American Marketing Association awards certificates of achievement for scholarship and service to marketing majors.

Beta Gamma Sigma: Beta Gamma Sigma is the national honor society for business schools accredited by AACSB International (The Association to Advance Collegiate Schools of Business). 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 five percent of their class.

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 SBA.

Omicron Delta Epsilon: Omicron Delta Epsilon is a national honor society for promising economics students. Selection for membership is made by the economics faculty.

School of Business Administration Awards / Scholarships

Accounting and Finance Advisory Board Endowed Accounting Scholarship: This $1,000 scholarship (applied to OU tuition) is awarded annually to an undergraduate accounting major who exhibits a strong interest in pursuing a career in accounting and demonstrates leadership. The scholarship winner is selected by the AFAB scholarship committee.

Accounting and Finance Advisory Board Endowed Finance Scholarship: This $1,000 scholarship (applied to OU tuition) is awarded annually to an undergraduate finance major who exhibits a strong interest in pursuing a career in finance and demonstrates leadership. The scholarship winner is selected by the AFAB scholarship committee.

Anonymous Endowed Accounting Scholarship: This $2,000 scholarship is for undergraduate or graduate accounting students with established records of exceptional scholarship in accounting. Preference will be given to students who are actively involved in student organizations.

Babi Family First Generation Accounting and Finance Scholarship: This $1,000 scholarship is awarded to a first-generation undergraduate level student majoring in accounting or finance in good academic standing. Qualified students must have achieved a 2.5 to 3.2 grade point average, and must demonstrate financial need. Applicants are required to submit a 300 word max essay detailing the significance of being a first generation student.

Becky Kann Memorial Accounting Scholarship: Two $2,000 scholarships are awarded to first generation college students. Students must submit a paragraph about their experience as a first-generation college student, and must demonstrate a combination of academic performance, extracurricular activities and financial need. One award is available for an undergraduate who has shown strong interest in pursuing an accounting major, with a minimum 3.4 overall GPA. The second award is for an undergraduate with

major standing in accounting who is currently enrolled in at least one accounting major course at Oakland University with a minimum 3.2 overall GPA.

Benedettini-Pearson Endowed Scholarship: This $2,500 scholarship is awarded to a freshman undergraduate student who has selected business or economics as their preferred program of study on their admissions application, has graduated from a public high school located in Detroit, Flint, Oak Park or Pontiac, and has demonstrated financial need.

Brian Meer Scholarship: Two $2,000 scholarships are awarded to undergraduate students with major standing in the School of Business Administration. Candidates must have a 2.8 or higher GPA and submit a one-page essay describing how receipt of an award will assist them, either directly or indirectly, in successfully completing their studies and obtaining the undergraduate degree.

Bud Kulezsa Family Endowed Scholarship: This $1,250 scholarship (applied to OU tuition) is awarded to an undergraduate with a declared major in accounting. The student must have completed at least two accounting courses beyond ACC 2100 at Oakland University, and must have at least a 3.0 overall GPA in accounting courses beyond ACC 2100. The student must attend the annual accounting banquet.

Catherine Tyler Memorial International Endowment Award: This award is for undergraduate students in good standing with a declared major in the SBA or graduate students in the SBA in good standing and may be used for participation in a University approved study abroad or international internship program.

Chiu Family SBA Education Endowed Scholarship: This $1,250 scholarship (applied to OU tuition) is awarded to an undergraduate student in the School of Business Administration with an earned grade point average of 2.7 to 3.2. The student must have earned at least 80 university credit hours.

Crestmark Bank Scholarship: Two $10,000 scholarships are awarded to assist students with financial need who are pursuing a career in business administration. Applicants must be enrolled full-time in the SBA, have junior or senior standing, and must have applied for financial aid.

Deloitte Scholarship: This $1,500 scholarship (applied to OU tuition) is given to an undergraduate accounting or finance major who has exhibited an outstanding combination of academic performance and extracurricular activities.

Derderian Kann Seyferth & Salucci Scholarship: This $1,000 scholarship (applied to OU tuition) is open to self-supporting undergraduate accounting majors with a minimum GPA of 3.0.

Diane and Michael Grieves Endowed Diversity Scholarship: This scholarship ($3,500-$4500) will be awarded to an economically disadvantaged full-time undergraduate student who will have junior status (56 credits with a minimum of 24 credits taken at Oakland). The student must be pursuing a degree in Management Information Systems and maintain at least a 2.60 cumulative GPA at Oakland University, be a US citizen or legal permanent resident, and have applied for financial aid in the distribution year.

Dicron Tafralian Memorial Endowed Scholarship: This $2,500 scholarship (applied to OU tuition) is awarded on a merit basis to a continuing accounting major at Oakland University who has also applied to the MAcc Program. Selection is made by the accounting faculty of the SBA. This scholarship was established in memory of Dicron Tafralian, who served in administrative capacities at Oakland University for many years.

Dillon Family Accounting Student Leadership Endowed Scholarship: This $1,500 scholarship (applied to OU tuition) is given to an undergraduate accounting major entering the OU MAcc Program who has demonstrated

outstanding leadership and support of the OU Accounting student professional organizations (OASIS, NABA and Beta Alpha Psi). Grade-point average may be considered, but is clearly subordinate to leadership activities.

Doeren Mayhew Scholarship: Two $1,900 scholarships (applied to OU tuition) are awarded annually to undergraduate accounting majors. Candidates must have at least a 3.5 overall GPA in courses taken at Oakland University. Preference will be given to sophomore and junior level students who have not already accepted a full-time position.

Ernst & Young Scholarship: This $1,500 scholarship (applied to OU tuition) is given to an undergraduate accounting major who has exhibited an outstanding combination of academic performance and extracurricular activities.

Francis C. Amos SBA Alumni Endowed Scholarship: In honor of Michigan State representative Frances Amos, active alumna and ardent supporter of Oakland University, this $5,000 scholarship was established to reward outstanding business students who exemplify her commitment to community service and the pursuit of personal academic excellence. This scholarship is open to junior and senior business students who have achieved major standing. See application for other criteria.

Gale Blank Copple Endowed Economics Scholarship: Two $2,500 scholarships are given annually in recognition of outstanding achievements in economics and overall academic accomplishments to members of Oakland University's Women's Economic Society. Applicants must have junior standing. They must have completed at least four courses in economics with a GPA of at least 3.3 and must have an overall GPA of at least 3.0.

Gary and Elspeth Coats SBA Student Involvement Endowed Scholarship: This $1,000 scholarship is to encourage participation in a variety of university activities. Applicants must be enrolled full-time in the SBA taking a minimum of 12 credit hours per semester, be active in a variety of Oakland University activities, and have a minimum cumulative GPA of 3.0.

Gerald M. and Tracy C. Nanni Accounting and Finance Scholarship: This $1,250 scholarship (applied to OU tuition) is awarded to an undergraduate accounting or finance major or a Master of Accounting (MAcc) student who has exhibited a combination of outstanding academic performance and demonstrated financial need.

Grant Thornton Scholarship: This $1,000 scholarship is awarded to a declared accounting major, who has achieved major standing, is currently enrolled in at least one accounting major course at OU, and has at least a 3.0 overall GPA.

Grizzlies Get It Done Scholarship: This $1,500 scholarship is awarded to an undergraduate student in the School of Business Administration in good academic standing. The student must demonstrate financial need, must have achieved 95% of course work towards graduation, and have a 3.0 to 3.5 OU GPA.

Helander SBA Social Impact Scholarship: This $1,500 scholarship is awarded to an undergraduate student pursuing a degree within the School of Business Administration, with sophomore standing (28 credit hours), and a minimum GPA of 3.5. Candidates must submit an essay highlighting goals and aspirations for pursuing a career in business and making a great impact in the world that influences lifelong change, including volunteer-experiences enhancing these goals.

Independent Bank Scholarship: This $2,500 scholarship is awarded to a student who is seeking any of the three economics degree programs offered at OU. The student must be in major standing and should have completed 56 credit hours, with a minimum of 30 credit hours remaining to complete a B.S. or B.A. degree in Economics. The student must be enrolled for a minimum of 12 credit hours during the fall and winter terms, and must be from Oakland, Macomb or Lapeer County. The student must also be eligible for the PELL Grant.

John and Cindi Lesser Finance/Accounting Scholarships: Two $1,500 scholarships are awarded (applied to OU tuition), one to an undergraduate accounting major and one to an undergraduate finance major with the best combination of academics, extracurricular activities, and financial need. Students must have a minimum GPA of 3.2.

KPMG Scholarship: This $1,000 scholarship (applied to OU tuition) is given to an undergraduate accounting major who has exhibited an outstanding combination of academic performance and extracurricular activities, including involvement in university or community activities. Students must have a minimum GPA of 3.2 in accounting courses and be public accounting oriented.

Marvin L. Katke Endowed Scholarship: Two $2,500 scholarships are awarded to business students who have demonstrated outstanding academic achievement and extracurricular and/or civic involvement. Students must have at least 56 credit hours, a minimum of 24 which have been earned at OU, and a minimum GPA of 3.0.

Mukesh Bhargava Endowed Scholarship: This $1,500 scholarship was created in 2013 to honor Mukesh Bharghava, a distinguished marketing faculty member at Oakland for 18 years. This is a one-year scholarship for students with junior or senior standing pursuing a degree in marketing, with demonstrated financial need.

Patti Finnegan Sharf SBA Study Abroad Endowed Scholarship: This award is for undergraduates in the School of Business Administration, who will be traveling outside the United States through a university approved academic program. The students will be traveling to countries deemed safe by the University. Preference will be given to students who otherwise would not be able to participate in such a study abroad program due to financial needs.

Plante & Moran Golden Rule Scholarship: This $1,250 scholarship (applied to OU tuition) is given to an undergraduate accounting major who has exhibited outstanding academic performance and has an interest in public accounting.

Plante & Moran Golden Rule Scholarship - MAcc: This $1,250 scholarship (applied to OU tuition) is given to a Master of Accounting (MAcc) student or an undergraduate accounting major who is going to be enrolled in the MAcc program, and who has exhibited outstanding academic performance and has an interest in public accounting.

PriceWaterhouseCoopers Scholarship: This $1,500 scholarship (applied to OU tuition) is given to an undergraduate accounting major who has exhibited an outstanding combination of academic performance and extracurricular activities, and is interested in pursuing a career in public accounting.

PriceWaterhouseCoopers Scholarship - MAcc: This $1,500 scholarship (applied to OU tuition) is given to a Master of Accounting (MAcc) student or an undergraduate accounting major who will be enrolled in the MAcc Program that has exhibited an outstanding combination of academic performance and extra-curricular activities.

R. Hugh and Nancy E. Elliott Endowed Scholarship: This award is granted to an undergraduate student athlete who has achieved junior or senior class standing and is enrolled in the School of Business Administration.

Robert Uptegraff, Sr. Scholarship: This $1,500 scholarship (applied to OU tuition) is given to a Master of Accounting (MAcc) student or an undergraduate accounting or finance major that has exhibited an outstanding combination of academic performance and extra-curricular activities.

Ronald M. Horwitz Outstanding Finance Student Endowed Scholarship: This $1,500 scholarship is given to an undergraduate finance major with the best combination of academics success and involvement in student organizations. Preference is given to students involved with student organizations related to finance.

RSM Foundation Scholarship: This $2,500 scholarship is awarded to an undergraduate student with major standing in accounting or management information systems, and a minimum GPA of 3.0.

SAA (Society of Automotive Analysts) "Thought Leader of Tomorrow Scholarship": This $2,500 scholarship is awarded to a student with junior or senior standing, enrolled at least half-time with a minimum GPA of 3.2 at OU. Students must submit a 250-word essay related to their interest and career plans in the automotive industry, and other supporting evidence of academic performance and extra-curricular and/or civic involvement.

SBA Tower Scholarship: This $3,000 scholarship is awarded to an undergraduate student pursuing a degree in the School of Business Administration, with a minimum GPA of 3.0 and extracurricular and/or civic involvement.

Scott and Andrea Bittinger First Generation Scholarship: Two $1,500 scholarship are given to first generation undergraduate students with major standing in accounting, a minimum 3.0 GPA, and demonstrated financial need. Applicants must submit a short essay detailing the significance of being a first generation student.

Sid and Bani Mittra Economics Merit Scholarship: This $2,000 scholarship is given to a student pursuing a degree in economics in the School of Business Administration. The student must have major standing in economics with 30 credits remaining to complete the degree, minimum overall 3.0 GPA, and a minimum GPA of 3.3 in economic courses

Stephan and Rita Sharf Endowed Scholarship: This $2,500 scholarship is awarded annually to a student who has achieved junior or senior class standing and is enrolled full-time in the School of Business Administration. Selection is based upon academic achievement and demonstrated financial need.

UHY Distinguished Accounting Leadership Scholarship: This $1,000 scholarship (applied to OU tuition) is given to a Master of Accounting (MAcc) student or an undergraduate accounting major who will be enrolled in the MAcc program who has exhibited a combination of outstanding academic performance and leadership.

UHY Future Financial Leader Scholarship: This $1,000 scholarship (applied to OU tuition) is given to an OU undergraduate accounting or finance major who has exhibited a combination of outstanding academic performance in the pursuit of an accounting or finance degree and leadership skills.

The Warren Tope Memorial Accounting Endowed Scholarship: This $1,500 scholarship (applied to OU tuition) is given to an undergraduate accounting major with a 3.0 cumulative grade-point average or above. This scholarship is renewable for up to two additional years.

Course Offerings

Course descriptions follow each of the programs offered by departments in the School of Business Administration. Required pre-core and core courses for students majoring in the business programs are generally offered each fall, winter and summer semesters.

Some 3000- and 4000-level ACC, ENT, FIN, MGT, MIS, MKT, ORG, POM and QMM courses require major standing in business or an approved concentration / minor authorization form in order to register for the course. The 3000-level courses should be taken during the junior year (56-90 credits). Courses titled "Survey of" are only permitted for non-business majors pursuing a business minor. Except for courses that fulfill the business minor, 3000- or 4000-level courses can only be taken by non-business students if they meet the prerequisites (except for major standing) and the course is listed on an approved university concentration/minor authorization form.

The 5000-level ACC and MIS courses are designed as advanced electives for undergraduate accounting or management information systems majors and as electives for students in the Master of Accounting and MSITM programs. The school offers selected courses from this catalog as warranted by student needs and availability of faculty.

Department of Accounting and Finance

Department Chair: Rajeev Singhal

Faculty Director of Accounting Programs: Donna Free

Accounting Program Adviser: Rozalyn Nowosielski and Donna Free

Finance Program Adviser: Ellen Zhu

Graduate level classes:

The following graduate level accounting courses are open to undergraduate accounting majors with permission of the Faculty Director of Accounting Program (See Graduate catalog for descriptions).

- ACC 5050 Business Law for Accountants
- ACC 5210 Federal Income Tax II
- ACC 5260 Accounting Information Systems: Audit and Control

Accounting Minor

Coordinator: Roz Nowosielski

The minor in accounting consists of a minimum of the following two courses and any prerequisites for these courses: ACC 2000, ACC 2100 and four additional courses in any 3000- or 4000-level accounting (ACC) courses. The minimum grade of C must be earned in each course in the accounting minor and in the prerequisites for each course. This minor is open to all students except accounting majors.

Finance Minor

Coordinator: Robert Uptegraff

The minor in finance consists of a minimum of four courses including FIN 3220 or FIN 3550 and three courses in 3000 or 4000 level finance (FIN) courses and any prerequisites for these courses (either ACC 3010 or ACC 3200 or ACC 3500 may satisfy three credits toward the finance minor). The prerequisites for the finance courses normally require up to seven courses including (MTH 1221 and MTH 1222) or (MTH 1441 and MTH 1554), ACC 2000 and ACC 2100, [ECN 2010 and (ECN 2020 or ECN 2000)] or ECN 2100 , QMM 2400 and QMM 2410 (or STA 2220 and/or STA 2226). A minimum grade of C must be earned in each course in the finance minor and in the prerequisites for each course. This minor is open to all students except finance majors.

Students on a previous catalog who have taken FIN 3550 will be able to count this course toward the Finance Minor.

Students who place into MTH 1222 or MTH 1554, or transfer MTH 1222 or MTH 1554, are waived from MTH 1221 or MTH 1441.

Business Administration, Accounting Major, B.S.

Requirements for the major in accounting, B.S.

Major adviser: Rozalyn Nowosielski and Donna Free

The accounting faculty has adopted the statement of mission as defined in the School of Business Administration Mission Statement. Within the context of that mission statement, the accounting curriculum is intended to prepare graduates for careers in public accounting, industry and government.

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 C or better in each major course. A grade of C or better must be achieved in each prerequisite course before an Oakland University student may begin work in a subsequent accounting course.

Required pre-core courses -- 8 credits

- ACC 2000 - Introductory Financial Accounting (4)
- ACC 2100 - Managerial and Cost Accounting I (4)

Required major courses -- 12 credits

- ACC 3100 - Intermediate Financial Accounting I (3)
- ACC 3110 - Intermediate Financial Accounting II (3)
- ACC 3180 - Accounting Information Systems: Planning and Analysis (3)
- ACC 3200 - Managerial and Cost Accounting II (3)
- ACC 3990 - ACHIEVE III - Accounting (0)

Electives — choose 12 credits

- ACC 3500 - Federal Income Taxation (3)
- ACC 4010 - Advanced Financial Accounting (3)
- ACC 4110 - Auditing (3)
- ACC 4120 - Government and Not-for-Profit Accounting (3)
- ACC 4900 - Special Topics in Accounting (3)
- ACC 4996 - Independent Study (1 TO 3)
- ACC 5050 Business Law for Accountants (3)
- ACC 5210 Federal Income Tax II (3)
- ACC 5260 Account Information Systems: Audit & Control (3)
- ACC 5500 Tax Research and Procedures (3)

32 total credits

Note

Note: The 5000-level accounting courses are open to undergraduate accounting majors during their senior year with the permission of the Faculty Director of Accounting Programs. Students who have taken ACC 5050, ACC 5210, or ACC 5260 under a previous catalog will be able to count the course as an elective.

Because of specific examination requirements, students who plan to take a professional accounting examination (CPA, CMA or CIA) should discuss their options with a faculty major adviser before enrolling in 4000-level accounting courses. The Master of Accounting degree program provides for 30 credits of accounting and related course-work. Undergraduate students will be able to apply to the program during the fourth year of their undergraduate program. With the completion of 154 credits of undergraduate and graduate course-work, students will graduate with a Bachelor of Science with a major in accounting and a Master of Accounting. Students are encouraged to seek advising from the Faculty Director of Accounting Programs if they are considering this option.

Students planning to sit for the CPA Examination should be aware that the State of Michigan (and most other states) requires a minimum of 150 credit hours to become a Certified Public Accountant. The requirement will be satisfied by completing the Master of Accounting degree program. While the MAcc program is recommended, additional undergraduate courses may also satisfy the 150 credit hour requirement. The Faculty Director of Accounting Programs can help you evaluate different options for your situation.

Business Administration, Finance Major, B.S.

Requirements for business administration, finance, B.S.

Major adviser: Ellen Zhu

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 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 25 credits, as specified below, with a grade of C or better in each major course. A grade of C or better must be achieved in FIN 3220 and in each prerequisite for a finance course before a finance major, or any Oakland University student, may begin work in that finance course.

Students who have taken FIN 3680, FIN 4250, FIN 4360, FIN 4300 , ACC 3200 or ACC 3500 under a previous catalog will be able to count these courses as electives.

Required in the core -- 3 credits

- FIN 3220 - Managerial Finance I (3)

Required major courses -- 12 credits

- ACC 3010 - Financial Reporting and Analysis (3) *
- FIN 3600 - Investment Analysis (3)
- FIN 3680 - Financial Modeling (3)
- FIN 3720 - Managerial Finance II (3)
- FIN 3990 - ACHIEVE III - Finance (0)
  *In lieu of ACC 3010 (3), students may substitute both ACC 3100 (3), and ACC 3110 (3).

Electives -- choose three courses from the following (some may require additional prerequisites)** -- 9 credits

- FIN 4180 - Financial Institutions and Capital Markets (3)
- FIN 4190 - International Financial Management (3)
- FIN 4200 - Real Estate Investment Analysis (3)
- FIN 4250 - Financial Derivatives (3)
- FIN 4300 - Mergers and Acquisitions and Corporate Restructuring (3)
- FIN 4360 - Managing Investment Funds (3)
- FIN 4600 - Investment Portfolio Management (3)
- FIN 4900 - Special Topics in Finance (3)
  **ACC 3200 (3) or ACC 3500 (3) may be substituted for one finance elective.

24 total credits

Requirements for business administration, finance, B.S., specializing in wealth management

Required in the core - 3 credits

- FIN 3220 - Managerial Finance I (3)

Required major courses - 15 credits

- ACC 3010 - Financial Reporting and Analysis (3) *
- ACC 3500 - Federal Income Taxation (3)
- FIN 3600 - Investment Analysis (3)
- FIN 3680 - Financial Modeling (3)
- FIN 3720 - Managerial Finance II (3)
  *In lieu of ACC 3010 (3), students may substitute ACC 3100 (3), and ACC 3110 (3)

Electives - 3 credits - choose 1 elective

- FIN 4180 - Financial Institutions and Capital Markets (3)
- FIN 4250 - Financial Derivatives (3)
- FIN 4360 - Managing Investment Funds (3)
- FIN 4600 - Investment Portfolio Management (3)
- FIN 4900 - Special Topics in Finance (3)

Required capstone course - 3 credits

- FIN 4779 - Estate, Retirement, and Education Planning (3)

Note

If an Actuarial Science student wants to switch to a Finance major, they can use FIN 3550 to satisfy the FIN 3220 requirement, but will still need to take FIN 3720. If a Finance major student wants to switch to an Actuarial Science major, they will need to use both FIN 3220 and FIN 3720 to satisfy the FIN 3550 requirement

Department of Decision and Information Sciences

Department Chair: Vijayan Sugumaran

Management Information Systems Program Adviser: Vijayan Sugumaran

Operations Management Program Adviser: T.J. Wharton

Business Administration, Management Information Systems Major, B.S.

Major adviser: Vijayan Sugumaran

Management Information Systems (MIS) is about applying information technology to business problems. The emphasis is on finding solutions. To the MIS professional, information technology is a tool, not an end in itself. MIS is concerned with using information and communication technologies to support management at all levels (supervisory, middle, top) and in all business functional areas (accounting, finance, marketing, human resources, and operations management) with the information they need for planning, control, and decision making. In addition to computer technology, MIS considers how managers and knowledge workers actually use information and how system specialists and end users interact during the analysis, design, implementation, and on-going use of information systems. MIS experts attempt to bridge the gap between information technology and people's needs. A related field is Computer Science. The two majors differ in that Computer Science emphasizes the technical side of hardware and system software, whereas MIS emphasizes application software development and the business context in which an information system exists.

Requirements for the major in management information systems, B.S.

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 27 credits, as specified below, with a grade of C or better in each major course. A grade of C or better must be achieved in each prerequisite for an MIS course before an MIS major, or any Oakland University student, may begin work in that MIS course.

Required in the pre-core and core -- 6 credits

- MIS 1000 - Business Problem Solving with Information Technology (3)
- MIS 3000 - Management Information Systems (3)

Required major courses -- 12 credits

- MIS 3050 - Information Technology Foundations (3)
- MIS 3140 - Business Database Systems (3)
- MIS 3990 - ACHIEVE III - Management Information Systems (0)
- MIS 4050 - Business Systems Analysis and Design (3)
- MIS 4060 - Managing Information Projects (3)

Electives -- choose three courses -- 9 credits

- MIS 4130 - Networks (3)
- MIS 4140 - Information Security Lab (3)

- MIS 4170 - Practical Cyber Security Fundamentals (3)
- MIS 4180 - IS Risk Analysis and Controls Development (3)
- MIS 4200 - Electronic Commerce (3)
- MIS 4220 - Business Object Development (3)
- MIS 4240 - Business Application Architecture (3)
- MIS 4260 - Business Application Technology (3)
- MIS 4410 - Operations Analytics (3)
- MIS 4460 - Business Analytics (3)
- MIS 4470 - Practical Computing for Data Analytics (3)
- MIS 4500 - Web Analytics (3)
- MIS 4560 - Introduction to Data Science (3)
- MIS 4700 - IS Security (3)
- MIS 4750 - Mobile Security and Secure Application Development (3)
- MIS 4900 - Special Topics in MIS (3)
- MIS 5460 - Business Analytics (3)[1]
- MIS 5630 - Networks (3)[1]
- MIS 5640 - Network Management (3)[1]

Note

The 5000-level MIS courses are open to undergraduate students with the permission of the Faculty Coordinator for the Master of Science in Information Technology Management (MSITM) Program. For students pursuing the MSITM Program, MIS 5150 can substitute for MIS 4050, MIS 5160 can substitute MIS 4060, and two of the following graduate elective courses can substitute as undergraduate elective courses for the MIS Program - MIS 5460, MIS 5560, MIS 5170, and MIS 5180.

Students who have taken MIS 4140, MIS 4170, MIS 4180, MIS 4410, MIS 4460, MIS 4470, MIS 4500, MIS 4560, MIS 4700 ,MIS 4750, MIS 5460, MIS 5630, or MIS 5640 under a previous catalog will be able to count these courses as an elective.

27 total credits

Business Administration, Operations Management Major, B.S.

Requirements for the major in operations management, B.S.

Major adviser: T.J. Wharton

The major in operations management (OM) provides a strong managerial and technical education to students interested in the field of operations management (e.g., manufacturing planning and control, supply-chain management, project management, lean and quality management). The program will provide students with the fundamental knowledge they need to work effectively in operations functions, as well as advanced knowledge about best practices, current technologies, tools and their application, and leadership skills necessary to operate in a globally diverse and competitive marketplace.

Students can choose to specialize in Supply Chain Management or Lean and Quality Management or Project Management. The specialization will appear in the student transcript and the diploma. Students also have the option of not choosing a specialization and getting a general Operations Management Major without any specialization.

To fulfill the requirements for the major in operations management, students must be admitted to major standing in operations management, complete the required courses for the OM Major and the specializations (if chosen) as well as appropriate number of electives as specified below, with a grade of C or better in each major course. A grade of C or better must be achieved in POM 3430 and in each prerequisite for an operations management course before a student may begin work in that operations management course. Students who have taken POM 4350 under a previous catalog will be able to count this course toward an elective requirement.

No Specialization

Minimum of 21 Credits

Adviser: T.J. Wharton

Required for OM Major:

- POM 3430 - Operations Management (3)
- POM 3990 - Achieve III - Operations Management (0)

Electives: Six (6)

Choose six (6) from the list of Electives:

- POM 4350 - Service Operations Management (3)
- POM 4400 - Process Management (3)
- POM 4410   - Operations Analytics (3)
- POM 4420 - Supply Chain Management (3)
- POM 4430 - Operations Planning and Control (3)
- POM 4470 - Procurement and Global Sourcing (3)
- POM 4480 - Project Management (3)
- POM 4600 - Lean Kaizen in Organizations (3)
- QMM 4400 - Management Science (3)
- QMM 4520 - Forecasting (3)
- ACC 3200 - Managerial and Cost Accounting II (3)

Students who are on a previous catalog can count POM 4410, POM 4470 and POM 4600 as electives for operations management no specialization. Students who are on a previous catalog can use any POM elective to substitute for POM 4500.

Supply Chain Management (SCM) Specialization

Minimum of 22 Credits

Specialization Adviser: Henry Aigbedo

Most organizations realize that they cannot achieve long-term success if they were to focus on their internal processes only. Thus, an essential feature of SCM is the management of relationships among organizations; which typically have different cultures, goals and strategies. The SCM specialization trains students to manage processes and complex relationships among organizations. Areas covered include planning and design for supply chains (SC), production processes, SC risks, procurement in the traditional and global contexts, distribution in SC and deployment of information technology to facilitate SC operations.

Required for OM Major:

- POM 3430 - Operations Management (3)
- POM 3990 - Achieve III - Operations Management (0)

Required for Supply Chain Specialization:

- POM 4410 - Operations Analytics
- POM 4420 - Supply Chain Management (3)
- POM 4430 - Operations Planning and Control (3)
- POM 4470 - Procurement and Global Sourcing (3)
- MKT 4220 - Marketing Logistics and Supply Chain Management

Electives:

Choose one (1) from the list of Electives

- POM 4350 - Service Operations Management (3)
- POM 4400 - Process Management (3)
- POM 4480 - Project Management (3)
- POM 4600 - Lean Kaizen in Organizations (3)
- QMM 4900 - Management Science (3)
- QMM 4520 - Forecasting (3)

Students who are on a previous catalog can count POM 4410, POM 4470, MKT 4220 and MKT 4900 as a required course and POM 4600 as an elective course for the Supply Chain Specialization.

Lean and Quality Management Specialization

Minimum of 22 Credits

Specialization Advisor: T.J. Wharton

This specialization focuses on the complementary and interdependent subjects of Lean and Quality Management. This specialization examines strategies pursued in order to attain objectives including productivity enhancement, waste reduction, and quality improvements. The set of courses comprising this specialization emphasize organizational efforts toward a customer-driven philosophy for organization-wide continuous improvement efforts.

Required for OM Major:

- POM 3430 - Operations Management (3)
- POM 3990 - Achieve III - Operations Management (0)

Required for Lean and Quality Specialization:

- POM 4400 - Process Management (3)
- POM 4410 - Operations Analytics (3)
- POM 4430 - Operations Planning and Control (3)
- POM 4600 - Lean Kaizen in Organizations (3)
- ACC 3200 - Managerial and Cost Accounting II (3)

Electives:

Choose one (1) from the list of Electives

- POM 4350 - Service Operations Management (3)
- POM 4420 - Supply Chain Management (3)
- POM 4480 - Project Management (3)
- POM 4470 - Procurement and Global Sourcing (3)
- QMM 4400 - Management Science (3)
- QMM 4520 - Forecasting (3)

Students on a previous catalog can use POM 4410 and POM 4600 as a required course and POM 4470 as an elective course for Lean and Quality Management Specialization.

Project Management Specialization

Minimum of 22 Credits

Specialization Adviser: Eugene Fliedner

The focus of this specialization centers on the ten knowledge management areas comprising the project management body of knowledge. These ten knowledge management areas include project integration, scope, human resource, time, cost, quality, risk, procurement, communications, and stakeholder management. The set of courses comprising this specialization emphasize the skills and techniques necessary to successfully lead and manage projects.

Required for OM Major:

- POM 3430 - Operations Management (3)
- POM 3990 - Achieve III - Operations Management (0)

Required for Project Management Specialization:

- POM 4410 - Operations Analytics (3)
- POM 4480 - Project Management (3)
- POM 4470 - Procurement and Global Sourcing (3)
- ACC 3180 - Accounting Information Systems: Planning and Analysis (3)
- ORG 4310 - Leadership and Group Performance (4)

Electives:

Choose one (1) from the list of Electives

- POM 4350 - Service Operations Management (3)
- POM 4400 - Process Management (3)
- POM 4420 - Supply Chain Management (3)

- POM 4430 - Operations Planning and Control (3)
- POM 4600 - Lean Kaizen in Organizations (3)
- QMM 4400 - Management Science (3)
- QMM 4520 - Forecasting (3)

Students on a previous catalog can use POM 4410 and POM 4470 as a required course and POM 4600 as an elective course for Project Management Specialization.

MSITM 4+1 Program

The MSITM 4+1 Program is a combined bachelor/master degree program that provides high-achieving students an opportunity to complete4 a bachelor's and master's degree in less time than would be required if the two degrees were done independently. It is designed for students who are high academic achievers and creates an integrated learning experience along several knowledge paths. The MSITM 4+1 Program students will be able to earn their master's degree by comple3ting 18 credits (6 courses instead of 10) beyond the undergraduate MIS major requirements.

Students accepted for the MSITM 4+1 Program mush have a minimum overall undergraduate GPA of 3.2, and a 500 on the Graduate Management Admissions Test (GMAT). Students may apply to the MSITM 4+1 Program and be offered deferred admission to the graduate program during their junior year.

Students offered deferred admission will remain classified as undergraduates until they have completed all undergraduate degree requirements. At that time, students who have maintained an overall undergraduate GPA 3.2 and have earned a 3.0 or above GPA in the double-counted graduate courses, will be reclassified as a graduate student through Graduate Study.

Please refer to the Graduate Catalog for the recommended Schedule and Course Options for the MSITM 4+1 Program

Business Analytics Minor

Coordinator: Mark Isken

The minor in business analytics (BA) consists of 12 credits for SBA students. Non-SBA students should contact the minor coordinator to determine the credit requirements.

The BA minor consists of the following courses and their prerequisites:

- MIS 4460 - Business Analytics (3) or MIS 5460 - Business Analysis and Modeling (3)
- MIS 4560 - Introduction to Data Science (3) or MIS 5560 - Decision Support Systems (3)
- MTH 1222 - Calculus for the Social Sciences (4) or MTH 1554 - Calculus I (4)
- QMM 2410 - Statistical Methods for Business II (3) or EGR 2600 - Introduction to Industrial and Systems Engineering (4) or STA 2221 - Introduction to Statistical Methods (4) or STA 2226 - Applied Probability and Statistics (4)

And any two of the following courses:

- ACS 4660 - Financial Economics (3)
- APM 4334 - Applied Numerical Methods: Matrix Methods (4)
- ECN 4050 - Econometrics (3)
- ECN 4060 - Time Series Econometrics (3)
- FIN 4250 - Financial Derivatives (3)
- MIS 4410 - Operations Analytics (3) or POM 4410 - Operations Analytics (3)
- MIS 4470 - Practical Computing for Data Analytics (3) or MIS 5470 - Practical Computing for Data Analytics (3)
- MIS 4500 - Web Analytics (3)
- MIS 4900 - Special Topics in MIS (3)
- MTH 2775 - Linear Algebra (4)
- QMM 4400 - Management Science (3)
- QMM 4520 - Forecasting (3)
- STA 4002 - Applied Linear Models I (4)
- STA 4330 - Time Series I (4)

Notes

A minimum grade of C must be earned in each course in the business analytics minor and in the prerequisites for each course.

Certain MIS 4900 or POM 4900 Special Topics courses can count as a minor requirement with prior approval of the minor coordinator based on the topic.

This minor is open to all majors. Non-SBA students should contact the minor coordinator to determine the total number of courses required for the minor.

The minor in business analytics (BA) adds only four courses to the degree dequirements for SBA students.

Students cannot obtain both a minor in Business Analytics and a MIS major with a Business Analytics specialization.

Information Security Management Minor

Coordinator: Xiaodong Deng

The minor in information security management (ISM) consists of a minimum of four courses for SBA students. Non-SBA students should contact the minor coordinator to determine the credit requirements. The ISM minor consists of the following courses and any prerequisites for these courses: (MIS 1000 or CSI 1200), (MIS 3000 or MIS 3010), MIS 3050, MIS 4170, MIS 4180 and one elective from MIS 4130, MIS 4140, MIS 4700, or MIS 4750. A minimum grade of C must be earned in each course in the ISM minor and in the prerequisites for each course. This minor is open to all students except MIS majors.

Students cannot obtain both the ISM Minor and Major with ISM Specialization.

Students who have taken MIS 4170 under a previous catalog will be able to count this as a required course for the ISM minor.

Management Information Systems Minor

Coordinator: Vijayan Sugumaran

The minor in management information systems (MIS) consists of a minimum of four courses for SBA students. Non-SBA students should contact the minor coordinator to determine the credit requirements. The MIS minor consists of the following courses and any prerequisites for these courses: (MIS 1000 or CSI 1200), (MIS 3000 or MIS 3010 or MIS 3020), MIS 3050, MIS 3140, MIS 4050, and one elective in MIS. A minimum grade of C must be earned in each course in the MIS minor and in the prerequisites for each course. This minor is open to all students except MIS majors.

Students who have taken MIS 4140, MIS 4170, MIS 4180, MIS 4460, MIS 4470, MIS 4500, MIS 4560, MIS 4700, MIS 4750, MIS 5460, MIS 5630 or MIS 5640 under a previous catalog will be able to count these courses as electives.

Operations Management Minor

Coordinator: Henry Aigbedo

The minor in operations management (OM) consists of a minimum of four courses for SBA students. Non-SBA students should contact the minor coordinator to determine the credit requirements. The OM minor consists of the following courses and their prerequisites: MTH 1221 or higher, QMM 2400 or STA 2220 or STA 2226, QMM 2410, ACC 2000 , ACC 2100, POM 3430 and three courses chosen from POM 4350, POM 4400, POM 4410/MIS 4410, POM 4420, POM 4430, POM 4470, POM 4480 or POM 4600. A minimum grade of C must be earned in each course in the operations management minor and in the prerequisites for each course. This minor is open to all students except operations management majors.

Students who have taken QMM 4400, POM 4410/MIS 4410, POM 4350, POM 4470, and POM 4600 under a previous catalog will be able to count these courses as an elective.

Department of Management and Marketing

Department Chair: Janell Townsend

General Management Program Adviser: Cynthia Miree-Coppin

Human Resources Management Program Adviser: Lizabeth Barclay

Marketing Program Adviser: John Kim

Business Administration, General Management Major, B.S.

Requirements for the major in general management, B.S.

Major adviser: Cynthia Miree-Coppin

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, ORG 4310, and earn a minimum of 11 additional credits in electives with a grade of C or better in each major course. The electives may be chosen from any area within the SBA (courses beginning with ACC, ECN, ENT, FIN, MGT, MIS, MKT, ORG, POM or QMM) and must be chosen from courses numbered 3000 or higher. At least six credits must be at the 4000 level which includes ORG 4310 . A grade of C or better must be achieved in each prerequisite for a general management elective course before a general management major may begin work in that general management elective course. No more than four credits of independent study (MGT 4996) may be used to meet the major elective requirement.

Required major course

- MGT 3990 - ACHIEVE III - General Management (0)
- ORG 4310 - Leadership and Group Performance (4)

Electives

Choose 11 additional elective credits from any area within the SBA (courses beginning with ACC, ECN, ENT, FIN, MGT, MIS, MKT, ORG, POM or QMM).

Business Administration, Human Resources Management Major, B.S.

Requirements for the major in human resources management, B.S.

Major adviser: Lizabeth 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, human resources 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, human resources 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 25 credits as specified below, with a grade of C or better in each major course. A grade of C or better must be achieved in each prerequisite for a human resources management course before a HRM major, or any Oakland University student, may begin work in that human resources management course.

Students who have taken ORG 4600 under a previous catalog will be able to count this course as an elective.

Required in the core -- 6 credits

- ORG 3300 - Introduction to Organizational Behavior (3)
- ORG 3310 - Introduction to the Management of Human Resources (3)

Required major courses -- 12 credits

- ORG 3990 - ACHIEVE III - Human Resource Management (HRME) (0)
- ORG 4300 - Organizational Research Methods (4)
- ORG 4340 - Advanced Human Resources Management (4)
- ORG 4600 - Compensation and Benefits (4)

Electives - choose two courses, at least one of which must be a 4000-level ORG course -- 7-8 credits

- ORG 4310 - Leadership and Group Performance (4)
- ORG 4320 - Motivation and Work Behavior (4)
- ORG 4330 - Labor/Management Relations (4)
- ORG 4700 - International Organizational Behavior and Human Resources Management (4)
- ORG 4900 - Topics in Organizational Management (1 TO 4)
- MGT 4900 - Seminar: Current Business Topics (1 TO 4)
- ECN 3380 - Economics of Human Resources (3)
- PS 3325 - Public Sector Human Resource Management (4)

25-26 total credits

Additional Information:

In addition to the course requirements listed above, students interested in pursuing human resources management (HRM) major must also complete the Human Resources Management Experience (HRME) requirement which will satisfy ORG 3990. The options for this requirement are described below:

1. Internship
    a. HRME contract -
        - Student must receive HRM faculty adviser approval prior to beginning the work experience.
        - For students who would like to substitute their current or recent work experience, the student must complete the contract for the appropriate job and schedule a meeting with the HRM major adviser for approval. Additional support may be required when using previous experience to fulfill this requirement.
        - The student's work experience must meet the minimum contact hours requirement (280 hours).
    b. Exit interview -
        - Upon completion of the internship or equivalent experience, the student must submit written answers to the specified exit interview questions to the major adviser.
        - Students must also have their internship supervisor submit a letter on company letterhead to the HRM major adviser stating the following: hours worked, time period (e.g. months/year), and basic job duties.
        - Upon documentation of the exit interview, written documentation of the completion of the requirement will be provided to the student and the Undergraduate Advising Office within two weeks.
2. Portfolio Project
    Information concerning this option is available from the HRM Major Adviser. These items represent new work that represents an HRM skill set. Once the student submits all required aspects of the project to the HRM Major Adviser, written documentation of the completion of the requirement will be provided to the student and the Undergraduate Advising Office within two weeks.

    The above options also satisfy the requirement for ORG 3990 . This includes all students who have taken ORG 3990 since fall 2010.

    A grade of S must be obtained for ORG 3990.

Business Administration, Marketing Major, B.S.

Requirements for the major in marketing, B.S.

Major adviser: John Kim

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. It is designed primarily for students who intend to pursue careers in fields such as marketing, sales, research, product development and management, advertising, communication, retail buying and distribution management.

Emphasis is placed on developing a comprehensive understanding of the concepts and techniques needed to plan, develop and execute the tactical activities associated with creating a strategic position in the marketplace. These include activities such as the development of products and services, pricing strategies, promotional activities, and distribution and channel management, in order to facilitate exchanges that create value for both consumers and organizations. The program includes broad coverage of such topics as marketing management, consumer behavior, marketing research, selling and sales management, advertising and communications, digital marketing, business-to-business marketing, social marketing, business logistics, retailing, and international marketing.

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 C or better in each major course. A grade of C or better must be achieved in each prerequisite for a marketing course before a marketing major, or any Oakland University student, may begin work in that marketing course.

Students on a previous catalog who have taken MKT 4210, MKT 4220, MKT 4400 or MKT 4600 will be able to count these courses toward an elective requirement.

Required in the core -- 3 credits

- MKT 3020 - Marketing (3)

Required major courses -- 12 credits

- MKT 3990 - ACHIEVE III - Marketing (0)
- MKT 4040 - Consumer Behavior (4)
- MKT 4050 - Marketing Research (4)
- MKT 4530 - Strategic Marketing Management (4)

Electives -- choose three courses --9 credits

- MKT 4060 - Integrated Marketing Communications (3)
- MKT 4210 - Distribution Channels Management and Retailing (3)
- MKT 4220 - Marketing Logistics and Supply Chain Management (3)
- MKT 4300 - Personal Selling (3)
- MKT 4500 - International Marketing (3)
- MKT 4550 - Product Management (3)
- MKT 4600 - Entrepreneurial Marketing (3)
- MKT 4700 - Business to Business Marketing (3)
- MKT 4900 - Seminar in Marketing (1 TO 4)

24 total credits

Business Minor

Coordinator: Jennifer Thor

The minor in business consists of a minimum of six courses described below, and any prerequisites for these courses. A minimum grade of C must be earned in each course in the business minor and in the pre-requisites for each course. This minor is not open to pre-business students, business undecided students or students holding major standing in the School of Business Administration. ACC 3000, MGT 3000, MIS 3010, MGT 3000, POM 3000, and FIN 3000 cannot be used to fulfill the requirement of any other SBA major or minor. In addition, these courses cannot be used to fulfill any of the pre-core course requirements for the Master of Business Administration, Master of Accounting, or Master of Science in Information Technology Management degrees at Oakland University.

Required courses

- ACC 2000 - Introductory Financial Accounting (4) or ACC 3000 - Survey of Accounting (4)
- ECN 1500 - Economics in Today's World (4) or ECN 1600 - Introduction to the Global Economy(4) or ECN 2000 - Principles of Macroeconomics(4) or ECN 2010 - Principles of Microeconomics (4) or ECN 2020 - Principles of Global Macroeconomics (4)

Electives-take four (4) of the following courses/categories

- ENT 3010 - Developing New Venture Ideas (3)
- FIN 3000 - Survey of Finance (3)
- MGT 3000 - Survey of Management (3) or ORG 3300 - Introduction to Organizational Behavior (3)
- MGT 3500 - Legal Environment of Business (3)
- MIS 3010 - Survey of Management Information Systems (3) or MIS 3000 - Management Information Systems (3)
- MKT 3000 - Survey of Marketing (3)
- POM 3000 - Survey of Operations Management (3)

Entrepreneurship Minor

Coordinator: Jae Kang

The Entrepreneurship minor teaches students how to start their own business and successfully launch new ideas. Courses in the Entrepreneurship minor are designed so students can complete the minor rapidly while still maximizing their knowledge and skills.

For business majors

The minor consists of a minimum of four courses.

This includes two required courses ENT 3010, ENT 4400, and two elective courses from ENT 3050, MKT 4550, MKT 4600, MGT 4540, ORG 4310 or ENT 4900.

For non-business majors

The minor consists of a minimum of five courses.

This includes two courses from the following: MKT 3000, MGT 3000, ACC 3000 (or ACC 2000), or FIN 3000 to help prepare the non-business major for the rest of the program.

Then they should take two required courses ENT 3010, ENT 4400, and one elective course from ENT 3050, MKT 4550, MKT 4600, MGT 4540, ORG 4310 or ENT 4900.

A minimum grade of C must be earned in each required course, as well as in the prerequisites for each course. This minor is open to all students.

Human Resources Management Minor

Coordinator: Kenneth M. York

The minor in human resources management consists of a minimum of five courses described as follows: ORG 3300, ORG 3310 and ORG 4340 and two courses chosen from ORG 4300, ORG 4310, ORG 4320, ORG 4330, ORG 4600, ORG 4700, ORG 4900 and the prerequisites for these courses. A minimum grade of C must be earned in each course in the human resources management minor and in the prerequisites for each course. This minor is open to all students except SBA human resources management majors.

Students who have taken ORG 4600 under a previous catalog will be able to count this course as an elective.

International Management Minor

Coordinator: Joy Jiang

Students who graduate with an international management minor will have an understanding of the complexities of doing business in a globally integrated marketplace and the impact of political, economic, cultural factors that underlie global decision making. Additionally, students will be able to identify international opportunities, and the factors that impact success of global business endeavors. The minor requires a minimum of four courses for business students, and five courses for students from all other majors. Students will discover strategies organizations employ when they

operate worldwide and learn about the organizational behavior of companies from different parts of the world.

This minor is particularly relevant for students who are interested in working in globally integrated industries like automotive, defense, and technology, and is complimentary for a diverse range of majors, including engineering and computer science, international relations, and most liberal arts majors.

International Management Minor - All business majors

The International Management Minor has several different tracks that allow business students to pursue their major, while complimenting their knowledge base with a global focus that will broaden their opportunities in any industry.

Courses
- ECN 3730 (3)
- MGT 4230 (4)
- MGT 4250 (4)
- One course required; choose from; ECN 3260 (3), ECN 3740 (3), MKT 4500 (3), ORG 4700 (4), or FIN 4190 (3)

International Management Minor - All non-business majors

The International Management minor offers the opportunity for students from all majors to learn the basic concepts of business, in addition to the foundations of doing business in the global marketplace.

Courses
- ECN 2020 (4)
- MGT 3000 (3)
- One course from: ACC 2000 (4) or ACC 3000 (4), FIN 3000 (3), MIS 3000 (3), MKT 3000 (4)
- MGT 4230 (4)
- MGT 4250 (4)

A minimum grade of C must be earned in each course in the International Management Minor and in the prerequisites for each course.

Marketing Minor

Coordinator: John Kim

The minor in marketing consists of a minimum of five courses described as follows: MKT 3020, MKT 4040, MKT 4050, MKT 4530 and one course chosen from MKT 4060, MKT 4210, MKT 4220, MKT 4300, MKT 4500, MKT 4550, MKT 4600, MKT 4700, MKT 4900 and the prerequisites for these courses. A

minimum grade of C must be earned in each course in the marketing minor and in the prerequisites for each course. This minor is open to all students except marketing majors.

Students on a previous catalog who have taken MKT 4210, MKT 4220, MKT 4550, or MKT 4600 will be able to count these courses toward an elective requirement.

Department of Economics

Department Chair: Ronald Tracy

Economics Program Adviser: Ronald Tracy

Actuarial Science Program Adviser: Ronald Tracy

Actuarial Science, B.S.

Requirements for the liberal arts major in actuarial science, B.S. program

Because an actuary needs a blend of mathematics, economics, statistics, and finance, this major is offered jointly by the Department of Mathematics and Statistics and the Department of Economics. However, the major in actuarial science differs significantly from the other majors offered by these two departments because it (1) prepares students for jobs in actuarial science as well as provides them with the educational background necessary to pursue an advanced degree in economics, mathematics, statistics, or business administration, (2) integrates two distinctly different disciplines, thereby providing students with a breadth of knowledge that is needed in our fast changing world, and (3) provides students with the analytical and reasoning skills to successfully complete the first two exams in actuarial science offered by the Society of Actuaries.

To earn the Bachelor of Science degree with a major in actuarial science, students must complete a minimum of 124 credits. All required and cognate courses must be completed with a minimum grade of a C.

1. Complete Basic Mathematics Requirements

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- MTH 2554 - Multivariable Calculus (4)
- MTH 2775 - Linear Algebra (4)

2. Complete Probability Requirements

- ACS 3000 - Foundations of Probability and Calculus (1) (unless the student has earned a grade of at least B+ in MTH 2554 - Multivariable Calculus (4) or permission of the chief undergraduate adviser)

- STA 2226 - Applied Probability and Statistics (4)
- STA 4227 - Introduction to Mathematical Statistics I (4)

3. Complete Economics Requirements

- ECN 2010 - Principles of Microeconomics (4) and ECN 2020 - Principles of Global Macroeconomics (or ECN 2000 - Principles of Macroeconomics)
- ECN 3020 - Intermediate Macroeconomics (3) or ECN 3210 - Financial Markets and Economy (3)
  (Students under a previous catalog who have taken ECN 3210 may use this course as a substitute for ECN 3020)
- ECN 3030 - Managerial Economics (3) or ECN 3810 - Mathematical Analysis for Economists (3) (Students under a previous catalog who have taken ECN 3810 may use this course as a substitute for ECN 3030)

4. Complete Statistics Requirement

- QMM 2410 - Statistical Methods for Business II (3) or STA 4330 - Time Series I (4) or STA 4228 - Introduction to Mathematical Statistics II (4)
  (Students under a previous catalog who have taken ECN 4060 or STA 4228 or STA 4330 may use these courses as a substitute for QMM 2410.)

5. Complete Accounting and Finance Requirements

- ACC 2000 - Introductory Financial Accounting (4)
- FIN 3550 - Finance for Actuarial Science (4) or (FIN 3220 - Managerial Finance I (3) and FIN 3720 - Managerial Finance II (3)) (Students under a previous catalog who have taken FIN 3550 may use this course as a substitute for FIN 3220)

6. Complete Regression Requirement

- ECN 4050 - Econometrics (3) or STA 4002 - Applied Linear Models I

7. Complete Database and Programming Requirements

- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- MIS 3130 - Information and Data Management (3) or MIS 3140 - Business Database Systems (3)
  (Students under a previous catalog who have taken MIS 3130 may use this course as a substitute for MIS 3140.)
- MIS 4460 - Business Analytics (3)

8. Complete Additional Mathematics-Statistics Requirement

- APM 2559 - Introduction to Differential Equations (4) or STA 4225 - Elements of Stochastic Processes (4) or APM 4334 - Applied Numerical Methods: Matrix Methods (4)
  (Students under a previous catalog who have taken APM 2559 may use this course as an elective choice)

9. Complete Financial Mathematics Requirement

- ACS 4550 - Financial Mathematics (3)

10. Complete Financial Derivatives Requirement

- ACS 4660 - Financial Economics (3) or FIN 4250 - Financial Derivatives (3) (Students under a previous catalog can use ACS 4660 to satisfy the Financial Derivatives requirement)

11. Complete Cognate Courses

- WRT 3082 - Business Writing (4)
- COM 2000 - Public Speaking (4) or COM 2403 - Group Dynamics and Communication (4)

12. Complete ACHIEVE courses

- SBC 1990 - ACHIEVE I (0) (to be taken during the freshman year or first year as an actuarial science major)
- SBC 2990 - ACHIEVE II (0) (to be taken during the fall semester of the sophomore year or the second semester as an actuarial science major)
- ACS 3990 - ACHIEVE 3 Actuarial Sciences (0) (to be taken during the second semester of the sophomore year or the third semester as an actuarial science major)

13. Earn a minimum grade of C in all courses applied to the major including cognate courses for the major.

Additional Information

In addition to these major requirements, students must complete the Oakland University General Education Requirements, the College of Arts and Sciences College Exploratory Requirement, and an appropriate number of free elective classes to meet the overall credit requirement for the degree (in most cases 124; some degrees may require a greater number).

As a general rule, no more than eight 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.

Business Actuarial Science, B.S.

This major serves as an alternative to the Actuarial Science (ACS) Major. Students selecting the Business Actuarial Sciences (BACS) major will complete all of the Actuarial Sciences major-specific requirements. Some of these requirements overlap with the requirements of the business major. Students must complete all additional requirements for the business degree. Upon graduation, students will receive the BS in Business Administration with a major in Business Actuarial Sciences (BACS) degree. Whenever there are changes to the ACS major, they will also be made to the BACS major.

To earn the Bachelor of Science degree with a major in business actuarial science, students must complete the following actuarial and business requirements.

1. Complete Basic Mathematics Requirements - 16 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- MTH 2554 - Multivariable Calculus (4)
- MTH 2775 - Linear Algebra (4)

2. Complete Probability Requirements - 8-9

- ACS 3000 - Foundations of Probability and Calculus (1) (unless the student has earned a grade of at least B+ in MTH 2554 - Multivariable Calculus (4) or permission of the chief undergraduate actuarial adviser)
- STA 2226 - Applied Probability and Statistics (4)
- STA 4227 - Introduction to Mathematical Statistics I (4)

3. Complete Economics Requirements - 14 credits

- ECN 2010 - Principles of Microeconomics (4) and
- ECN 2020 - Principles of Global Macroeconomics (4) (or ECN 2000 Principles of Macroeconomics (4))
- ECN 3020 - Intermediate Macroeconomics (3) or ECN 3210 - Financial Markets and Economy (3)
- ECN 3030 - Managerial Economics (3) or ECN 3810 - Mathematical Analysis for Economists (3)

4. Complete Statistics Requirement - 3-4 credits

- QMM 2410 - Statistical Methods for Business II (3) or
- STA 4228 - Introduction to Mathematical Statistics II (4) or
- STA 4330 - Time Series I (4)

5. Complete Accounting and Finance Requirements - 8-10 credits

- ACC 2000 - Introductory Financial Accounting (4)
- FIN 3550 - Finance for Actuarial Science (4) or (FIN 3220 Managerial Finance I (3) and FIN 3720 Managerial Finance II (3))

6. Complete Regression Requirement - 3-4 credits

- ECN 4050 - Econometrics (3) or STA 4002 Applied Linear Models I (4)

7. Complete Database and Programming Requirements - 10 credits

- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- MIS 3130 - Information and Data Management (3) or MIS 3140 Business Database Systems (3)
- MIS 4460 - Business Analytics (3)

8. Complete Additional Mathematics-Statistics Requirement - 4 credits

- APM 2559 - Introduction to Differential Equations (4) or
- APM 4334 - Applied Numerical Methods: Matrix Methods (4) or
- STA 4225 - Elements of Stochastic Processes (4)

9. Complete Financial Mathematics Requirement - 3 credits

- ACS 4550 - Financial Mathematics (3)

10. Complete Financial Derivatives Requirement - 3 credits

- ACS 4660 - Financial Economics (3) or FIN 4250 Financial Derivatives (3)

11. Complete cognate course - 8 credits

- COM 2000 - Public Speaking (4) or COM 2403 Group Dynamics and Communication (4)
- WRT 3082 - Business Writing (4)

12. Complete ACHIEVE courses - 0 credits

- SBC 1990 - ACHIEVE I (0) (to be taken during the freshman year or first year as an actuarial science major)
- SBC 2990 - ACHIEVE II (0) (to be taken during the fall semester of the sophomore year or the second semester as an actuarial science major)
- ACS 3990 - ACHIEVE 3 Actuarial Sciences (0) (to be taken during the second semester of the sophomore year or the third semester as an actuarial science major)

13. Complete additional SBA Pre-Core Requirements - 7 credits

- ACC 2100 - Managerial and Cost Accounting I (4)
- MIS 1000 - Business Problem Solving with Information Technology (3)

14. Complete additional SBA Core Requirements - 21 credits

- MGT 3500 - Legal Environment of Business (3)
- MGT 4350 - Management Strategies and Policies (3)
- MIS 3000 - Management Information Systems (3)
- MKT 3020 - Marketing (3)
- ORG 3310 - Introduction to the Management of Human Resources (3)
- ORG 3300 - Introduction to Organizational Behavior (3)
- POM 3430 - Operations Management (3)

124 Minimum Total Credits Required to Graduate

Business Administration, Business Economics Major, B.S.

Requirements for the major in business economics, B.S.

Major adviser: Ronald Tracy

The Bachelor of Science in Business Administration with a major in business economics combines studies of the basic functional areas of business with the analytical and quantitative methods of economics and therefore provides students with the ability to apply general concepts of economics to help solve managerial problems. This major prepares students for careers in business management or public administration, or for graduate study in business, economics or law.

To fulfill the requirements for the business economics major, students must be admitted to major standing in business economics, complete the core program and complete a minimum of 30 credits, as specified below, with a grade of C or better in each major course. A grade of C or better must be achieved in each prerequisite for an economics course before a business economics major, or any Oakland University student, may begin work in that economics course.

Requirements for major standing

Admission to major standing in economics requires:

1. Completion of the writing requirement.
2. Completion of the following courses, or their equivalents, with a grade of C or better in each course: ACC 2000, ACC 2100, COM 2000 (or COM 2403) MTH 1221-MTH 1222, (ECN 2000 and ECN 2010), MIS 1000, (QMM 2400 and QMM 2410), SBC 1990 and SBC 2990.
3. Completion of these courses with a C in each course and an overall 2.6 GPA.
4. Approval of an "Application for Major Standing in Economics."

Students who have taken STA 2220 or STA 2226 under a previous catalog may use these courses to satisfy the QMM 2400 requirement.

Although ECN 3020, ECN 3030 and ECN 3040 are not required for admission to major standing in economics, students must earn a grade of C or better in ECN 3020, ECN 3030 and ECN 3040 in order to graduate.

Required in the pre-core and core -- 9-11 credits

- ECN 2010 - Principles of Microeconomics (4)
  and
- ECN 2020 - Principles of Global Macroeconomics (4) or ECN 2000 - Principles of Macroeconomics (4)
- ECN 3030 - Managerial Economics (3)

Required major courses -- 9 credits

- ECN 3020 - Intermediate Macroeconomics (3)
- ECN 3040 - Consumer and Welfare Economics (3)
- ECN 3990 - ACHIEVE III - Business Economics (0)
- ECN 4050 - Econometrics (3)
- ECN 4180 - Seminar in Economic Policy (3)

Electives -- choose four courses, at least one of which is a 4000-level course -- 12 credits

- ECN 3090 - State and Local Public Finance (3)
- ECN 3100 - Economics of the Environment (3)
- ECN 3150 - Economics of Gender and Ethnicity (3)
- ECN 3210 - Financial Markets and Economy (3)
- ECN 3260 - International Economic Development (3)
- ECN 3330 - History of Economic Thought (3)
- ECN 3380 - Economics of Human Resources (3)
- ECN 3670 - Economics of Health Care (3)
- ECN 3730 - International Trade (3)
- ECN 3740 - Economics of Intl Finance (3)
- ECN 3780 - Economic Analysis of Law (3)
- ECN 3800 - Topics in Economics (3)
- ECN 3810 - Mathematical Analysis for Economists (3)
- ECN 3850 - Economics of Industries (3)
- ECN 4060 - Time Series Econometrics (3)
- ECN 4090 - Urban and Regional Economics (3)
- ECN 4210 - Monetary Economics (3)
- ECN 4560 - Public Finance (3)
- ECN 4900 - Special Topics in Economics (3)

30-32 credits total

Students on a previous catalog may use ECN 3810 as an Economics elective.

Economics, B.A.

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

The program leading to a Bachelor of Arts degree in economics includes cognate courses in mathematics, statistics and computers and required economics courses and economics electives, as listed below. Students who have taken ECN 1500 or ECN 1600 before ECN 2010 or ECN 2020 (or ECN 2000) and who subsequently become economics majors, should talk to the department chairperson. The

economics major must complete each of the cognate, required and elective courses with a grade of C or better:

Cognate courses

- MIS 1000 - Business Problem Solving with Information Technology (3)
- MTH 0661 - Elementary Algebra (4) (if required by ACT or SAT scores)
- MTH 0662 - Intermediate Algebra (4) (if required by ACT or SAT scores)
- MTH 1221 - Linear Programming Elementary Functions (4) or MTH 1441 - Precalculus (4)
- MTH 1222 - Calculus for the Social Sciences (4) or MTH 1554 - Calculus I (4)
- QMM 2400 - Statistical Methods for Business I (3) (or STA 2220 or STA 2226) and QMM 2410 - Statistical Methods for Business II (Students who have taken STA 2220 or STA 2226 under a previous catalog may use these courses to satisfy the QMM 2400 requirement)

Required courses

- ECN 2010 - Principles of Microeconomics (4) and ECN 2020 - Principles of Global Macroeconomics (4) or ECN 2000 - Principles of Macroeconomics (4)
- ECN 3020 - Intermediate Macroeconomics (3)
- ECN 3030 - Managerial Economics (3)
- ECN 3040 - Consumer and Welfare Economics (3)
- ECN 4180 - Seminar in Economic Policy (3)

Economics major electives

Choose six economics electives at the 3000 level or above, one or more of which must be at the 4000 level. No more than 3 credits of ECN 4996, ECN 3800, or ECN 4900 may be counted as electives. Students taking ECN 1500 or ECN 1600 before ECN 2000, ECN 2010 or ECN 2020, and who subsequently become economics majors, should talk to the department chairperson.

Note: Students must meet any course prerequisites before taking these courses. All cognate, required and major elective courses must be completed with a grade of C or better.

Additional Information

In addition to these major requirements, students must complete the Oakland University General Education Requirements, the College of Arts and Sciences College Exploratory Requirement, and an appropriate number of free elective classes to meet the overall credit requirement for the degree (in most cases 124; some degrees may require a greater number).

As a general rule, no more than eight 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.

Business Administration, Business Economics Major, B.S.

Requirements for the major in business economics, B.S.

Major adviser: Ronald Tracy

The Bachelor of Science in Business Administration with a major in business economics combines studies of the basic functional areas of business with the analytical and quantitative methods of economics and therefore provides students with the ability to apply general concepts of economics to help solve managerial problems. This major prepares students for careers in business management or public administration, or for graduate study in business, economics or law.

To fulfill the requirements for the business economics major, students must be admitted to major standing in business economics, complete the core program and complete a minimum of 30 credits, as specified below, with a grade of C or better in each major course. A grade of C or better must be achieved in each prerequisite for an economics course before a business economics major, or any Oakland University student, may begin work in that economics course.

Requirements for major standing

Admission to major standing in economics requires:

5. Completion of the writing requirement.
6. Completion of the following courses, or their equivalents, with a grade of C or better in each course: ACC 2000, ACC 2100, COM 2000 (or COM 2403) MTH 1221-MTH 1222, (ECN 2000 and ECN 2010), MIS 1000, (QMM 2400 and QMM 2410), SBC 1990 and SBC 2990.
7. Completion of these courses with a C in each course and an overall 2.6 GPA.
8. Approval of an ''Application for Major Standing in Economics.''

Students who have taken STA 2220 or STA 2226 under a previous catalog may use these courses to satisfy the QMM 2400 requirement.

Although ECN 3020, ECN 3030 and ECN 3040 are not required for admission to major standing in economics, students must earn a grade of C or better in ECN 3020, ECN 3030 and ECN 3040 in order to graduate.

Required in the pre-core and core -- 9-11 credits

- ECN 2010 - Principles of Microeconomics (4)
  and
- ECN 2020 - Principles of Global Macroeconomics (4) or ECN 2000 - Principles of Macroeconomics (4)
- ECN 3030 - Managerial Economics (3)

Required major courses -- 9 credits

- ECN 3020 - Intermediate Macroeconomics (3)
- ECN 3040 - Consumer and Welfare Economics (3)

- ECN 3990 - ACHIEVE III - Business Economics (0)
- ECN 4050 - Econometrics (3)
- ECN 4180 - Seminar in Economic Policy (3)

Electives -- choose four courses, at least one of which is a 4000-level course -- 12 credits

- ECN 3090 - State and Local Public Finance (3)
- ECN 3100 - Economics of the Environment (3)
- ECN 3150 - Economics of Gender and Ethnicity (3)
- ECN 3210 - Financial Markets and Economy (3)
- ECN 3260 - International Economic Development (3)
- ECN 3330 - History of Economic Thought (3)
- ECN 3380 - Economics of Human Resources (3)
- ECN 3670 - Economics of Health Care (3)
- ECN 3730 - International Trade (3)
- ECN 3740 - Economics of Intl Finance (3)
- ECN 3780 - Economic Analysis of Law (3)
- ECN 3800 - Topics in Economics (3)
- ECN 3810 - Mathematical Analysis for Economists (3)
- ECN 3850 - Economics of Industries (3)
- ECN 4060 - Time Series Econometrics (3)
- ECN 4090 - Urban and Regional Economics (3)
- ECN 4210 - Monetary Economics (3)
- ECN 4560 - Public Finance (3)
- ECN 4900 - Special Topics in Economics (3)

30-32 credits total

Students on a previous catalog may use ECN 3810 as an Economics elective.

Economics Minor

Minor Adviser: Ronald Tracy

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.

This minor is open to all students except economics and business economics majors.

The minor in economics consists of a minimum of three courses in economics courses including any prerequisites for these courses. (ACS 4660 may satisfy three credits toward the Economics minor.)

*Students on previous catalog can use ACS 4660 toward Economic Minor.

Students taking ECN 1500 or ECN 1600 before ECN 2010 or ECN 2020 (or ECN 2000) who subsequently want to minor in economics should talk to the minor coordinator.

Requirements for a liberal arts minor in economics

1. Required course(s)

- ECN 2010 - Principles of Microeconomics (4) and ECN 2020 - Principles of Global Macroeconomics (4) (or ECN 2000 - Principles of Macroeconomics (4))

2. 12 credits in any 3000 or 4000 level economics (ECN) courses

Note

A minimum grade of C must be earned in each course in the economics minor and in the prerequisites for each course.

Economics Secondary Teaching Minor

Requirements for the secondary teaching minor in economics

A minimum of 20 credits in economics and business is required for the secondary teaching minor in economics, distributed as follows:

1. Required courses

- ECN 2010 - Principles of Microeconomics (4)
- ECN 2020 - Principles of Global Macroeconomics (4) (or ECN 2000)
- ECN 3730 - International Trade (3)
- ECN 3760 - U.S. and World Economic History (3)
- ECN 3210 - Financial Markets and Economy (3)
- MIS 1000 - Business Problem Solving with Information Technology (3)

2. Required methods course

- SED 4100 - ST: Teaching Secondary in the Minor Methods (4)

Note

Students are advised to take MIS 1000 early in the education program, as the course is likely to be helpful in many courses involving information technology. They should also obtain a supplemental course pack (that covers issue analysis) from the secondary education minor adviser in the department.

Generally, application to OU STEP requires a minimum cumulative grade point average of 3.0 in courses in the major and the minor. To progress into the internship year, students admitted to the OU STEP must maintain a minimum GPA of 3.00 in both their major and minor coursework, with no single course grade below C.

Second undergraduate degree candidates completing the minor may be required to take additional courses at Oakland University beyond the stated minimums. Students should consult with the chair in the Department of Economics or with the College of Arts and Sciences advising office.

School of Education and Human Services

415 Carlotta and Dennis Pawley Hall

(248) 370-3050

Fax: (248) 370-4202

Dean: Jon Margerum-Leys

Associate Dean: Michael G. MacDonald

Office of the Dean: Leigh Settlemoir Dzwik, assistant dean; Richard DeMent, information technology analyst; Julie Chapie, educational technology specialist; Donna Raymond, director of reporting and certification officer; James Silvestri, digital strategy manager; Anthony Gallina, director of development; Kathleen Corsetti, development associate; Aryan Elzaiat, business manager/budget analyst; Catherine Wigent, director of accreditation and continuous improvement

Adult Career Counseling Center: Department of Counseling, Todd W. Leibert, chair; Lauren Conibear, director

Educational Resources Laboratory: Barbara B. Campbell, coordinator

Ken Morris Center for the Study of Labor and Work: Department of Organizational Leadership, Eileen Johnson, chair; Michael P. Long, faculty director

Lowry Center for Early Childhood Education: Department of Human Development and Child Studies, Ambika Bhargava, chair; Ramona Borowicz, director

Center for Autism: Department of Human Development and Child Studies, Ambika Bhargava, chair; Darlene Groomes, director of academics; Chaturi Edrisinha, director of research; Kristin Rohrbeck, director of outreach

The Oakland University Applied Behavior Analysis (ABA) Autism Clinic: Department of Human Development and Child Studies, Ambika Bhargava, chair; Jessica Korneder, director

Pawley Lean Institute: Department of Organizational Leadership, Eileen Johnson, chair; Dennis Wade, director

Office of Public School Academies: Judeen Bartos, executive director; Latacha King, associate director; Shawna Boomgaard, manager of academic accountability; Adam LeRoy, administrative coordinator of special services;

Reading Recovery Center of Michigan: Department of Reading and Language Arts, Linda M. Pavonetti, chair; Mary Lose, director

School of Education and Human Services Advising: Roberta Rea, director; Jennifer Bellini, adviser; Melanie Chamberlain, adviser; Jari Pathenos, advisor; Laurie Shano, adviser; Adrienne Spitzer, adviser

School of Education and Human Services Counseling Center: Department of Counseling, Todd Leibert, chair; Jennifer Matthews, acting director; Olivia Nash, coordinator

School of Education and Human Services Reading Clinic: Department of Reading and Language Arts, Linda M. Pavonetti, chair; Tanya M. Christ, director

School of Education and Human Services Writing Clinic: Department of Reading and Language Arts, Linda M. Pavonetti, chair; S. Rebecca Leigh, Director.

School and Field Services: Beth Feiten, director; Holly Carruthers, field coordinator; Marica Hudson, field coordinator

Programs Offered

The School of Education and Human Services offers programs designed to prepare students for careers in teaching, counseling, and human resource development. The programs include a Bachelor of Science in elementary education, a five-year secondary education program leading to teaching certification for selected majors, and a Bachelor of Science in human resource development. Minors in human resource development, lean leadership, training and development, applied leadership skills and in labor and employment studies are also available. Students considering a major in elementary education should consult the Admissions section of this catalog for specific preparation requirements.

The School of Education and Human Services also offers programs leading to the Doctor of Philosophy in reading education; Doctor of Philosophy in education with a major in counseling; early childhood education or educational leadership; the Education Specialist in school administration; the Master of Arts in counseling; the Master of Arts in Teaching in reading and language arts; the Master of Arts in Teaching in elementary or secondary education; the Master of Education in five areas: early childhood, educational leadership, higher education leadership, teacher leadership, and special education; and the Master of Training and Development. For information on these programs, see the Oakland University Graduate Catalog.

Additional Services

Adult Career Counseling Center
Located within the SEHS Counseling Center is the Adult Career Counseling Center (ACCC), which provides services for adults from the community who seek guidance in examining career possibilities. The ACCC provides computer-assisted career guidance, individual career counseling and referral services at no charge. The ACCC is located in Room 250A Pawley Hall. Graduate students in the counseling program have an opportunity to work in the ACCC as graduate assistants or practicum counselors. The ACCC can be reached at (248) 370-3092 or visit the website.

Center for Autism

The Center for Autism includes outreach services (OUCARES), academic programs and research in the field of autism. The Joanne and Ted Lindsay Foundation Autism Outreach Services (commonly known as OUCARES) strives to improve quality of life for individuals with ASD, their families, and our community by providing quality and comprehensive programming across the lifespan. Call 248-370-3077 for more information

Educational Resources Laboratory

The Educational Resources Laboratory, 350 Pawley Hall, (248) 370-2485, provides support for the academic, research and development activities of the School of Education and Human Services. It houses circulating collections of children's and young adult literature as well as curriculum and professional materials. Patrons are provided with a functional setting for the examination, study, research, development, production and evaluation of instructional materials and technologies. Workshops, bibliographic instruction, and reference consultation services for youth literature, K-12 curriculum, instructional technology and research strategies are available.

Galileo Institute for Teacher Leadership

The Galileo Institute for Teacher Leadership is dedicated to improving the learning of all students, elevating the education profession, enhancing the leadership skills of teachers, and fulfilling the vital role of public education in achieving a civil, prosperous and democratic society. The commitment to the concept of developing teacher leaders, to defining what teacher leadership is and why it is so important is at the heart of the institute.

Ken Morris Center for the Study of Labor and Work

The Ken Morris Center for the Study of Labor and Work, 495C Pawley Hall, (248) 370-3124, provides teaching, research, consultation and public service activities for labor organizations and their members. It coordinates the Minor in Employment Systems and Standards 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, are offered at on- and off-campus locations, 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.

Lowry Center for Early Childhood Education

The Lowry Center for Early Childhood Education, (248) 370-4100, offers early childhood education programming for children from 18 months to five years of age. The center is a research and training facility for students and faculty interested in child growth and development and early childhood curriculum.

The Oakland University Applied Behavior Analysis (ABA) Autism Clinic

The ABA Clinic is a nonprofit, center-based clinic located in 250 Pawley Hall that is dedicated to the treatment and research of ASD using ABA methodology. For additional information contact Jessica Korneder, ABA Clinic Director at (248) 370-3080 or korneder@oakland.edu

Public School Academies

Authorizing excellent schools is the focus of the Oakland University Office of Public School Academies. Their strategic priority is to ensure that each Academy provides a quality education to its students, utilizes sound governing policies, and fulfills its fiscal and legal responsibilities. Oakland University Board of Trustees approved the Public School Academy Chartering Policy in 1995 for schools to be located in

Wayne, Oakland and Macomb counties with the hope of making a difference in the education of children in its external environs. With nine schools in close proximity to the university, opportunities exist for OU to have an involved and active relationship with the schools, as well as to foster an atmosphere of collaboration and partnership among the academies.

Pawley Lean Institute

Designed to benefit Oakland University students, schools, nonprofits, government and industry, the Pawley Lean Institute (PLI) shares concepts and practices of Lean thinking to create leaders and learners in the university, public and private sectors, and the community.

Reading Recovery Center of Michigan

The Reading Recovery Center of Michigan, 228 Pawley Hall, (248) 370-3057, is a collaborative program with school districts across Michigan to provide literacy intervention services for children having extreme difficulty learning to read and write. As Michigan's Reading Recovery Training Center, post-masters educators prepare to become Reading Recovery teacher leaders through a yearlong graduate level training program. In addition, certified teachers participate in a yearlong graduate level training program offered throughout the state in one of three areas - Reading Recovery®, Literacy Lessons™, or Literacy Support - and learn to design and deliver individual lessons in reading and writing for lowest performing learners. Most children make accelerative progress after 12 to 20 weeks of daily, individual, 30-minute lessons. The Oakland University center supervises the initial training and the ongoing professional development and certification of these specialist teachers and works with Michigan schools to plan for, implement, and expand a range of literacy interventions for children in their schools.

School of Education and Human Services Advising Office

The School of Education and Human Services (SEHS) Advising Office, 363 Pawley Hall, (248) 370-4182 is responsible for providing academic advising and career counseling for undergraduate and post-baccalaureate students in the Bachelor of Science degree in elementary education, secondary teacher education program (STEP), Human Resource Development, and Master of Arts in Teaching with elementary or secondary certification.

School of Education and Human Services Counseling Center

The School of Education and Human Services (SEHS) Counseling Center offers no-cost counseling to Oakland University students and the general public.

The SEHS Counseling Center works with individual adults, adolescents, and children, as well as couples, families and groups. Counseling is provided for a wide variety of daily living issues, such as anxiety, stress, grief and loss, time management, life transitions, relationship issues and behavioral issues, to name a few. The SEHS Counseling Center is equipped with career assessments to aid those in their career exploration, educational goals and job search.

All sessions are conducted by a closely supervised masters or doctoral level counselor near the end of his or her training. Sessions are professional, ethical and confidential. Clients are assigned to counselors for a semester-long time period. The center is open Monday through Saturday year-round, with the exception of university breaks. There are three ways to register for an appointment: by phone, call (248) 370-2633; in person, go to 250 Pawley Hall (second level) or register online.

School of Education and Human Services Reading Clinic

The School of Education and Human Services (SEHS) Reading Clinic, (248) 370-3054, offers tutorial and small-group instruction for children in grades one through 12 to help overcome reading difficulties.

Clinics are offered once or twice each year and are staffed by experienced teachers completing the practicum phase of their master's degrees in reading and language arts. Oakland University faculty supervise each clinic. Instruction typically focuses on comprehension, word recognition (including phonics), writing, literature, study skills and oral language.

School of Education and Human Services Writing Clinic

The School of Education and Human Services (SEHS) Writing Clinic, (248) 370-3054, offers tutorial and small-group instruction for children in grades one through eight to help children improve their writing. The Writing Clinic is offered in summer only and is staffed by experienced teachers completing the practicum phase of their master's degrees in reading and language arts. Oakland University faculty supervise the clinic. Instruction occurs over a period of seven days and typically focuses on genre, author's craft, and illustration study to develop power of expression in writing.

School and Field Services

The Office of School and Field Services, 385 Pawley Hall, (248) 370-3060, is responsible for the support and placement of pre-service field students and interns in elementary, secondary, art and music education, as well as supporting the development of clinical partnerships with area schools and districts.

Department of Counseling

491B Pawley Hall

(248) 370-4179

Fax: (248) 370-4141

Chair: Todd W. Leibert

Professors emeriti: Tom Blume, Jane S. Goodman, Luellen Ramey, Howard Splete

Professors: James T. Hansen, Lisa D. Hawley

Associate professors: Michael P. Chaney, Jr., Stephanie Crockett, Todd W. Leibert, Brian J. Taber

Assistant professors: Ashley Branson, Lorise Grey, Jennifer Matthews

Within the School of Education and Human Services, the Department of Counseling offers undergraduate courses in career exploration, crisis intervention and foundations of counseling. See the Graduate Catalog for the Master of Arts in Counseling, specializations in Mental Health Counseling, Addictions Counseling, and School Counseling. A Ph.D. program is offered with a focus on any of the above cognate areas.

Department of Human Development and Child Studies

405B Pawley Hall

(248) 370-3077

Fax: (248) 370-4242

Chairperson: Ambika Bhargava

Professors emeriti: Sandra Alber, Marc E. Briod, Gerald F. Freeman, Ronald M. Swartz

Associate professors: Ambika Bhargava, Chaturi Edrisinha, Janet E. Graetz, Darlene A. Groomes, Andrew S. Gunsberg, James M. Javorsky, M. Shannan McNair, Sherri L. Oden, Julie Ricks-Doneen, Erica A. Ruegg, Sunwoo Shin, Tomoko Wakabayashi

Assistant professors: Jessica Korneder

Special Instructor: Nicholas P. Lauer

Within the School of Education and Human Services, the faculty of the Department of Human Development and Child Studies offers courses in special education at the undergraduate level for students pursuing a career in teaching. A major in early childhood education that meets the ZS endorsement requirements is available for elementary education students. The department houses master's degree programs in early childhood education and special education; these graduate programs provide endorsements and/or professional education certification requirements. The department also offers a doctor of philosophy degree in early childhood.

Department of Organizational Leadership

475E Pawley Hall

(248) 370-4109

Fax: (248) 370-4605

Chairperson: Eileen S. Johnson

Professors emeriti: Susan M. Awbrey, William C. Fish, Eric J. Follo, James W. Hughes, Patrick J. Johnson, William G. Keane, Billy J. Minor, M. Sharon P. Muir, Sandra P. Packard, Robert G. Payne

Professors: Julia B. Smith, David C. Strubler, Caryn M. Wells

Associate professors: Cynthia L. Carver, Shannon R. Flumerfelt, Tomas R. Giberson, Eileen S. Johnson, C. Suzanne Klein, Michael P. Long, Jana Nidiffer, James A. Quinn, Chaunda L. Scott, William L. Solomonson, V. Thandi Sulé

Assistant professors: Chang-kyu Kwon

Special instructors: Christine M. Abbott, Jennifer Wenson

Visiting Assistant Professor: Robert A. Martin

The Department of Organizational Leadership of the School of Education and Human Services offers a program leading to the degree of Bachelor of Science in Human Resource Development. This field of study focuses on four areas: organizational development, training and development, career/leadership development, and employment systems and standards. The degree program covers topics in these focus areas related to instructional design and delivery, lean leadership, program evaluation, performance appraisal, employee selection, recruiting, ethics, organizational development, principles of leadership, labor relations, employment law, employee involvement and cultural diversity. Graduates are prepared with conceptual knowledge, technical and interpersonal skills for a variety of careers.

Advising

Students should meet with the professional academic adviser for assistance with schedule planning, completing the program plan, interpreting degree requirements, admission to major standing, transfer credits, petitions of exception and graduation audits. The advising office is located in 363 Pawley Hall, (248) 370-4182. Students are encouraged to meet with their adviser at least once per academic year.

Admission to Major Standing in Human Resource Development

To be admitted to major standing a student must satisfy the following requirements:

1. Complete a minimum of 40 credits at an accredited college or university with a cumulative GPA of 2.00 or better. Courses that carry no numerical or letter grade (such as S/U) are excluded from calculation of the GPA.
2. Complete the HRD core courses with a minimum grade of C+ in each course.
3. Submit an "Application for Major Standing" during the semester in which the student expects to complete the core requirements.
4. Meet with the HRD Academic Adviser and complete an approved HRD program plan.

Related Minors and Concentrations

Students who wish to obtain a minor offered by SEHS must obtain the approval of the human resource development program adviser. If the minor or concentration is within a school other than SEHS, students must obtain approval from the adviser of the selected minor. Please note that one course cannot be used to satisfy the requirements of three categories under the Department of Organizational Leadership. This means that one course cannot be used to meet the requirements of an HRD major and two HRD minors or to meet the requirements of all three HRD minors.

Departmental Honors

HRD honors are available to students who meet the following standards: a 3.50 or better cumulative average for all courses taken at Oakland University; a 3.70 or better cumulative average in department courses.

Applied Leadership Skills Minor

Requirements for the minor in applied leadership skills

The School of Education and Human Services, Department of Organizational Leadership, offers the following interdisciplinary minor, which is available to all students at the university. The minor in Applied Leadership Skills is a program of study that provides an academic background emphasizing education in leadership, group dynamics and interpersonal processes, ethics, multicultural leadership, and leadership in organizations from a cross disciplinary approach. The aim of this program of study is twofold. First to allow students to develop an academic understanding of leadership. Then, to assist students in developing leadership capabilities. This program of study may be useful to any student interested in developing skills that will expand the student's leadership capabilities for application within their communities, businesses or other organizations.

No more than eight credits of course work used to satisfy another major, minor or concentration may be applied toward this minor. Students must meet with the coordinator of the minor to design a plan and complete a Minor Authorization Form identifying appropriately selected courses. The minor requires a minimum of 23 credits distributed among the areas described below. The student must earn a final course grade of C+ or higher in a course in order for the class to be counted for the minor.

a. Core course in Leadership Principles -- Must complete one of the following

- COM 3402 - Communication in Leadership (4)
- HRD 3510 - Principles of Leadership (4)

b. Group Dynamics/Interpersonal Processes in Leadership -- Must complete two of the following courses

- COM 2403 - Group Dynamics and Communication (4)
- COM 3000 - Relational Communication Theory (4)
- COM 3400 - Relational Communication (4)
- HRD 3210 - Group/Team Development and Leadership (4)
- HRD 3230 - Fundamentals of Human Interaction (4)
- ORG 4310 - Leadership and Group Performance (4)

c. Ethics in Leadership -- Must complete one of the following courses

- PHL 3510 - Ethics in Business (4)
- PS 3710 - International Politics of Human Rights (4)
- HRD 3410 - Ethics in Human Resource Development (4)

d. Multicultural Leadership -- Must complete one of the following courses

- PS 3550 - Politics of Development (4)
- HRD 3530 - Cultural Diversity in the Workplace (4)
- COM 3300 - Multicultural Communication (4)

e. Leadership in Organizations -- Must complete one of the following courses

- HRD 3440 - Introduction to Labor and Employment Relations (4)
- HRD 4200 - Change Process and Organizational Analysis (4)
- MGT 3000 - Survey of Management (3)
- ORG 3300 - Introduction to Organizational Behavior (3)
- PS 3205 - American Political Culture (4)

Additional Information

Students may want to consider planning their coursework in a way that allows them to meet any of the prerequisites for the above courses. In particular, students are urged to take the following General Education courses: PHL 1300, PS 1600 or PS 1100, and any foreign language. Study abroad opportunity through International Education may serve as a substitution for one or more of the course requirements, as determined by the coordinator of the minor. (See Director of International Education for opportunities)

Employment Systems and Standards Minor

Department of Organizational Leadership

Pawley Hall, Room 480B
456 Pioneer Dr.
Rochester, MI 48309-4482

(248) 370-2730

Requirements for the minor in employment systems and standards

Employment Systems and Standards is an interdisciplinary minor that provides an academic background for understanding the practical and theoretical bases of the employee/employer relationship, both where a collective bargaining relationship exists and where it does not. This program may be particularly useful to individuals interested in the operational aspects of employment including the law, collective bargaining, employment regulations, employment practices, philosophy of employment, and the dynamics of employment-related leadership and participative roles.

This minor is open to any student who has been admitted to the university. Coursework is scheduled to maximize accessibility to both full-time undergraduates and part-time working students. Students who seek to apply credits toward a degree must contact an adviser to design a degree plan and to select appropriate courses.

This minor requires 23 or 24 credits distributed among the areas of preparation listed below. The plan of study is subject to the approval of the coordinator for the minor. The student must earn a final course grade of C+ or higher in each of the required courses in order for the class to be counted for the minor.

The courses for the minor in employment systems and standards are as follows (23 or 24 credits):

a. Must complete one of the following

- HRD 3440 - Introduction to Labor and Employment Relations (4)
- HRD 3445 - Introduction to Public Sector Labor and Employment Relations (4)

b. Must complete the following two courses

- HRD 3420 - Work and the Law (4)
- HRD 4440 - Civil Rights and Regulations in Employment (4)

c. Must complete three of the following courses

- EHS 2350 - Occupational Safety and Health Standards (3)
- HRD 3330 - Presentation and Facilitation (4)
- HRD 3530 - Cultural Diversity in the Workplace (4)
- HRD 4100 - Strategic Planning (4)
- HRD 4410 - The Study of Labor and Work Organizations (4)
- HRD 4420 - Employee Benefits (4)
- HRD 4430 - Collective Bargaining and Dispute Resolution (4)
- HRD 4510 - Negotiation for Personal Success (4)
- WGS 3880 - Women in Modern America (4)

Human Resource Development Minor

The School of Education and Human Services offers a minor in human resource development for students other than HRD majors who wish to strengthen their academic majors with coursework in human resource development.

To obtain a minor in HRD, a student must:

1. Complete the minor authorization form with the approval of the HRD minor coordinator.
2. Complete the minor core courses (24 credit hours) with a minimum grade of C+ in each course.

Minor core -- 24 credits

- HRD 3100 - Introduction to Human Resource Development (4)

- HRD 3300 - Instructional Design (4)
- HRD 3420 - Work and the Law (4)
- HRD 3210 - Group/Team Development and Leadership (4)
- HRD 3530 - Cultural Diversity in the Workplace (4)
- HRD 3430 - Staffing, Performance Evaluation and Interaction within Organizations (4)

Human Resources Management Minor

Coordinator: Kenneth M. York

The minor in human resources management consists of a minimum of five courses described as follows: ORG 3300, ORG 3310 and ORG 4340 and two courses chosen from ORG 4300, ORG 4310, ORG 4320, ORG 4330, ORG 4600, ORG 4700, ORG 4900 and the prerequisites for these courses. A minimum grade of C must be earned in each course in the human resources management minor and in the prerequisites for each course. This minor is open to all students except SBA human resources management majors.

Students who have taken ORG 4600 under a previous catalog will be able to count this course as an elective.

Human Resource Development, B.S.

SEHS Advising Office

Pawley Hall, Room 363

456 Pioneer Drive

Rochester, MI 48309-4482

(248) 370-4182

Website

Requirements for the major in human resource development, B.S. program

The curriculum described in this catalog shall be followed by students admitted to pre-HRD status. Admission to pre-HRD status requires a cumulative grade-point average of 2.00 or better. Students admitted to Oakland University pre-HRD status 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 Oakland University pre-HRD status (or any catalog during the interim), provided that the catalog is not more than six years old at the time of graduation. Students who transfer to the School of Education and Human Services 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. Students using this catalog to meet major or minor requirements may also use any course subsequently approved as satisfying requirements and published in a later catalog.

To earn a Bachelor of Science degree with a major in human resource development, students must:

1. Complete a minimum total of 120 credits.
2. Complete at least 32 credits in courses at the 3000 level or above at Oakland University.
3. Have a cumulative grade point average of at least 2.00.
4. Complete the university general education requirement (see Undergraduate degree requirements).
5. Complete the human resource development core (32 credits), human resource development focus area courses (32 credits), internship or alternative (4 credits), and general electives (12 credits). Students must obtain a minimum grade of C+ in each required HRD course.

Required courses for the Bachelor of Science degree in human resource development

The program leading to the Bachelor of Science degree in human resource development includes the following HRD courses, electives and internship.

A. HRD Core Courses -- 32 credits

Core courses introduce important theoretical constructs and skills for pursuing a major in human resource development. Students must earn a minimum grade of C+ in each of the following core courses:

- HRD 3410 - Ethics in Human Resource Development (4)
- HRD 3100 - Introduction to Human Resource Development (4)
- HRD 3700 - Human Resource Information Systems (4)
- HRD 3300 - Instructional Design (4)
- HRD 3420 - Work and the Law (4)
- HRD 3210 - Group/Team Development and Leadership (4)
- HRD 3530 - Cultural Diversity in the Workplace (4)
- HRD 3430 - Staffing, Performance Evaluation and Interaction within Organizations (4)

B. HRD Focus Area Courses -- 32 credits

HRD Focus Area courses should be taken after students finish the HRD core courses. HRD focus area courses must be completed with a minimum grade of C+. There are four HRD Focus Areas: Organizational Development, Training and Development, Career/Leadership Development and Employment Systems and Standards. The student is required to take the asterisked (*) course in each of the four HRD Focus Areas plus one elective course in each of the four HRD focus areas.

Organizational Development

- * HRD 4200 - Change Process and Organizational Analysis (4)
- HRD 3600 - Lean Principles and Practices in Organizations (4)
- HRD 3230 - Fundamentals of Human Interaction (4)
- HRD 4600 - Lean Kaizen in Organizations (4)

- HRD 4100 - Strategic Planning (4)

Training & Development

- * HRD 4300 - Instructional Methods (4)
- HRD 3330 - Presentation and Facilitation (4)
- HRD 4320 - Program Evaluation (4)
- HRD 4700 - E-learning in Organizations (4)

Career/Leadership Development

- * HRD 3520 - Career Development (4)
- HRD 3510 - Principles of Leadership (4)
- HRD 4510 - Negotiation for Personal Success (4)

Employment Systems & Standards

- * HRD 3440 - Introduction to Labor and Employment Relations (4)
- HRD 3445 - Introduction to Public Sector Labor and Employment Relations (4)
- HRD 4410 - The Study of Labor and Work Organizations (4)
- HRD 4430 - Collective Bargaining and Dispute Resolution (4)
- HRD 4420 - Employee Benefits (4)
- HRD 4440 - Civil Rights and Regulations in Employment (4)

C. General Elective Courses -- 12 credits

The general electives allow students to take courses that support their individual interests and career aspirations. General elective courses must be at the 0500 level or higher, and may be from HRD or any other field of interest.

D. Human Resource Development Internship -- 4 credits

Internship requirements may be met by the completion of a professional internship, a research internship, a project internship, or a combination of two or three of these options. Applications for internships must be submitted by the designated deadlines (fall semester - June 15, winter semester - October 15 and summer semester - February 15). Applications will not be accepted after the deadline. The internship must be completed with a minimum grade of C+.

Professional internship (see prerequisites below in HRD 4950 course description)

In order for a student to complete a professional internship, four credits must be completed at an approved internship placement site for a total of 320 hours of work in the field of human resource development. HRD 4950 - Internship in HRD (4)

Research internship

In the rare case that a professional internship cannot be completed, a research internship of four credits may be completed by students who have the requisite backgrounds and skills to produce research work at the undergraduate level in the field of human resource development. To qualify for a research internship, students are required to have successfully completed the courses normally required for an HRD internship plus any additional courses appropriate for the acquisition of skills necessary for completion of the internship project(s).

It is required that a student intending to pursue this internship has previously conferred with an HRD faculty member regarding the availability of an appropriate research project and the willingness of the HRD faculty member to supervise the intern in his or her completion of the research project.

Students wishing to pursue a research internship must complete an application, including describing the proposed research internship. This form must also be signed by the HRD faculty member who has agreed to supervise the student. Completed applications must be submitted no later than the dates designated above for internship approval. Applications will be reviewed by a committee of the Department of Organizational Leadership.

Project internship

A project internship of four credits may be completed by students who have completed a minimum of two (2) years of work in the field of Human Resources or who are subject to special circumstances. To qualify for a project internship, students are required to have successfully completed the courses normally required for an HRD internship plus any additional courses appropriate for the acquisition of skills necessary for completion of the internship project(s).

It is required that a student intending to pursue a project internship has previously conferred with an HRD faculty member regarding the availability of an appropriate project or projects to complete as part of the internship and the willingness of the HRD faculty member to supervise the intern.

Applications must be obtained from the HRD Internship Coordinator. Completed applications must be submitted no later than the dates designated above for the internship approval. Applications will be reviewed by a committee of the Department of Organizational Leadership.

Lean Leadership Minor

Lean Leadership is a specialized minor that is intended for students who want to enhance their career opportunities and add value to their employers through lean knowledge, practice, and leadership in the workplace. Students may use the minor to receive a Lean Green Belt Certificate. All students interested in pursuing the minor must meet with the HRD advisor in the School of Education and Human Services in Pawley Hall. The minor requires 22 credits. The student must earn a final course grade of C+ or higher in each of the required courses in order for the class to be counted for the minor.

Requirements for minor in lean leadership

- HRD 3600 - Lean Principles and Practices in Organizations (4)
- HRD 3510 - Principles of Leadership (4)

- HRD 3210 - Group/Team Development and Leadership (4)
- HRD 4610 - Lean Green Belt Certificate (2)
- HRD 4200 - Change Process and Organizational Analysis (4)
- HRD 4600 - Lean Kaizen in Organizations (4)

Training and Development Minor

Requirements - Minor in training and development

The minor in Training and Development is a specialized minor that is intended for students who are interested in training and development functions in the workplace. Students are provided with academic and practical knowledge, skills, and classroom experience specifically in the areas of training and development, adult education and instructional design. This program may be particularly useful to individuals majoring in human resources, management, nursing, wellness and health promotion and education, as well as those with a general interest in designing, developing and delivering training and other presentations in their respective fields.

The minor is open to any student who has been admitted to the university. Courses are scheduled to maximize accessibility to both full-time undergraduates and working 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 minor requires 24 credits. The student must earn a final course grade of C+ or higher in each of the required courses in order for the class to be counted for the minor.

The courses for the minor in training and development are as follows:

- HRD 3100 - Introduction to Human Resource Development (4)
- HRD 3330 - Presentation and Facilitation (4)
- HRD 3300 - Instructional Design (4)
- HRD 4320 - Program Evaluation (4)
- HRD 4300 - Instructional Methods (4)
- HRD 4700 - E-learning in Organizations (4)

Department of Reading and Language Arts

490A Pawley Hall

(248) 370-3054

Fax: (248) 370-4367

Chairperson: Linda M. Pavonetti

Professors emeriti: Richard F. Barron, Jane Bingham, Gloria T. Blatt, Harald C. Cafone, Robert J. Christina, James F. Cipielewski, George E. Coon, Ronald L. Cramer, W. Dorsey Hammond, Harry T. Hahn, Anne Porter, Robert M. Schwartz, Toni S. Walters

Professors: Tanya M. Christ, Mary K. Lose, John E. McEneaney, Gwendolyn M. McMillon, Linda M. Pavonetti

Associate professors: S. Rebecca Leigh, Ledong Li

Assistant professors: Kristin McIlhagga, Jason Moore, Paul Morsink

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, digital literacies and learning and children's literature at the undergraduate level for students pursuing a career in teaching. For detailed information and the requirements of an Elementary Education Bachelor of Science degree with a major (36 credits) in Language Arts, please go to the on-line academic catalog.

The department offers a master's degree program in reading and language arts, certificate programs in digital literacies and learning, post-master's certificate programs, K-12 reading specialist endorsements, and a doctor of philosophy degree in literacy, culture, and language.

Department of Teacher Development and Educational Studies

485B Pawley Hall

(248) 370-2613

Fax: (248) 370-2639

Chairperson: Cynthia Carver

Elementary Program Coordinator: Patricia Bills

Secondary Program Coordinator: Anthony Tuf Francis

Professors emeriti: James W. Hughes, M. Sharon P. Muir, Dyanne Tracy, Dawn Pickard, Robert Wiggins

Professors: Ji-Eun Lee, Jon Margerum-Leys, Mary T. Stein,

Associate professors: Anthony Tuf Francis, Michael MacDonald, Mark Olson, Richard Pipan, Paul Weinberg

Assistant professors: Patricia Bills, Anica Bowe, Linda Doornbos, Danielle Ligocki, Dawn Woods

Special instructor: Lauren Childs, Linda Tyson

Visiting Special Instructor: Elizabeth Crowder

General Information

The Department of Teacher Development and Educational Studies offers programs designed to prepare students for careers in elementary and secondary school teaching. Both programs are approved by the

Council for the Accreditation of Education Preparation (CAEP) and the Michigan Department of Education.

In conjunction with the Departments of Human Development and Child Studies and Reading and Language Arts, the Department of Teacher Development and Educational Studies offers programs enabling students to concurrently earn a Bachelor of Science degree from Oakland University and recommendation for a Michigan elementary standard certificate (see: Michigan Teacher Certification).

The Department offers a fifth-year program, the Secondary Teacher Education Program (STEP), that prepares students majoring in selected academic fields in the College of Arts and Sciences for recommendation for a Michigan secondary standard certificate. Students interested in secondary education programs should consult the College of Arts and Sciences section of the catalog.

Students who already hold a four-year degree from an accredited college or university will need to complete the Bachelor degree requirements, excluding the general education requirements, or can consider the Master of Arts in Teaching program (elementary or secondary).

Admission to the Major

Meeting the minimum requirements does not guarantee admission to the major. Qualitative criteria may be required as well. The program seeks students who are committed to teaching in diverse schools or districts. Underrepresented students are especially encouraged to apply.

Minimum criteria for admission to the elementary education major are:

1. Have official SAT or ACT scores on file with Oakland University
2. Completion of 12 credits of General Education Requirements coursework with a minimum grade of C in each course.
3. A minimum of 60 documented clock-hours experience working with children in noncustodial activities. Field experience in EED 2000/ EED 2001 meets30 hours of this requirement. Examples of activities and documentation forms are available on the advising website.
4. Minimum grade of B in EED 2000/ EED 2001. (New transfer students who have taken an approved "Introduction to Education" course at their previous institution as well as first-year undergraduates who have participated in an approved teacher cadet program and students completing EED 1000 may be approved to take EED 2001 in lieu of EED 2000.)
5. A cumulative grade-point average (GPA) of at least 2.80.
6. Submission of a completed major standing application to the SEHS Advising Office.

Advising

The SEHS Advising Office is located in 363 Pawley Hall, (248) 370-4182. Students are encouraged to meet with an academic adviser at least once per academic year. Academic advisers assist with schedule

planning, interpreting degree requirements, admission to major standing, transfer credits, state testing requirements, certification information and graduation audits.

Professional Program

Upon being admitted to the elementary education program, students are expected to maintain continuous enrollment during the fall and winter semesters in at least one (1) and no more than four (4) professional education courses. Students must follow the required sequence of courses provided at the time of admission to major. Prerequisites are required for some professional education courses. See course offerings for prerequisites and corequisites. All General Education and Professional Education courses must be completed prior to student teaching.

Departmental Honors

Honors will be awarded to students based on outstanding academic achievement, evidence of exemplary professional dispositions and/or meritorious service to the profession.

Retention in the SEHS Professional Education Programs

Retention in the SEHS professional education programs is based on the expectation that students will demonstrate the characteristics of and conduct themselves as members of the profession as described in the program materials. Students may be removed from a program, removed from a field placement, or may not be recommended for certification for: (i) failure to fulfill any such expectations to Oakland University's satisfaction, including, without limitation, the expectation that they demonstrate adequate and appropriate communication ability and character, and develop, maintain and fulfill their professional relationships, responsibilities and competencies: (ii) academic misconduct; (iii) violations of the Michigan Code of Ethics for Teachers; (iv) failure to fulfill any Oakland University academic or conduct requirements; or (v) violations of any other program or Oakland University's policies, rules, regulations or ordinances.

Students may also be removed from field placements: (i) upon request of a building administrator; (ii) for a failure to comply with the requirements of this Competency and Retention Statement; (iii) if Oakland University determines that removal is in the best interests of the student, Oakland University, the professional education programs, or the schools where the student is placed; (iv) inadequate planning, classroom management, and/or discipline; (v) lack of content knowledge; (vi) deficiency in oral or written communication skills; (vii) inappropriate personal or professional behavior; (viii) ethical impropriety; (ix) violation(s) of community standards or policies; or (x) failure to exercise appropriate, professional judgments.

Field placements: In addition to the student teaching internship, participation is required in 4 field placements, each anchored to a specific course (EED 2000 /EED 2001, EED 3001, RDG 3231, EED 4270) The Office of School and Field Services arranges placements, including placement in culturally and economically diverse school districts. Depending on school district requirements, students may be required to be fingerprinted and have a state police and FBI background check, at their expense, before beginning a field placement.

Internship: EED 4950 must be taken in the final semester of the degree program.

Application for the internship, EED 4950, must be made one full academic year in advance of the intended enrollment. Students must check the School and Field Services website for the date of the required seminar meeting (held in the fall semester for both fall and winter student teacher applicants) at the time that application is made. Admission criteria for the internship are: a) satisfactory grade-point average and minimum required grades; b) completion of all professional education coursework and field placements; c) completion of all required coursework for the teaching major and/or minors; and d) students placed in K-5 classrooms must have passed the MTTC (Michigan Test for Teacher Certification) Elementary Education Test #103; students placed in a middle school must have passed the MTTC Elementary Education Test # 103 and the MTTC Endorsement tests for their major prior to beginning the internship semester. Students will be required to be fingerprinted and have a state police and FBI background check at their own expense. EED 4950 may not be repeated.

Students must obtain approval from the Petition of Exception Committee to enroll in more than 12 credits during the internship semester. A minimum grade of C in EED 4950 is required for graduation and a minimum grade of B for recommendation for certification. Students who do not earn the minimum grade for certification can earn a B.S. without certification.

Michigan Teacher Certification

To be recommended for a standard elementary certificate, elementary education majors must successfully complete requirements for the Elementary Education, B.S., earn a minimum grade of a B in EED 4950, and successfully pass the Elementary Education MTTC #103, The State also requires a certificate in first aid and adult/child CPR before certification may be recommended. Successful completion of our program and internship does not guarantee certification by the State of Michigan.

Applicants should be aware that a conviction for a felony or misdemeanor may constitute grounds for denial of a certificate by the State of Michigan. Applicants/students are advised that the Michigan Department of Education (MDE) certifies applicants to teach in the State of Michigan. Neither successful completion of an Oakland University teacher education program, nor Oakland University's recommendation to the MDE for certification, guarantees that the MDE will certify any applicant to teach.

The MDE, and authorized departments and agencies representing other states, may deny certification to an applicant, or suspend or terminate the certification of a certified educator, based upon their criminal record. The criminal record is generally verified through a fingerprint search response conducted by the Michigan State Police and the Federal Bureau of Investigation that includes arrests, arraignments, and convictions for any crime, misdemeanor or felony. Visit the MDE website to view the current specifically enumerated or listed offenses that may prohibit certification in Michigan.

Questions regarding the MDE's professional practices, criminal convictions or school safety laws should be directed to the MDE. If certification will be sought in another state, the applicant should contact that state's department of education or appropriate agency or representative.

A criminal record may also prohibit an applicant from being placed as a student-teacher or in a field placement in a school and/or school district. Failure to complete all requirements of an Oakland University teacher education program, including without limitation the successful completion of a student-teacher assignment and/or a filed placement, will prohibit the applicant/student from

graduating with a degree certified by Oakland University's School of Education and Human Services, and perhaps from another Oakland University college or school.

Teaching Certification for Elementary Education: The Michigan elementary standard certificate is valid for teaching all subjects in grades K-5, all subjects in self-contained classrooms for grades 6-8 in which one teacher provides a majority of the instruction, and in teaching majors and minors in departmentalized programs for grades 6-8.

Students who complete the ESL endorsement earn K-12 certification in this content area.

Elementary Education, B.S.

SEHS ADVISING OFFICE

Pawley Hall, Room 363
456 Pioneer Drive
Rochester, MI 48309-4482

(248) 370-4182

SEHS Advising

Students who wish to pursue an elementary education major are admitted by the Admissions Office and given pre-elementary education status. Students who hold a baccalaureate degree in another discipline seeking a second undergraduate degree must meet the undergraduate degree program requirements, excluding General Education Requirements. After admission, students meet for course selection with Academic Advisers in the SEHS Advising Office, Pawley Hall (Room 363), 456 Pioneer Drive.

Requirements for the major in elementary education, B.S.

Program requirements

Admission to major standing in the Department of Teacher Development and Educational Studies is required before beginning the professional sequence. Elementary education students plan their course work with an adviser in the SEHS Advising Office. Students using this catalog to meet major requirements may also use any course subsequently approved as satisfying requirements and published in a later catalog.

To earn the BS degree - students must:

* Complete 128-145 credits, depending on the student's major content areas. At least 32 credits must be taken at Oakland University and at least 32 credits must be at the 3000 level or above. Education credits may not be older than six years upon completion of the program.

- Meet university General Education Requirements.

- Earn a minimum grade of C in each general education course and maintain a cumulative GPA of 2.8 or better.
- Complete one teaching major (from the major content areas described below) with a minimum grade of B- in each course.
- Complete a 20-credit planned program consisting of EED 3220, EED 4180, EED 4181, MTD 3001, and three additional core content area courses that are not in the student's one teaching major.
- Complete pre-professional and professional coursework with a minimum grade of B in each course, unless otherwise noted, and a minimum grade of C in EED 4950 (B is required for recommendation for teaching certification).

Pre-professional courses

- MTE 2110 - Mathematics for Elementary Education I (4) (complete with a minimum grade of C)
- MTE 2111 - Mathematics for Elementary Education II (4) (complete with a minimum grade of C)
- EED 2000 - Exploring K-8 Teaching: Responsibilities and Opportunities in Education (3)/ EED 2001 - Advanced Exploration of K-8 Teaching (2) (complete with a minimum grade of B)
- SCS 2060 - Science for the Elementary Teacher (4)

Professional courses

- EED 3000 - Instructional Design and Assessment (3 or 4)
- EED 3001 - Managing the Classroom Community for U.S. Diverse Learners (4)
- FE 3010 - Educational Psychology for K-12 Educators (4)
- EED 3220 - Educating Children in Art (3)
- DLL 4196 - Digital Technologies in the Elementary Classroom (4)
- MTD 3001 - Performing Arts Experiences for Children (3)
- SE 4401 - Introduction to Students with Special Needs (4)
- RDG 3231 - Teaching of Reading (4)
- RDG 3233 - Teaching the Language Arts (4)
- EED 4230 - Teaching Mathematics at the Elementary-Middle Levels (4)
- EED 4260 - Teaching Science at the Elementary-Middle Levels (4)
- EED 4180 - Health Curriculum at the Elementary-Middle Levels (1)
- EED 4181 - Teaching Fitness and Wellbeing in Elementary and Middle Level Classrooms (2)
- EED 4270 - Teaching Social Studies at the Elementary-Middle Levels (4)
- RDG 4214 - Reading Appraisal in the Elementary Classroom (4)

In order to be recommended for a Michigan Teaching Certificate, in addition to the B.S. requirements, candidates must successfully complete their assigned Michigan Tests for Teacher Cerification and be in compliance with all legal requirements for Michigan certification. Link to Department of Teacher Development and Educational Studies for more details.

General education

Some General Education courses fulfill major and 20-credit planned program requirements. Students should consult their adviser before selecting courses.

Content area majors

In keeping with state requirements, one teaching major selected from the following are required for certification. A teaching major identifies subjects that a graduate is certified to teach in grades 6-8. Coursework is limited to the classes listed and those on the approved list available in the advising office. Students must earn a minimum grade of B- in each course in the teaching major. Course exemption granted based on Advanced Placement credit may substitute for major coursework when applicable. This list may change to reflect changes in state-approved major programs. Transfer courses may be reviewed by advisers to determine if the content meets the endorsement standards.

Language arts teaching major -- 36 credits

Language arts content courses:
* ENG (choose one (1) course from the list of approved Literature General Education courses) (4). Students in the Honors College may use HC 2020 in place of ENG requirement.

- ALS 1101 - The Humanity of Language (4)
- RDG 3132 - Literature for Children (4)

  One course from the writing component:
- RDG 3134 - Teaching Writing in the Elementary and Secondary School (4)
- ENG 2110 - Fundamentals of Grammar (4)
- ENG 3110 - Advanced Critical Writing (4)
- CW 3200 - Workshop in Fiction (4)
- WRT 3086 - Workshop in Creative Non-Fiction (4)
- JRN 2000 - Introduction to Journalism and News Writing (4)
- JRN 3120 - Feature Writing (4)
- WRT 3060 - Global Rhetorics (4)
- WRT 3062 - Writing Center Studies and Tutoring Practice (4)
- WRT 3064 - Writing About Culture: Ethnography (4)

  One course from the oral language component:
- COM 2000 - Public Speaking (4)
- COM 2403 - Group Dynamics and Communication (4)
- COM 3000 - Relational Communication Theory (4)
- COM 3400 - Relational Communication (4)
- COM 2702 - Performance Communication (4)
- COM 3406 - Listening in Communication (2)
- THA 1000 - Introduction to Theatre (4)
- THA 1004 - Acting for Non-Theatre Majors (2)
- THA 3030 - Stage Management (2)

  And one elective course from the writing component, oral language component or one of the following:
- ALS 4334 - Language Development in Children (4)
- ALS 4335 - Psycholinguistics (4)

- ALS 4374 - Cross-Cultural Communication (4)
- ALS 4375 - Language and Culture (4)
- ALS 4376 - Language and Society (4)
- DLL 4464 - Applying Digital Technologies to Issues of Practice (4)
- LIN 2201 - Introduction to Linguistics (4)
- RDG 4996 - Independent Study and Research (2 OR 4)

And all three language arts pedagogy and field courses:
- RDG 3231 - Teaching of Reading (4)
- RDG 3233 - Teaching the Language Arts (4)
- RDG 4214 - Reading Appraisal in the Elementary Classroom (4)

Mathematics teaching major -- 30 credits

Mathematics content courses:
- MTE 2110 - Mathematics for Elementary Education I (4)
- MTE 2111 - Mathematics for Elementary Education II (4)
- MTE 3118 - Advanced Topics in Mathematics for Elementary Education (4)
- MTE 4110 - Elementary School Mathematics and the Computer (4)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4)

And ten elective credits from:
- MTH 1118 - Mathematical Sciences in the Modern World (4)
- MTH 1222 - Calculus for the Social Sciences (4)
- MTH 1441 - Precalculus (4) or MTH 1331 - College Algebra (4) or MTH 1332 - Trigonometry (3)
- MTH 1554 - Calculus I (4)
- CSI 1300 - Introduction to Computer Programming (4)
- MTE 4905 - Special Topics (2 OR 4)

- Students must complete the pedagogy and field course EED 4230 - Teaching Mathematics at the Elementary-Middle Levels (4) in addition to the 30 credits in the Mathematics major.

Integrated science teaching major -- 36 credits

Integrated science content courses:
- SCS 2060 - Science for the Elementary Teacher (4)
- SCI 1000 - Physical Sciences in Life, the World and Beyond (4)
- BIO 1002 - Human Biology (4) (or BIO 2100 and BIO 2600)
- BIO 3000 - Biology and Society (4) (or BIO 1200 or BIO 1300)
- CHM 1040 - Introduction to Chemical Principles (4) (or CHM 1440 and CHM 1450)
- PHY 1040 - Astronomy: The Solar System (4)
- PHY 1060 - Earth Science/Physical Geography (4)
- PHY 1080 - Principles of Physics I (4) (or PHY 1010/PHY 1100 or PHY 1610 or PHY 1510/PHY 1100)

And four credits of electives selected from:
- BIO 1200 - Biology I (4)
- CHM 3000 - Chemistry, Society Health (4)

- SCS 4360 - Environmental/Outdoor Education for Elementary/Middle School Levels (4)
- PHY 1090 - Principles of Physics II (4) (or PHY 1020/PHY 1110 or PHY 1620 or PHY 1510/PHY 1110)
- PHY 1200 - The Physics of Everyday Life (4)

- Students must complete the pedagogy and field course EED 4260 - Teaching Science at the Elementary-Middle Levels (4) in addition to the 36 credits in the Integrated Science major.

Social studies teaching major -- 36 credits

Social studies content courses:
- HST 1100 - Introduction to American History Before 1877 (4)
- HST 1200 - Introduction to American History Since 1877 (4) or HST 2010 World History (4)
- ECN 2000 - Principles of Macroeconomics (4) or ECN 2020 - Principles of Global Macroeconomics (4)
- ECN 2010 - Principles of Microeconomics (4)
- GEO 2000 - Global Human Systems (4)
- GEO 1060 - Earth Science/Physical Geography (4)
- PS 1100 - Introduction to American Politics (4)
- SST 3070 Social Studies for Elementary and Middle School Teachers

Plus one additional PS course selected from:
- PS 1400 - Comparative Politics (4)
- PS 1600 - Issues in World Politics (4)
- PS 3040 - International Politics: Theory and Practice (4)
- PS 3420 - European Political Systems (4)

If additional elective credits are needed, they should be selected from either the list of approved courses detailed above or:
- HST 1400 - Europe in Global Context from 1600 to the Present (4) (or HST 1300) or
- HST 3210 - History of American Foreign Relations in the Twentieth Century (4)
- SST 4996 - Independent Study in Social Studies Education (1 TO 4)

- Students must complete the pedagogy and field course EED 4270 - Teaching Social Studies at the Elementary-Middle Levels (4) in addition to the 36 credits in the Social Studies major.

Early Childhood Education - 30 credits

B (or 3.0) minimum grade in each course

Early childhood education major content courses:
- EC 3320 - Child Development - Birth to Age 8 (4)
- EC 3326 - Supporting Self-Regulation in Young Children (4)
- EC 3328 - Family, Community School Partnership (4)
- EC 3330 - Professionalism, Leadership Advocacy (4)

Early Childhood major pedagogy classes:
- EC 3322 - Language Arts, Literacy and Creative Arts - Curriculum and Assessment (4)
- EC 3324 - Science and Mathematics - Curriculum and Assessment (4)

Early Childhood major field classes:
- EC 4960 - Early Childhood Practicum 1 (3)
- EC 4961 - Early Childhood Practicum 2 (3)

Once a student has earned a B.S. in Elementary Education and a teaching certificate, they may add an endorsement in the content areas above or from the list below:

Language arts teaching endorsement -- 24 credits

Language arts content courses:
* ENG (choose one (1) course from the list of approved Literature General Education courses (4)

- ALS 1101 - The Humanity of Language (4)
- RDG 3132 - Literature for Children (4)

Language arts pedagogy and field courses:
- RDG 3231 - Teaching of Reading (4)
- RDG 3233 - Teaching the Language Arts (4)
- RDG 4214 - Reading Appraisal in the Elementary Classroom (4)

Mathematics teaching endorsement -- 20 credits

Mathematics content courses:
- MTE 2110 - Mathematics for Elementary Education I (4)
- MTE 2111 - Mathematics for Elementary Education II (4)
- MTE 3118 - Advanced Topics in Mathematics for Elementary Education (4)
- MTE 4110 - Elementary School Mathematics and the Computer (4)
- STA 2220 - Introduction to Statistical Concepts and Reasoning (4)

- In addition to the 20 credits in the mathematics content, students must complete the pedagogy and field course EED 4230 - Teaching Mathematics at the Elementary-Middle Levels (4)

Integrated Science teaching endorsement -- 28 credits

Integrated science content courses:
- SCS 2060 - Science for the Elementary Teacher (4)
- SCI 1000 - Physical Sciences in Life, the World and Beyond (4)
- BIO 1002 - Human Biology (4) (or BIO 2100 and BIO 2600)
- BIO 3000 - Biology and Society (4) (or BIO 1200 or BIO 1300)
- CHM 1040 - Introduction to Chemical Principles (4) (or CHM 1440 and CHM 1450)
- PHY 1040 - Astronomy: The Solar System (4) (or PHY 1060)
- PHY 1080 - Principles of Physics I (4) (PHY 1010/PHY 1100 or PHY 1610 or PHY 1510/PHY 1100)

- In addition to the 28 credits in the integrated science content, students must complete the pedagogy and field course EED 4260 - Teaching Science at the Elementary-Middle Levels (4)

Secondary Education, OU STEP

363 Pawley Hall

(248) 370-4182

Advising

Program description

The School of Education and Human Services (SEHS) and the College of Arts and Sciences (CAS) offer a fifth-year secondary teacher education program (Oakland University STEP) leading to recommendation for Michigan secondary standard teacher certification. This certification is valid for teaching content areas in grades 6-12, except art, foreign language majors, English as a second language, and music, which are valid for grades K-12. The major areas in which Oakland program participants may become certified to teach are: art, biology, chemistry, English, history, mathematics, music and physics. Students may also earn endorsements in Social Studies or Integrated Sciences. Students interested in music education need to contact the Department of Music, Theatre and Dance to learn about content-specific course and sequence requirements. Students interested in K-12 art education should see the requirements of the Department of Art and Art History included in the College of Arts and Sciences section of this catalog.

After completing the requirements for graduation in their major and minor teaching areas and preliminary professional education course work, students engage in an academic year-long internship in the public schools that includes both courses and field experiences, and fulfills requirements for certification. Art and music majors complete a one-semester internship.

Program requirements

Both Oakland undergraduates and students who have completed undergraduate degrees from Oakland or other universities (second undergraduate degree candidates) may become eligible to enter OU STEP. Both groups must fulfill all Oakland requirements for a baccalaureate degree in an approved major (listed above) prior to beginning their internship year. In addition, they must complete a teaching minor in one of the following areas: biology, chemistry, economics, English, English as a second language, history, mathematics, physics, or political science unless they are completing an endorsement in social studies or integrated science. For details on specific major and minor course requirements and social studies and integrated science endorsements, consult the applicable College of Arts and Sciences departmental listings in this catalog.

The program also requires 36 credits of professional education coursework. Program coursework includes courses which are taken prior to the start of the internship year, and which may be taken while students are completing their other degree requirements. A minimum overall GPA of 2.80 is required before students can begin the professional sequence.

Courses to be taken prior to application to the Secondary Teacher Education Program

SED 3000 - Introduction to Secondary Education (4) or SED 3001 - Public Education for Prospective K-12 Teachers (2)
(includes a 50-hour field assignment in the major in addition to course time.)
Overall GPA of at least 2.80 is required to enroll. May only be retaken once. A minimum grade of a B is required for STEP application. Must be completed no less than one semester before application to STEP.

Pedagogy and field courses to be taken during the STEP Program:

- DLL 4197 Digital Technologies in the Secondary Classroom (4) (K-12 Art and Modern Language Students may elect DLL 4196 instead.)
- FE 3010 - Educational Psychology for K-12 Educators (4) (includes a required field experience)
- RDG 4238 - Teaching Reading in the Content Areas (4) (includes a required field experience)
- SED 4100 - ST: Teaching Secondary in the Minor Methods (4) (includes a required field experience in minor) or SED 4130 Teaching in Your Minor Field: Mathematics (4) (includes a required field experience in minor). Students minoring in ESL are exempt from SED 4100.
- SE 4401 - Introduction to Students with Special Needs (4)
- SED 4200 - ST: Teaching Secondary of the Major Methods (4)
- SED 4951 Internship I: Pre-Student Teaching (4)
- SED 4952 Internship in Secondary Education (8)

Additional professional course requirements for Modern Language majors:

- EED 3001 Managing the Classroom Community for U.S. Diverse Learners
- EED 4240 Foreign Language Teaching Methods in Elementary and Middle School

Professional program

Retention in the program is based on student demonstration of the characteristics, skills, and conduct of members of the teaching profession.

Retention in the SEHS professional education programs

Retention in the SEHS professional education programs is based on the expectation that students will demonstrate the characteristics of, and conduct themselves as members of, the profession as described

in the Expected Competencies. Students may be removed from a program, removed from a field placement, or may not be recommended for certification for the following reasons: (i) failure to fulfill any such expectations to Oakland University's satisfaction, including without limitation the expectation that they demonstrate adequate and appropriate communication ability and character and develop, maintain and fulfill their professional relationships, responsibilities and competencies: (ii) academic misconduct; (iii) violations of the Michigan Code of Ethics for Teachers; (iv) failure to fulfill any Oakland University academic or conduct requirements; or (v) violations of any other program or Oakland University's policies, rules, regulations or ordinances.

Students may also be removed from field placements: (i) upon request of a building administrator; (ii) for a failure to comply with the requirements of this Competency and Retention Statement; (iii) if Oakland University determines that removal is in the best interests of the student, Oakland University, the professional education programs or the schools where the student is placed; (iv) inadequate planning, classroom management, and/or discipline; (v) lack of content knowledge; (vi) deficiency in oral or written communication skills; (vii) inappropriate personal or professional behavior; (viii) ethical impropriety; (ix) violation(s) of community standards or policies; or (x) failure to exercise appropriate professional judgments.

Field experiences

SED 3000 /SED 3001 ,FE 3010, SED 4100, SED 4130, RDG 4238, SED 4200, SE 4401, SED 4951 and SED 4952 require field experiences in the public schools, which must be arranged through the SEHS coordinator or director of School and Field Services, (248) 370-3060. Prior or current full- or part-time teaching will not satisfy this requirement. SED 3000 /SED 3001 requires 50 hours of field experience to be completed during the semester in which a student is enrolled. FE 3010 and SED 4100, SED 4130, and RDG 4238 or the equivalent course requirement for the K-12 Foreign Language or the K-12 Art endorsement programs require 30 hours of field experience to be completed during the semester in which a student is enrolled. (Modern language majors will be required to complete a 30-hour field experience during the semesters they are enrolled in FE 3010, EED 3001, and SE 4401.) If professional courses are taken out of this sequence in the summer semester, an additional field will be required. Sustained experience in diverse settings is required. Students will have experiences in classrooms of their major and minor areas of certification.

SED 4951 in the fall semester requires half-day participation at a field school for 3 - 4 hours per day, 4 - 5 days per week. SED 4952 in the winter semester requires full-day participation at the field school during the entire student teaching semester.

Students may be required to be fingerprinted and have a state police and FBI background check, at their expense, before beginning a field placement depending on school district requirements.

Applicant eligibility

Eligibility to apply to the OU STEP requires:

1. Completion of SED 3000 /SED 3001 with a minimum grade of a B. This course should be taken at least one semester prior to the semester of application to the program. Student must have documented successful completion of the 40-hour field requirement.

2. Minimum average GPA of 3.00 in both CAS major and minor.
3. A minimum overall GPA of 2.80.
4. A minimum grade of a B in WRT 1060 - Composition II (or an equivalent course as approved by the registrar's office or the Department of Writing and Rhetoric).

ACT or SAT Scores on file with the university

Have official SAT or ACT scores on file with Oakland Program admission

The process of admission is designed to identify and select a number of well-qualified applicants who demonstrate high potential for success in the teaching profession. This number is determined by the capacity of the university to provide quality teacher preparation within its resources.

Factors considered in the applicant selection process include GPA, written responses to a set of application questions, field evaluations, and letters of recommendation. Additional information or an interview may be requested to provide a more complete application profile. Second undergraduate degree applicants should note that admission to the OU STEP and to the university involve separate processes and should contact the undergraduate admissions office for information about admission to Oakland.

Internship and certification

To progress into the internship year, students admitted to the OU STEP must maintain a minimum GPA of 3.00 in their education coursework and in their major and minor course-work. In addition, no single education course grade may be below B and no major or minor course below C. All major and minor coursework and all professional coursework (except DLL 4197, SED 4200, SED 4951 and SED 4952) must be satisfactorily completed before the internship year begins. Modern Language coursework applicable here include DLL 4197, EED 4240, SED 4200, SED 4951 and SED 4952. The program status of a student whose grades or GPA fall below these levels will be placed on hold until deficiencies are remedied.

Students must pass the MTTC subject area test for each major and minor in which they plan to be certified. The state requires one major and one minor for certification. Successful completion of both of these tests must be documented prior to the beginning of SED 4952 .

In addition, students must receive a minimum grade of a B in SED 4951 and SED 4952 to be eligible for recommendation by Oakland University for Teacher certification. The State also requires a certificate in first aid and adult/child CPR before certification may be recommended. Students may be required to be fingerprinted and have a state police and FBI background check, at their expense, before beginning a field placement depending on school district requirements.

Successful completion of the STEP program and internship does not guarantee certification by the State of Michigan. Applicants should be aware that a conviction for a felony or a misdemeanor may constitute grounds for denial of a teaching certificate by the State of Michigan. (See complete policy on the SEHS School and Field Services web site.)

Application deadline

Applications to the OU STEP are considered once per year. The deadline is October 1 of the year preceding the intended internship year. Applications received after that date may be considered pending review by faculty and space in the program. Applications are available on the SEHS School and Field Services website.

School of Engineering and Computer Science

301 ENGINEERING CENTER
(248) 370-2217
Fax: (248) 370-4261

Dean: Louay M. Chamra; Executive Secretary: Jane Dietrich

Associate Dean: Qian Zou; Administrative Secretary: Katie Loodeen

Director of Research: Daniel Aloi

Business Manager: Keith Harvey; Accounting Clerk IV: Barbara Kline

Financial Analyst: Esther McCoy

Director of Undergraduate Advising: Carmen Etienne

Academic Advisers: Kacie Cadotte; Kurtis Kirkpatrick; Sarah Konrad; Derek Moreno; Eman Shammo

Office Assistant I: Marlene McKean

Director of Career Services: Kathleen Livelsberger

Career Consultant: Kelli Foskic

Computer Support - IT Manager:

Computer Technologist: Terrence P. Heinz

Communications and Marketing Account Manager: Arina Bokas

Director of Recruitment and Outreach: Krzysztof Kobus

Assistant Director of Outreach: Bianca Bryant

Office Assistant II: Christina Bolden

Laboratory Manager: Matt Bruer

Project Engineer: Pete Taylor

Machine Shop Assistant: Derek Hurley

Major Gift Officer: Anthonie Burke

Corporate and Foundations Relations: Dayna Neef

Research Development: Lori Simoes

Advisory Board

The Advisory Board for the School of Engineering and Computer Science (SECS) 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:

Michael Bolon, Chair, Retired - Senior Vice President, General Dynamics Land Systems

Dave Agnew, Head of Business Development, Dataspeed Inc

Glenn Denomme, Retired, FCA

Gerald (Gerry) Deren, Americas Business Development

Robert Fascetti, Retired - Vice President, Powertrain Product Development, Ford Corporation

Alecia Gabriel, Ph.D., umlaut

John Garcia, Principal, Be-Energy Solutions

Grant Gerhart, Ph.D., Retired - Senior Research Scientist, TARDEC

Aftab Khan, Ph.D., Head of Powertrain Electrical Hardware Engineering, FCA

Fred Killeen, Chief Technology Officer, General Motors LLC

Bob Lee, Vice chair, Retired - Vice President and Head of Engine Powertrain and Electrified Propulsion Systems Engineering, FCA

Joseph Long, Chief Engineer, Door Systems Inteva Products

Ron May, Retired - Executive Vice President, DTE Energy

Mark Michel, Advanced Technologies, Raytheon Missile Systems

Juergen Peters, General Manager, Behr-Hella Thermocontrol, Inc. (BHTC)

Robert Richard, Senior Vice President, Major Enterprise Projects, DTE Energy

George Saikalis, Ph.D., Senior Vice President and General Manager, Research and Development, Hitachi America, Ltd.

Kristen Siemen, Executive Director, Global Thermal/HVAC Engineering and Mexico Engineering, General Motors Corporation

Tamara Snow, Head of North America, Interior Systems & Technology, Continental Automotive Systems, Inc.

Jeff VanDorn, Android Industries, LLC

Diana Wagner, Executive Director of Global Cost Engineering & Methods, Fiat Chrysler Automobiles

Mission

The overall mission of the School of Engineering and Computer Science (SECS) is threefold:

- to provide high-quality undergraduate and graduate programs of instruction in engineering and computer science to prepare graduates for careers in the coming decades,

- to advance knowledge through basic and applied research in relevant branches of engineering and computer science, and
- to provide service to both the engineering profession and public in the State of Michigan.

In carrying out its mission, the School will address the needs of the automotive and related industries in southeast Michigan for the:

- education of engineers and computer scientists,
- development of research programs, and
- fulfillment of the demands for professional service.

General Information

Accreditation

The undergraduate programs in computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering are accredited by the Engineering Accreditation Commission (EAC) of ABET. The undergraduate computer science program and information technology program are accredited by the Computing Accreditation Commission (CAC) of ABET. Note: bioengineering program, is expected to pursue ABET accreditation.

Undergraduate programs

The School of Engineering and Computer Science (SECS) offers instruction leading to the degrees of Bachelor of Science in Engineering with majors in computer, electrical, industrial and systems, and mechanical engineering, and Bachelor of Science with majors in computer science and information technology. In addition, programs leading to the Bachelor of Science degree with majors in engineering chemistry, engineering physics and bioengineering are offered jointly with the College of Arts and Sciences.

Through its engineering programs, the SECS 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 SECS 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 software as well as the hardware 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, bioinformatics, computer architecture, computer graphics, pattern recognition and scientific computation. The baccalaureate program in information technology is focused on the applied aspects of software technology. The program provides sufficient technical depth and a

comprehensive understanding of information technology in the context of problem-solving relevant to both engineering and service industries. The SECS also offers minors in computer science and in computing or information technology.

Professional Societies and Student Organizations

The school has a number of professional societies and student organizations such as the Association of Computing Machinery (ACM), Aerial Systems Club (ASC), American Society of Mechanical Engineers (ASME), Engineering in Medicine and Biology Society (EMBS), Engineering Society at Oakland University (ESOU), For Inspiration and Recognition of Science and Technology (FIRST Robotics), Institute of Electrical and Electronics Engineers (IEEE), International Association for Hydrogen Energy (IAHE), Institute of Industrial and Systems Engineers (IISE), Oakland Robotics Association (ORA), SAE (formerly known as Society of Automotive Engineers) , Society of Women Engineers (SWE), National Society of Black Engineers (NSBE), National Society of Professional Engineers (NSPE), 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.

Graduate programs

The SECS offers programs leading to the Master of Science degree in computer science, software engineering and information technology, cyber security, electrical and computer engineering, embedded systems, mechatronics systems engineering, industrial and systems engineering, mechanical engineering, and systems engineering. The SECS also offers programs leading to Doctor of Philosophy degrees in computer science and informatics, electrical and computer engineering, mechanical engineering, and systems engineering. The Ph.D. in Systems Engineering program is a school-wide program allowing for a blending of various disciplines. The school also offers a Master of Science degree in engineering management in cooperation with the School of Business Administration. For more information, see the Oakland University Graduate Catalog.

Centers/Institutes

Center for Robotics Unmanned and Intelligent Systems (CRUIS)

The Center will facilitate opportunities for OU faculty to lead start-up initiatives to work with business and government agencies to transition technical knowledge from academia to industry commercialization opportunities by enabling a research, development, test and evaluation capabilities. CRUIS will seek opportunities to support robotics and unmanned systems challenges in the defense industry that will lead to development of expertise that can be translated to various sectors - security, commercial, social, medical and others that are mainstream to our daily lives.

Fastening and Joining Research Institute (FAJRI)

Fastening and joining significantly affects the safety, quality and reliability of many mechanical and structural systems, machinery and equipment. The FAJRI is the only known academic facility of its kind in the world dedicated solely to the research and development of fastening and joining of materials in industries such as automotive, aerospace and nuclear. The research programs at FAJRI benefit both the commercial and defense sectors of the economy, while improving the safety of the public.

Automotive Tribology Center (ATC)

The Automotive Tribology Center is an academic research unit within the Mechanical Engineering department. It is the only university research center in the United States that is dedicated to automotive

tribology research and is uniquely positioned to advance the reliability, mobility and efficiency of automotive components. The ATC is mainly dedicated to performing fundamental and applied research that lowers frictional energy losses. Particular emphasis is placed on engine and transmission tribology. The research results of ATC benefit the US military and different governmental and industrial sectors of the economy.

Clean Energy Research Center (CERC)

Energy affects all aspect of our lives from the economy to recreation to health care. The Clean Energy Research Center explores sustainable ways to meet our future energy needs utilizing unique renewable energy feed sources, from biomass to wind to solar with a focus on overall energy conservation. The CERC has launched an academic effort to teach and train the next generation of students on energy issues, has begun the green campus initiative to demonstrate the benefit of alternative energy technology on campus, and continues to perform research towards developing environmentally friendlier technologies.

Chrysler Learning and Innovation Center for Sheet Metal Forming Technology (CLIC-form)

Chrysler Learning and Innovation Center for Sheet Metal Forming prepares OU students to work in sheet metal stamping manufacturing environment by learning stamping processes and equipment, die design and manufacturing methods, materials for tools and sheet metal components. A unique feature of CLIC-form is its highly selective, industry-hosted academic program in which OU undergraduate and graduate students take classes and conduct stamping related research during the academic year and participate in industrial projects during the summer interacting with faculty members and industry experts who specialize in sheet metal stamping.

Center for Advanced Manufacturing and Materials (CAMM)

Center of Advanced Manufacturing and Materials (CAMM) is a unique research center in North America specializing in sheet metal stamping and joining with substantial emphasis on tool wear, and mechanics of material fracture in stamping and joining operations, and performance of sheared edges of stamped panels. CAMM includes a fully automated press cell capable of physically simulating interactions of die surface with sheet metal taking into consideration specific lubrication and coating conditions for variety of high volume sheet metal stamping processes. CAMM is developing innovative sheet metal forming and joining processes achieving substantial enhancement of formability of lightweight materials. CAMM also serves as a base for CLIC-Form center.

Hardware in the Loop (HIL)

Hardware-in-the-loop (HIL) simulation is used widely in the development and testing of complex real-time embedded systems, such as automotive engine controllers. The OU HIL Lab is a unique multi-disciplinary academic facility, which was established in 2012 with support from Chrysler LLC, and is located in Dodge Hall. The HIL lab contains five automotive-hardware-in-the-loop simulators that allow testing and development of production and prototype engine and transmission controllers using simulated (software) automobiles. Research projects have included fuel economy strategies, engine thermal modeling, and advanced control techniques for transmission shift control.

Admission

High school preparation

Entering engineering and computer science freshmen should have taken at least four years of high school mathematics, including trigonometry, and should have a strong grasp of English composition. Additional preparation should include coursework in chemistry and physics. Exposure to computer aided design (CAD), machine shop tooling, computer programming and electronics shop devices is useful, but is not required for admission. Entering information technology freshmen should have at least three years of high school mathematics with some preparation in science. Normally, a 3.0 grade-point average is required for admission into the SECS programs.

Transfer policy

The programs offered by the SECS 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 backgrounds into advanced analysis and design work.

To ensure the integrity of its programs, the SECS 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. Students may transfer applicable community college credits at any time during their course of study. However, at least one-half of the credits required for completion of a specific baccalaureate degree program must be from regionally accredited four-year institutions, with at least 32 credits earned at Oakland University. The student must have a GPA of 2.8 or greater in order to transfer into the SECS programs.

Students planning to transfer into one of the engineering programs shall complete the following: four semester courses in analytic geometry and calculus, including linear algebra and differential equations; two semester courses in introductory calculus-based college physics; 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 equivalency guides found on Oakland University's website. Students planning to transfer into the computer science program shall complete one year of coursework in calculus, one course in linear algebra, one course in discrete mathematics if possible and two semester courses in introductory calculus-based physics. A course in programming in a high-level language is desirable. Whenever possible, further coursework in computer science should be planned with an Oakland University adviser to ensure compatibility with university requirements. Students transferring into the information technology program shall include a course in calculus, a course in statistics, and a course in a science elective. A course in programming in a high level language is also desirable. Students should consult with the SECS Advising office to discuss how courses may meet major or degree requirements.

Transfer students from non-ABET-accredited foreign institutions must complete a minimum of 20 credits in their major program of study (professional subjects or professional electives) at Oakland University including the capstone design course. All of the courses presented for transfer from such programs must receive school approval, before the student receives official transfer credit. See Transfer Student information for additional details.

Internal transfer

Oakland University students wishing to transfer into engineering or computer science programs in the SECS from other majors, undecided status, or engineering/computer science candidate status will be

considered upon the completion of the following courses with an overall average of at least 2.0 in these courses.

- Computer, electrical, industrial and systems, or mechanical engineering: MTH 1554, MTH 1555, PHY 1610 and PHY 1620
- Computer Science: MTH 1554, MTH 1555, PHY 1510 and PHY 1620
- Information Technology: MTH 1554 or MTH 1222, STA 2221, APM 1663 and an approved science elective
- Bioengineering: MTH 1554, MTH 1555, PHY 1610 and BIO 1200
- Engineering Chemistry: MTH 1554, MTH 1555, PHY 1610 and CHM 1440
- Engineering physics: MTH 1554, MTH 1555, PHY 1510 and PHY 1100 as well as PHY 1520 and PHY 1110

An overall Oakland University GPA of 2.6 is also required. Students transferring into SECS engineering or computer science programs from other majors, undecided status, or engineering/computer science candidate status must follow both major and SECS requirements from the catalog in effect at the time of change.

Academic Advising and Plans of Study

All entering freshmen are focused toward acquiring math, science, writing and programming skills. One of the early courses taken by engineering students is EGR 1200, Engineering Graphics and CAD, which introduces students to the special software tools used in engineering. In consultation with the advising office, students should ensure that they satisfy all of the requirements of their programs of study. All students are encouraged to meet with an academic adviser each semester.

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 an academic adviser in the SECS Undergraduate Advising Office All students are encouraged to meet with an academic adviser each semester. Although advisers are obligated to help students plan their programs, the responsibility for fulfilling degree requirements remains with students. The SECS Undergraduate Advising Office is located in 255 Engineering Center, (248) 370-2201.

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, industrial and systems engineering, mechanical engineering, engineering chemistry, engineering physics, bioengineering, computer science, and information technology:

1. Complete at least 128 - 130 total credits (See the corresponding program description for the exact total). At least 32 credits must be in courses at the 3000 level or above.

2. Students must complete at least 32 credits at Oakland University. The credits taken at Oakland must include at least 24 credits in required professional subjects or professional electives required for the major. Refer to the transfer policy of the SECS for further clarification.
3. Fulfill the university General Education Requirements (see below and in the Oakland University Undergraduate Degree Requirements section of this catalog).
4. Gain major standing in the major of the student's choice.
5. Complete the requirements specified for the elected major.
6. Earn a cumulative grade point average of at least 2.0 in courses taken at Oakland University.
7. All students must apply to graduate by submitting an Application for Degree online

General education requirements

The General Education Requirements are comprised of three parts: Foundations, Exploration, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog.

Foundations:

1. Writing foundations requirement (WRT 1060) with grade of C or better.
2. Formal Reasoning (Satisfied by MTH 1222 or MTH 1554 for IT majors. Satisfied by MTH 1554 for all other majors.)

Explorations:

3. Arts
4. Foreign Language and Culture
5. Global Perspective
6. Literature
7. Natural Science and Technology (Satisfied by EGR 2400 or EGR 2500 for engineering and computer science majors. Satisfied by BIO 1200, PHY 1510 and PHY 1100, CHM 1440 and CHM 1470, or ENV 3080 for IT majors.)
8. Social Science (Engineering majors must take one of the following: ECN 1500, ECN 2010, ECN 2020 or ECN 2100.)
9. Western Civilization (All Engineering, Engineering Science, Computer Science and Information Technology majors are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization.)

Integration: Knowledge Applications (Satisfied by MTH 1555 for engineering and engineering science majors. Satisfied by APM 1663 for IT majors.)

Capstone: SECS students satisfy this area by virtue of their required courses.

U.S. Diversity: May be met by an approved course in the Explorations area.

Engineering core

All engineering programs in the SECS have a common core program consisting of the following courses:

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)

- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

This core program introduces students to the nuances of the interdisciplinary nature of engineering and lays the foundations for the specialized studies in the student's major fields of study. These courses also provide substantial, real world laboratory experiences to students. It is important that students successfully complete these courses in order to achieve major standing (see below). Engineering Sciences, Computer Science, and Information Technology have different core requirements. Please refer to the individual program descriptions for additional details.

Major standing

To enroll in 3000- or 4000- level courses and to become candidates for the baccalaureate degree, students of the SECS 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 major standing. Forms may be obtained from the SECS Undergraduate Advising office. For detailed requirements, please see the catalog for each individual program.

Typical schedule for the first two years (The following is a sample schedule for Mechanical Engineering students)

	Fall	Winter
Year 1	MTH 1554	MTH 1555
	CHM 1430	PHY 1610
	EGR 1200	EGR 2400
	EGR 1400	Gen. Ed.
	Gen. Ed.	
Year 2	APM 2555	MTH 2554
	PHY 1620	EGR 2600
	EGR 2500	EGR 2800
	Gen. Ed.	Gen. Ed.

Scheduling depends on students' selected majors, 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. 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 make up the deficiencies by enrolling during the summer semester following the freshman year.

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 10 to 20 hours per week. Students who are employed 40 hours per week generally should not carry a course load of more than four 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. A preliminary Graduation Review form should be submitted to the Academic Adviser in the SECS Undergraduate Advising Office.

Internships

Many employers seek SECS students for internship employment. Therefore, those SECS students who wish to combine relevant work experience with their college education are encouraged to participate in internship programs in association with engineering or computer science related employers. Participation in job fairs, which are hosted by the Oakland University Career Services, is often helpful for securing internships. To prepare for internship opportunities, SECS students should list their resume and participate in interview skills training through the Career Services. Appointments with Career Services can be scheduled through Handshake.

Double Major

To earn two majors in engineering or in engineering and computer science, students must complete all the 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 required professional subjects or professional electives applicable to the second major. Students seeking two degrees should consult the university's requirements (see Additional undergraduate degrees and majors).

Minors and Concentrations

Students who wish to add a minor or concentration or otherwise participate in an interdepartmental program must apply for admission and seek assistance in planning a program. Application may be made to the coordinator of the appropriate program committee or department involved. Students in the School of Engineering and Computer Science might be interested in the following minors or concentrations: Applied mathematics, applied statistics, biology, chemistry, economics, environmental studies, linguistics, and physics. For details, see Other Academic Options in the College of Arts and Sciences portion of the catalog. Other areas of interest might be: accounting, finance, general business, management information systems, production and operations management, and quantitative methods. For details on these, see Minors in the School of Business Administration portion of the catalog. The School of Engineering and Computer Science offers the following minors:

Minor in International Orientation (for SECS students)

Coordinator: Lunjin Lu

In view of the ever-increasing globalization of industry, students in engineering and computer science need to be aware of their international opportunities and also to develop an intellectual background that enhances their ability to respond to professional challenges in the global environment. To obtain a minor in international orientation, engineering/computer science students must complete the following courses with a grade of at least C in each course:

Requirements

- ECN 2000 - Principles of Macroeconomics (4) or ECN 2020 - Principles of Global Macroeconomics (4)
- ECN 2100 - Principles of Economics (6)
- Foreign language consistent with the introductory course (8)
- One advanced course (4 credits) from PS 3040(4) or ECN 3730(3)
- EGR 4910(4), which requires eight weeks of study/work abroad.

Introductory course - 4 credits

- IS 2100 - Perspectives on China(4)
- IS 2200 - Perspectives on Japan(4)
- IS 2300 - Perspectives on Africa(4)
- IS 2400 - Perspectives on India(4)
- IS 2500 - Perspectives on Latin America(4)
- IS 2700 - Perspectives on the Middle East(4)
- HST 3400 - Europe since 1914(4)

Note:

Some of the courses listed above also satisfy general education requirements. Students should review the prerequisites for each class as they plan their course work. This minor is open to the students in the School of Engineering and Computer Science.

Additional Minors (not open to computer science, computer engineering or information technology students)

- Minor in Computer Science (See description in Department of Computer Science section.)
- Minor in Computing (See description in Department of Computer Science section.)
- Minor in Information Technology (See description in Department of Computer Science section.)

Additional Information

Prerequisite courses

In planning their schedules, students should ensure that they satisfy prerequisite and corequisite conditions for courses, as listed under "Course Offerings." Students will have their registrations canceled if they register for courses for which they do not meet the prerequisite or corequisite conditions. Students will be liable for any financial penalties incurred by such cancellation.

Project and independent study courses

Project and independent study courses numbered 4900 and 4950 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 coursework. To register for a project or independent study course, students must first submit a plan of work to the faculty member who will supervise the course. The plan must be approved in writing by the faculty member and the chair of the major department before students may register for the course.

Application forms are available in the departmental offices.

Petitions

Waivers of specific academic requirements may be initiated by submitting a petition of exception (see Petition of exception under Academic Policies and Procedures). 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 department or to the SECS associate dean. 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 as determined by the university Academic Conduct Committee, in any course offered by the school, may be subject to penalties that range from a reduced grade for the assignment, a grade of "F" for the entire course, academic probation, 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 2.0 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 2.0 will be placed on probation status.

Students who fail to correct the conditions leading to probation after one semester are generally ineligible to continue their programs. However, probation 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 coursework will be considered equivalent to one semester.

Students on probation 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 subject to their requirements.

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 School's committee on academic standing. Petitions may be submitted to an SECS academic adviser or to the SECS associate dean.

Unsatisfactory performance

Unsatisfactory (U) grades and grades less than C are considered substandard. School of Engineering and Computer Science students who repeat a course in which a grade below C has been earned must repeat that course at Oakland University to improve their grade. Courses in which a grade below C has been earned may not be subsequently passed by competency examination or independent study. Repeated courses transferred from outside Oakland University will be counted towards the total number of allowed repeats. See repeating courses for additional information.

Honors, awards and scholarships

The School of Engineering and Computer Science may, at its discretion, confer departmental honors on students who have completed a minimum of 48 credits in their major specific courses including core, required professional subjects/courses, professional/technical electives, capstone course and professional options/tracks/concentrations at Oakland University at Oakland University and demonstrate a high level of scholarly accomplishment by achieving a GPA of 3.5 or higher in their major specific courses.

Each year the faculty selects graduating seniors to receive four special awards: Exceptional Achievement, Academic Achievement, Professional Development, and Service. In addition to scholarships available to all Oakland University students, the School of Engineering and Computer Science offers additional scholarship opportunities. Information about these opportunities may be found on the SECS website.

Department of Bioengineering

346 DODGE HALL

(248) 370-2875

Fax: (248) 370-4225

Chairperson: Shailesh Lal

Primary Faculty: Gerard J. Madlambayan, Jing Tang

Affiliated Faculty:

Assistant professors: Sara Blumer-Schuette, Luis Villa-Diaz

Associate professors: Fabia Battistuzzi, Brian Dean, Mohammad Siadat, Randy Westrick

Professors: Darrin Hanna, Shailesh Lal, Jia Li

Special lecturers: Mary Craig

Bioengineering an interdisciplinary field, grounded on the interaction between biological sciences (as well as other life sciences) and engineering disciplines. The field of bioengineering is capable of realizing many diverse applications to improve human health and develop new technologies aimed at understanding biological phenomenon. Students will learn how to achieve these goals by applying engineering principles to a detailed understanding of biological processes. The major in Bioengineering, offered jointly by the School of Engineering and Computer Science and the College of Arts and Sciences, leads to the Bachelor of Science degree. Students should consult with advisers for the majors to be certain they are on track for all requirements.

Bioengineering, B.S.

Requirements for bioengineering, B.S.

Course requirements (minimum of 129 total credits)

In order to earn the degree of Bachelor of Science with a major in Bioengineering, students must complete a minimum of 129 credits including satisfying general education requirements. Bioengineering students must also complete Mathematics & Sciences (52 credits), Engineering Core (21 credits), and Bioengineering Required (12 credits) courses. Students will broaden knowledge in a specific area of Bioengineering by electing a sequence of courses in professional option tracks to satisfy the Bioengineering electives requirement (16 credits). Alternatively, students may elect any combination of courses listed under these professional option tracks to meet this requirement as long as 12 credits are from courses with engineering-based material.

General education - 28 credits

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below:

Foundations:

•   Writing Foundations - WRT 1060

•   Formal Reasoning (Satisfied by MTH 1554 for engineering majors; see Mathematics and sciences section)

Explorations: One course from each of the seven Explorations areas:

•   Arts

•   Foreign Language and Culture

•   Global Perspective

•   Literature

- Natural Science and Technology (satisfied by EGR 2400 or EGR 2500; see engineering core)

- Social Science (Engineering majors must take one of the following: ECN 1500, ECN 2010, ECN 2020 or ECN 2100)

- Western Civilization (All engineering majors are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization)

Integration:

- Knowledge Applications (satisfied by MTH 1555 for engineering majors)

- Capstone and Writing Intensive in the Major - ECE 4999

- Writing Intensive in General Education (may be met by an approved course in the Explorations area)

US. Diversity:

- May be met by an approved course in the Explorations area

*In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Math and Science - 52 credits

- MTH 1554 - Calculus I (4)

- MTH 1555 - Calculus II (4)

- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)

- MTH 2554 - Multivariable Calculus (4) or APM 2663 - Discrete Mathematics (4)

- BIO 1200 - Biology I (4)

- BIO 1201 - Biology Laboratory (1)

- BIO 2600 - Human Physiology (4)

- BIO 3621 - Physiology Laboratory (1)

- PHY 1610 - Fundamentals of Physics I (4)

- PHY 1620 - Fundamentals of Physics II (4)

- PHY 3250 - Biological Physics (4)

- CHM 1440 - General Chemistry I (4) and CHM 1470 - General Chemistry Laboratory I (1)

- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)

- CHM 2340 - Organic Chemistry I (4)

Engineering Core - 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)

- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)

- EGR 2400 - Introduction to Electrical and Computer Engineering (4)

- EGR 2500 - Introduction to Thermal Engineering (4)

- EGR 2600 - Introduction to Industrial and Systems Engineering (4)

- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

Bioengineering Required Courses - 12 credits

- BE 3150 - Bioinstrumentation (4)

- BE 3899 - Introduction to Engineering Biology (4)

- BE 4999 - Research Project/Capstone Design (4)

Professional Option Tracks - 16 credits

Track 1: Biomedical Imaging and Signal Processing

- PHY 3260 - Medical Physics (4)

- BE 4100 - Biomedical Signal Processing (4)

- BE 4110 - Medical Imaging (4)

- BE 4120 - Medical Image Analysis (4)

Track 2: Bioinformatics and Genome Engineering

- BE 4200 - Genetic and Genomic Engineering (4)

- BIO 4412 - Functional Genomics and Bioinformatics (4)

- CSI 3450 - Database Design and Implementation (4)

- CSI 4780 - Bioinformatics (4)

Track 3: Molecular Engineering

- BIO 3500 - General Microbiology (4) *

- BE 4300 - Bioprocess Engineering (4)

- BIO 4550 - Microbial Biotechnology (4)

- ME 3500 - Introduction to Fluid and Thermal Energy Transport (4)

* This course does not satisfy the engineering-based material requirement

Track 4: Tissue Engineering

- BE 4400 - Tissue Engineering (4)

- BIO 3142 - Bioengineering Organs and Tissues (4)

- ME 3250 - Mechanics of Materials (4)

- ME 4210 - Analysis and Design of Mechanical Structures (4)

- BE 4900, BE 4996 and BE 4998 may also be selected to meet curriculum requirements. Prior approval is required to take these courses.

Major Standing

To enroll in 3000 or higher-level courses and to become candidates for the B.S. in Bioengineering, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000 or higher-level courses. Forms may be obtained from the SECS Undergraduate advising office or from the SECS website.

To gain major standing and be considered for a degree in Bioengineering, students must:

A) have an average of at least C in the following mathematics and sciences courses: BIO 1200, BIO 1201, MTH 1554, MTH 1555, APM 2555, CHM 1440, and PHY 1610

B) have an average of at least C in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400, EGR 2500, EGR 2600, and EGR 2800.

C) have no more than two grades below C in the required courses in A and B above;

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time; and

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete the courses listed in A and B above.

Performance requirements

Satisfactory completion of the program requires a GPA of at least 2.0 within each group: namely, mathematics and sciences, engineering core, Bioengineering required, and professional tracks. For Bioengineering required and professional track courses, at most two grades below C are permitted, at most two different courses may be repeated, and a total of three attempts per course are permitted.

Students in this program are not required to complete the College of Arts and Sciences exploratory requirements but must complete the General Education Requirements including capstone and writing intensive courses.

Sample Bioengineering schedule

Students may follow a schedule such as the one indicated below

Freshman year

Fall semester - 17 credits

- MTH 1554 - Calculus I (4)

- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)

- BIO 1200 - Biology I (4)

- BIO 1201 - Biology Laboratory (1)

- General Education (4)

Winter semester - 17 credits

- MTH 1555 - Calculus II (4)

- EGR 2400 - Introduction to Electrical and Computer Engineering (4)

- PHY 1610 - Fundamentals of Physics I (4)

- EGR 1200 - Engineering Graphics and CAD (1)

- General Education (4)

Sophomore year

Fall semester - 17 credits

- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)

- EGR 2600 - Introduction to Industrial and Systems Engineering (4)

- CHM 1440 - General Chemistry I (4)

- CHM 1470 - General Chemistry Laboratory I (1)

- General Education (4)

Winter semester - 16 credits

- MTH 2554 - Multivariable Calculus (4)

- EGR 2500 - Introduction to Thermal Engineering (4)

- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

- General Education (4)

Junior year

Fall semester - 17 credits

- CHM 1450 - General Chemistry II (4)

- CHM 1480 - General Chemistry Laboratory II (1)

- BE 3150 - Bioinstrumentation (4)

- BIO 2600 - Human Physiology (4)

- General Education (4)

Winter semester - 17 credits

- PHY 1620 - Fundamentals of Physics II (4)

- CHM 2340 - Organic Chemistry I (4)

- BE 3899 - Introduction to Engineering Biology (4)

- BIO 3621 - Physiology Laboratory (1)

- General Education (4)

Senior year

Fall semester -16 credits

- Professional track (4)

- Professional track (4)

- Professional track (4)

- General Education (4)

Winter semester - 12 credits

- PHY 3250 - Biological Physics (4)

- BE 4999 - Research Project/Capstone Design (4)

- Professional track (4)

Department of Computer Science and Engineering

546 ENGINEERING CENTER

(248) 370-2200

FAX: (248) 370-4625

Chairperson: Lunjin Lu

Professors emeriti: David E. Boddy, Glenn A. Jackson, Janusz W. Laski, Sarma R. Vishnubhotla, Thomas G. Windeknecht

Professors: Huirong Fu, Dae-Kyoo Kim, Lunjin Lu, Ishwar K. Sethi, Gautam Singh

Associate professors: Debatosh Debnath, Nilesh Patel, Guangzhi Qu, Mohammad-Reza Siadat

Assistant professors: Mehdi Bagherzadhi, Jingshu Chen, Erik Fredericks, Anyi Liu, Khalid Malik, Hua Ming, Atiqul Mollah, Julian Rrushi, Amartya Sen, Douglas Zytko

Visiting assistant professors: Abdulrahman Alzahrani, Angel Bravo-Salgado, Alberto Castro-Hernandez, Hadeel Jawad,   Neeraj Gupta, Mohammed Mahmoud

Special instructor: Laura Dinsmoor

Lecturer: Mary Schmotzer

Adjunct faculty: Preston Brooks, Theresa Rowe

Advisory Board

The Computer Science and Engineering Advisory Board assists the department in enhancing its educational and research programs and ensuring their relevance to current and emerging technological needs. Board members are:

Tony Baker, EflexSystems

Linda Daichendt, Mobile Technology Association of Michigan

Laura Dillon, Ph.D., Michigan State University

Fred Killeen, General Motors Company

Gerald R. Lane, Great Lakes Systems & Technology

Gregory Mason, President, USDI

Jason Prater, PLEX Systems

Steve Polakowski, ESG Automotive Inc

Theresa Rowe, Oakland University

Ramasamy Uthurusamy, Ph.D., retired, Emerging Technologies, General Motors

Lawrence C. Wehner, Application Software Executive, Hewlett-Packard

Andre Weimerskirch, Lear Cooperation

General Information

The Department of Computer Science and Engineering carries out the mission of the School of Engineering and Computer Science by offering separate undergraduate majors in Computer Science and Information Technology. The department also offers masters programs in Computer Science, Cyber Security, Software Engineering and Information Technology, and a Ph.D. program in Computer Science

and Informatics. The undergraduate programs in the Department of Computer Science and Engineering are accredited by the Computing Accreditation Commission of ABET.

Computer Science, B.S.

Requirements for the major in computer science, B.S. program

The program in computer science leading to a Bachelor of Science degree prepares students for a productive career in industry, and for graduate study in computer science. The program prepares the students for a productive career in industry by providing them with the technical skills to formulate suitable abstractions, create novel computational solutions, design complex systems, and improve on existing solutions integrating current and emerging technologies. The program prepares the students for lifelong learning and graduate school by providing them with the theoretical foundations of information and computation and exposing them to areas of current and future developments. The program also includes a strong professional component for the development of skills in technical communication, ethics, and team work. The BS in Computer Science program is accredited by the Computing Accreditation Commission of ABET.

Program educational objectives

In the course of their careers, graduates of the Computer Science program will:

- Work productively in the creation, maintenance, and improvement of computing systems.
- Remain current in their profession through lifelong learning, including graduate school.
- Exhibit leadership and exercise their profession with the highest level of ethics, and social responsibility.

Course requirements (minimum of 128 total credits)

To earn the Bachelor of Science degree with a major in computer science students must complete a minimum of 128 credits and meet the following requirements:

General education

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below.

Foundations:

- Writing Foundations (Take WRT 1060)
- Formal Reasoning (Satisfied by MTH 1554)

Explorations: One course from each of the seven Explorations areas

- Arts
- Foreign Language and Culture
- Global Perspective
- Literature
- Natural Science and Technology (Satisfied by PHY 1510 and PHY 1100)
- Social Science
- Western Civilization (Must select PHL 1310)*

Integration:

- Knowledge Applications (Satisfied by MTH 1555)
- Capstone (Satisfied by CSI 4999)
- Writing Intensive in the Major (Satisfied by CSI 4999)
- Writing Intensive in General Education (May be met by an approved course in the Explorations area)

U.S. Diversity:

- May be met by an approved course in the Explorations area.

* Students are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization.

In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and sciences -- 29 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- MTH 2775 - Linear Algebra (4)
- APM 2663 - Discrete Mathematics (4)
- STA 2226 - Applied Probability and Statistics (4)
- PHY 1510 - Introductory Physics I (4) and PHY 1100 - General Physics Lab I (1)
- PHY 1620 - Fundamentals of Physics II (4)

Computer science core -- 18 credits

- CSI 1420 - Introduction to C Programming and Unix (4)
- CSI 2300 - Object-Oriented Computing (4)
- CSI 2310 - Data Structures (4)
- CSI 2470 - Introduction to Computer Networks (4)
- CSI 2999 - Sophomore Project (2)

Required professional subjects -- 40 credits

- CSI 3350 - Programming Languages (4)
- CSI 3370 - Software Engineering and Practice (4)
- CSI 3430 - Theory of Computation (4)
- CSI 3450 - Database Design and Implementation (4)
- CSI 3610 - Design and Analysis of Algorithm (4)
- CSI 3640 - Computer Organization (4)
- CSI 4480 - Information Security Practice (4)
- CSI 4500 - Fundamentals of Operating Systems (4)
- CSI 4650 - Parallel and Distributed Computing (4)
- CSI 4999 - Senior Capstone Project (4)

Professional track -- 8 credits

Select courses from one of the following professional tracks:

- Computational Intelligence Track (CSI 4130, CSI 4810) (8)
- System Administration Track (CSI 3660, CSI 3670) (8)
- Bioinformatics Track (BIO 3400, CSI 4780) (8)
- Cybersecurity Track (CSI 4460, CSI 5720) (8)
- Game Development Track (CSI 3380, CSI 4380) (8)

Professional electives -- 5 credits

Any 3000, 4000, or 5000 level engineering or computer science or information technology courses; no more than 1-credit of CSI 4950 can be used to fulfill the professional electives requirement. Courses at the 5000-level require approval of the instructor.

No more than one of the following 2000 level courses:

- CSI 2320 - C++ for Programmers (2)
- CSI 2330 - Immersive Python (2)
- CSI 2340 - Ruby for Web Developers (2)
- CSI 2350 - Programming in Visual C# for .NET Technology (2)

Any math, science or engineering elective from the following:

- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)

- APM 3332 - Applied Matrix Theory (4)
- APM 4333 - Numerical Methods (4)
- APM 4334 - Applied Numerical Methods: Matrix Methods (4)
- APM 4663 - Graph Theory and Combinatorial Mathematics (4)
- APM 4777 - Computer Algebra (4)
- BIO 1200 - Biology I (4)
- CHM 1430 - Chemical Principles (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- MTH 3552 - Complex Variables (4)
- MOR 2442 - Elementary Models in Operations Research (4)
- PHY 1110 - General Physics Lab II (1)
- PHY 3250 - Biological Physics (4)
- PHY 3260 - Medical Physics (4)
- PHY 3310 - Optics (4)
- PHY 3660 - Vibrations and Waves (4)
- PHY 3710 - Foundations of Modern Physics (4)
- or others by approved petition to the SECS Committee on Academic Standing

Major standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science with a major in Computer Science, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level courses. Forms may be obtained from the SECS Undergraduate Advising Office or from the SECS website.

To gain major standing in Computer Science, students must:

A) have an average GPA of 2.0 in the following mathematics and science courses: MTH 1554, MTH 1555, MTH 2775, APM 2663, PHY 1510, and PHY 1620.

B) have an average GPA of 2.0 in the following computer science core courses: CSI 1420, CSI 2300, CSI 2310, CSI 2470, and CSI 2999.

C) have no more than two grades below C in the courses listed in A and B above.

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time.

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete requirements A and B above.

Performance requirements

Satisfactory completion of the program requires an average grade of at least 2.0 within each group: mathematics and sciences, computer science core, and professional courses (including required professional subjects, professional electives, and professional track). Within professional courses at

most two grades below C are permitted, at most two different courses may be repeated, and a total of three attempts per course is permitted.

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 -- 16 credits

- MTH 1554 - Calculus I (4)
- CSI 1420 - Introduction to C Programming and Unix (4)
- WRT and general education (8)

Winter semester -- 17 credits

- MTH 1555 - Calculus II (4)
- PHY 1510 - Introductory Physics I (4) and PHY 1100 - General Physics Lab I (1)
- CSI 2300 - Object-Oriented Computing (4)
- General education (4)

Sophomore year

Fall semester -- 16 credits

- APM 2663 - Discrete Mathematics (4)
- CSI 2310 - Data Structures (4)
- PHY 1620 - Fundamentals of Physics II (4)
- General education (4)

Winter semester -- 18 credits

- MTH 2775 - Linear Algebra (4)
- CSI 2470 - Introduction to Computer Networks (4)
- CSI 2999 - Sophomore Project (2)
- General education (8)

Junior year

Fall semester -- 16 credits

- STA 2226 - Applied Probability and Statistics (4)
- CSI 3610 - Design and Analysis of Algorithm (4)

- CSI 3640 - Computer Organization (4)
- General education (4)

Winter semester -- 16 credits

- CSI 3350 - Programming Languages (4)
- CSI 3430 - Theory of Computation (4)
- CSI 3370 - Software Engineering and Practice (4)
- CSI 4650 - Parallel and Distributed Computing (4)

Senior year

Fall semester -- 16 credits

- Professional elective (4)
- CSI 3450 - Database Design and Implementation (4)
- Professional track (4)
- CSI 4480 - Information Security Practice (4)

Winter semester -- 13 credits

- Professional elective (1)
- CSI 4500 - Fundamentals of Operating Systems (4)
- CSI 4999 - Senior Capstone Project (4)
- Professional track (4)

Information Technology, B.S.

Requirements for the major in information technology, B.S. program

The program in Information Technology (IT) leading to a bachelor of science (BS) degree prepares students for a successful professional career in IT, and for graduate study in information technology. The program provides students with the technical foundation of information technology, problem solving skills, and hands-on practice. This will help students create and improve IT solutions by integrating existing and emerging technologies. This program prepares students for graduate studies and lifelong learning by providing them with the theoretical foundations of information technology and exposing them to areas of current and future practices. The pillars of IT include programming, networking, human-computer interaction, databases, information management, and web systems, built on a foundation of knowledge of the fundamentals of IT. The program also includes a strong professional component to develop skills in technical communication, ethics, and team work. The BS in Information Technology program is accredited by the Computing Accreditation Commission of ABET.

Program educational objectives

In the course of their careers, graduates of the Information Technology program will:

- Work productively as problem solvers and providers of integrated IT solutions.
- Remain current in their profession through lifelong learning, including graduate school.
- Exhibit teamwork and leadership as well as exercise their profession with the highest level of ethics and social responsibility.

Course requirements (minimum of 128 total credits)

To earn the Bachelor of Science degree with a major in information technology, students must complete a minimum of 128 credits and meet the following requirements:

General education

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below.

Foundations:

- Writing Foundations (Take WRT 1060)
- Formal Reasoning (Satisfied by MTH 1554 or MTH 1222)

Explorations: One course from each of the seven Explorations areas

- Arts
- Foreign Language and Culture
- Global Perspective
- Literature
- Natural Science and Technology (Satisfied by approved science elective)
- Social Science
- Western Civilization (Must select PHL 1310)*

Integration:

- Knowledge Applications (Satisfied by APM 1663)
- Capstone (Satisfied by CSI 4999)
- Writing Intensive in the Major (Satisfied by CSI 4999)

- Writing Intensive in General Education (May be met by an approved course in the Explorations area)

U.S. Diversity:

- May be met by an approved course in the Explorations area.

*Students are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization.

In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and sciences -- 16 credits

- MTH 1554 - Calculus I (4) or MTH 1222 - Calculus for the Social Sciences (4)
- STA 2221 - Introduction to Statistical Methods (4)
- APM 1663 - Mathematics for Information Technology (4)
- Approved science elective (4)*

Approved science electives

*Approved science electives for information technology majors are: BIO 1200, BIO 1300, CHM 1440 and CHM 1470, ENV 3080, PHY 1510 and PHY 1100.

Information technology core -- 26 credits

- CSI 1210 - Problem Solving Using VBA and Excel (4)
- CSI 1310 - Computer Programming (4)
- CSI 2300 - Object-Oriented Computing (4)
- CSI 2440 - Computer Systems (4)
- CSI 2470 - Introduction to Computer Networks (4)
- CSI 2520 - Interactive Web Systems (4)
- CSI 2999 - Sophomore Project (2)

Required professional subjects -- 32 credits

- CSI 3370 - Software Engineering and Practice (4)
- CSI 3450 - Database Design and Implementation (4)
- CSI 3500 - Human Computer Interaction (4)
- CSI 3520 - Systems Analysis (4)
- CSI 3620 - Data Structures and Algorithms (4)
- CSI 3660 - System Administration (4)
- CSI 4480 - Information Security Practice (4)
- CSI 4999 - Senior Capstone Project (4)

Professional track -- 8 credits

Choose coursework from only one of the following tracks:

System Administration Track

- CSI 3670 - Advanced System Administration (4)
- CSI 3680 - Script Programming (4)

Bioinformatics Track

- BIO 3400 - Genetics (4)
- CSI 4780 - Bioinformatics (4)

Game Development Track

- CSI 3380 - Game Design (4)
- CSI 4380 - Game Programming (4)

Cybersecurity Track

- CSI 4460 - Information Security (4)
- CSI 5720 - Software Security (4)

Professional training -- 2 credits

- CSI 4950 - Internship (2)
- CSI 4955 - Industrial Project (2)
- CSI 4995 - Undergraduate Research (2)

Management and communications -- 8 credits

Choose two of the following courses:

- COM 2403 - Group Dynamics and Communication (4)
- COM 3401 - Communication in Organizations (4)
- CSI 4410 - IT Project Management (4)

Professional Electives -- 8 credits

Must select CSI 2320, CSI 2340, CSI 2350, CSI 2360, or any CSI courses at 3000 or higher level.

Major Standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science with a major in Information Technology, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level

courses. Forms may be obtained from the SECS Undergraduate Advising Office or from the SECS website.

To gain major standing Information Technology, students must:

A) have an average GPA of 2.0 in the following mathematics and science courses: Either MTH 1222 or MTH 1554, STA 2221, APM 1663, and approved science elective.

B) have an average GPA of 2.0 in the following information technology core courses: CSI 1210, CSI 1310, CSI 2300, CSI 2470, CSI 2520, and CSI 2999.

C) have no more than two grades below C in the courses listed in A and B above.

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time.

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete requirements A and B above.

Performance requirements

Satisfactory completion of the program requires an average grade of at least 2.0 within each group: mathematics and sciences, information technology core, and professional courses (including required professional subjects, professional track, management and communications, and professional electives). Within professional courses at most two grades below C are permitted, at most two different courses may be repeated, and a total of three attempts per course is permitted.

Sample information technology 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 -- 16 credits

- MTH 1222 - Calculus for the Social Sciences (4) or MTH 1554 - Calculus I (4)
- CSI 1310 - Computer Programming (4)
- WRT and general education (8)

Winter semester -- 16 credits

- CSI 1210 - Problem Solving Using VBA and Excel (4)
- CSI 2300 - Object-Oriented Computing (4)

- STA 2221 - Introduction to Statistical Methods (4)
- General education (4)

Sophomore year

Fall semester -- 16 credits

- APM 1663 - Mathematics for Information Technology (4)
- CSI 2470 - Introduction to Computer Networks (4)
- CSI 2520 - Interactive Web Systems (4)
- General education (4)

Winter semester -- 18 credits

- CSI 2440 - Computer Systems (4)
- CSI 2999 - Sophomore Project (2)
- CSI 3620 - Data Structures and Algorithms (4)
- Approved science elective (4)
- General education (4)

Junior year

Fall semester -- 16 credits

- CSI 3370 - Software Engineering and Practice (4)
- CSI 3500 - Human Computer Interaction (4)
- CSI 3660 - System Administration (4)
- Management and communications (4)

Winter semester -- 16 credits

- CSI 3450 - Database Design and Implementation (4)
- CSI 3520 - Systems Analysis (4)
- Professional track (4)
- General education (4)

Senior year

Fall semester -- 14 credits

- Professional training (2)
- General education (4)
- Professional track (4)
- Professional Elective (4)

Winter semester -- 16 credits

- CSI 4480 - Information Security Practice (4)
- Management and communications (4)
- CSI 4999 - Senior Capstone Project (4)
- Professional Elective (4)

Computer Science Minor

The minor in computer science is suitable for students with a major in engineering, mathematics, physics, chemistry or biology, who may wish to emphasize numerical, scientific and engineering aspects of computing. At least 12 of these credits must be taken at Oakland University. A minimum grade of C is required in each course for this minor. Students must earn a minimum of 20 credits, including the following courses:

- CSI 1420 - Introduction to C Programming and Unix (4)
- CSI 2300 - Object-Oriented Computing (4)
- CSI 2310 - Data Structures (4)
- And minimum 8 credits of CSI courses numbered 2000 or above.

Students must obtain permission from the Department of Computer Science and Engineering in order to register for CSI courses at the 3000 and 4000 levels.

Information Technology Minor

The minor in information technology are suitable for students with a major in liberal arts or business, who may wish to emphasize non-numerical and symbolic data processing aspects of computing and information technology.

For an IT minor, students must earn a minimum of 20 credits in the following courses

- CSI 1200 - Introduction to Computing and Programming using Excel (4) or CSI 1210 - Problem Solving Using VBA and Excel (4)
- CSI 1300 - Introduction to Computer Programming (4) or CSI 1310 - Computer Programming (4)

and any three courses from

- CSI 1220 - Computer Animation (4)
- CSI 2300 - Object-Oriented Computing (4)
- CSI 2470 - Introduction to Computer Networks (4)
- CSI 2520 - Interactive Web Systems (4)

Note

At least 12 of these credits must be taken at Oakland University. An average GPA of 2.0 is required in courses counted toward this minor.

Department of Electrical and Computer Engineering

446 ENGINEERING CENTER

(248) 370-2177

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Chairperson: Osamah A. Rawashdeh (Interim)

Professors emeriti: Richard E. Haskell, Naim A. Kheir, Keith R. Kleckner, Nan K. Loh, Tung H. Weng, Howard R. Witt

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Associate professors: Brian Dean, Jing Tang

Assistant professors: Shadi Alawneh, Seyed Ali Arefifar, Amanpreet Kaur, Daniel Llamocca, Wing-Yue Geoffrey Louie

Special Instructor: Steve Louise, Khalid Mirza, Michel Sultan

Adjunct professor: Mutasim Salman, Housein Dourra

Adjunct associate professor: Anson Lee

Adjunct assistant professor: Randy Graca, Micho Radovnikovich

Advisory Board

The Electrical and Computer Engineering External Advisory and Development Board assists the department in enhancing its educational and research programs and ensuring their relevance to current and emerging technological needs.

Board members are:

Dona Burkard, Research and Innovation Center - Project Manager, Ford Motor Company

Anthony D. Cooprider, Ph.D., Senior Technical Leader, Global EE Systems, Ford Motor Company

Housein Dourra, Ph.D., Senior Technical Fellow, Fiat Chrysler Automobiles

Byron Gillespie, Director, Intel Corporation

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John Schneider, Chief Engineer, Ford Motor Company

Chris Van Dan Elzen, Vice President, Autoliv

Paul VanOphem, President, CSM Products, Inc.

General Information

The Department of Electrical and Computer Engineering carries out the mission of the School of Engineering and Computer Science by offering separate undergraduate majors in Electrical Engineering and in Computer Engineering. The department also offers masters programs in Electrical and Computer Engineering, Mechatronics Systems Engineering, and Embedded Systems, as well as a Ph.D. program in Electrical and Computer Engineering. The undergraduate programs in the Department of Electrical and Computer Engineering are accredited by the Computing Accreditation Commission of the Accreditation Board of Engineering and Technology (ABET).

Computer Engineering, B.S.E.

Requirements for the major in computer engineering, B.S.E. program

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. It is unique in offering a focus on embedded systems. 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. The BSE in Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Program educational objectives

The undergraduate program in Computer Engineering will provide educational experiences aimed toward producing graduates who will:

- Become successful practitioners in an engineering or related career.
- Pursue graduate study and/or continuing education opportunities in electrical engineering, computer engineering, or other related disciplines.
- Demonstrate leadership and excel in multi-disciplinary and multi-cultural environments.

- Function as responsible members of society with an awareness of the ethical and social ramifications of their work.

Course requirements (minimum of 129 total credits)

To earn the degree of Bachelor of Science in Engineering with a major in computer engineering, students must complete a minimum of 129 credits and satisfy the writing requirements. They must meet the following requirements: (also see Undergraduate degree requirements)

General education (excluding math and science)

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below:

Foundations:

- Writing Foundations - WRT 1060
- Formal Reasoning (Satisfied by MTH 1554 for engineering majors; see Mathematics and sciences section)

Explorations: One course from each of the seven Explorations areas:

- Arts
- Foreign Language and Culture
- Global Perspective
- Literature
- Natural Science and Technology (satisfied by EGR 2400 or EGR 2500; see engineering core)
- Social Science (Engineering majors must take one of the following: ECN 1500, ECN 2010, ECN 2020 or ECN 2100)
- Western Civilization (All engineering majors are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization)

Integration:

- Knowledge Applications (satisfied by MTH 1555 for engineering majors)
- Capstone and Writing Intensive in the Major - ECE 4999

- Writing Intensive in General Education (may be met by an approved course in the Explorations area)

US. Diversity:

- May be met by an approved course in the Explorations area

*In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and sciences -- 32 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- APM 2663 - Discrete Mathematics (4)
- CHM 1430 - Chemical Principles (4) (or [CHM 1440 (4) and CHM 1470 (1)])
- PHY 1610 - Fundamentals of Physics I (4)
- PHY 1620 - Fundamentals of Physics II (4)

Select one elective course from the following

- APM 3332 - Applied Matrix Theory (4)
- APM 3557 - Elements Partial Differential Equations (4)
- APM 4333 - Numerical Methods (4)
- APM 4334 - Applied Numerical Methods: Matrix Methods (4)
- APM 4663 - Graph Theory and Combinatorial Mathematics (4)
- APM 4777 - Computer Algebra (4)
- BIO 1200 - Biology I (4)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- MOR 2442 - Elementary Models in Operations Research (4)
- PHY 3250 - Biological Physics (4)
- PHY 3260 - Medical Physics (4)
- PHY 3310 - Optics (4)
- PHY 3660 - Vibrations and Waves (4)
- PHY 3710 - Foundations of Modern Physics (4)
- MTH 2554 - Multivariable Calculus (4)
- MTH 2775 - Linear Algebra (4)
- MTH 3552 - Complex Variables (4)
- Or others by approval by petition to the SECS Committee on Academic Standing.

Engineering core -- 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- EGR 2500 - Introduction to Thermal Engineering (4)

- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

Required professional subjects -- 36 credits

- CSI 2290 - Introduction to Data Structures in C (4)
- ECE 2005 - Electric Circuits (4)
- ECE 2700 - Digital Logic Design (4)
- ECE 3100 - Electronic Circuits and Devices I (4)
- ECE 3204 - Signals and Systems (4)
- ECE 3720 - Microprocessors (4)
- ECE 4710 - Computer Hardware Design (4)
- ECE 4721 - Embedded Systems Design (4)
- ECE 4999 - Senior Design (4)

Professional electives - 12 credits

Professional elective courses can be selected from 3000, 4000, or 5000 level engineering courses, computer science and informatics courses, or approved mathematics and science electives; excluding co-ops/internships. Of the 12 professional elective credits, 4 credits must be selected from the Computers and Algorithms list, and at least 4 credits must be from a 4000 or 5000 level course. Professional electives at the 5000 level require an overall GPA of 3.0 or above. Prior approval of the chairperson of the Department of Electrical and Computer Engineering is required for ECE 4996 and ECE 4998.

Computers and Algorithms - choose one:

- CSI 3610 - Design and Analysis of Algorithm (4)
- CSI 3640 - Computer Organization (4)

Suggested electives:

1. Communication and networking

- ECE 3300 - Electromagnetics I (4)
- ECE 4210 - Communication Systems (4)
- ECE 4310 - Antennas (4)
- ECE 4230 - Satellite-based Positioning System (4)

2. Microelectronics

- ECE 3105 - Electronic Circuits and Devices II (4)
- ECE 4130 - Electronic Materials and Devices (4)
- ECE 4132 - VLSIC Design of Digital Chips (4)
- ECE 4135 - Integrated Electronics (4)

3. Mechatronics

- ECE 3600 - Electrical Machines (4)
- ECE 4400 - Automatic Control Systems (4)
- ECE 4415 - Microcomputer-based Control Systems (4)
- ECE 4520 - Automotive Mechatronics I (4)

4. Computer science

- CSI 3370 - Software Engineering and Practice (4)
- CSI 3450 - Database Design and Implementation (4)
- CSI 3610 - Design and Analysis of Algorithm (4)
- CSI 4240 - Cloud Computing (4)
- CSI 4480 - Information Security Practice (4)
- CSI 4500 - Fundamentals of Operating Systems (4)
- CSI 5490 - Wireless and Industrial Networks (4)

Major standing

To enroll in 3000- or higher-level courses and to become candidates for the degree of Bachelor of Science in Engineering with a major in Computer Engineering, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000- or higher-level courses. Forms may be obtained from the SECS Undergraduate advising office or from the SECS website.

To gain major standing in Computer Engineering, students must:

A) have an average GPA of 2.0 in the following mathematics and science courses: MTH 1554, MTH 1555, APM 2555, CHM 1430 (or CHM 1440 and CHM 1470), PHY 1610 (or PHY 1510 and PHY 1100), and PHY 1620 (or PHY 1520 and PHY 1110)

B) have an average GPA of 2.0 in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400, EGR 2500, EGR 2600, EGR 2800.

C) have no more than two grades below C in the required courses listed in A and B above;

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time; and

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete the courses listed in A and B above.

Performance requirements

Satisfactory completion of the program requires a GPA of at least 2.0 within each course group: namely, mathematics and sciences, engineering core, and professional courses (including required professional subjects and professional elective). Within professional courses, at most two grades below C are

permitted; at most two different courses may be repeated, and a total of three repeat attempts per course are 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 -- 17 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- MTH 1554 - Calculus I (4)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- CHM 1430 - Chemical Principles (4)
- WRT or General education

Winter semester -- 16 credits

- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- MTH 1555 - Calculus II (4)
- PHY 1610 - Fundamentals of Physics I (4)
- General education (4)

Sophomore year

Fall semester -- 16 credits

- EGR 2500 - Introduction to Thermal Engineering (4)
- CSI 2290 - Introduction to Data Structures in C (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- PHY 1620 - Fundamentals of Physics II (4)

Winter semester -- 16 credits

- ECE 2700 - Digital Logic Design (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)
- General education

Junior year

Fall semester -- 16 credits

- ECE 2005 - Electric Circuits (4)
- ECE 3720 - Microprocessors (4)
- ECE 4710 - Computer Hardware Design (4)
- General education (4)

Winter semester -- 16 credits

- APM 2663 - Discrete Mathematics (4)
- ECE 3100 - Electronic Circuits and Devices I (4)
- ECE 4721 - Embedded Systems Design (4)
- General education (4)

Senior year

Fall semester -- 16 credits

- CSI 3610 - Design and Analysis of Algorithm (4) or CSI 3640 - Computer Organization (4)
- ECE 3204 - Signals and Systems (4)
- Professional elective (4)
- General education (4)

Winter semester -- 16 credits

- ECE 4999 - Senior Design (4)
- Professional elective (4)
- General education (4)
- Mathematics and sciences elective (4)

Electrical Engineering, B.S.E.

Requirements for the major in electrical engineering, B.S.E. program

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, communications, computers, controls, electromagnetics, electronics including VLSI systems, electronic devices, 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 using modern equipment and hardware/software tools. The program also provides numerous engineering design experiences. Electrical and computer 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. The BSE in Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Program educational objectives

The undergraduate program in Electrical Engineering will provide educational experiences aimed toward producing graduates who will:

- Become successful practitioners in an engineering or related career.
- Pursue graduate study and/or continuing education opportunities in electrical engineering, computer engineering, or other related disciplines.
- Demonstrate leadership and excel in multidisciplinary and multicultural environments.
- Function as responsible members of society with an awareness of the ethical and social ramifications of their work.

Course requirements (minimum of 129 total credits)

To earn the degree of Bachelor of Science in Engineering with a major in electrical engineering, students must complete a minimum of 129 credits, demonstrate writing proficiency (see Undergraduate degree requirements) and meet the following requirements:

General education (excluding math and science)

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below:

Foundations:

- Writing Foundations - WRT 1060
- Formal Reasoning (Satisfied by MTH 1554 for engineering majors; see Mathematics and sciences section)

Explorations:

One course from each of the seven Explorations areas:

- Arts
- Foreign Language and Culture
- Global Perspective
- Literature
- Natural Science and Technology (satisfied by EGR 2400 or EGR 2500; see engineering core)

- Social Science (Engineering majors must take one of the following: ECN 1500, ECN 2010, ECN 2020 or ECN 2100)
- Western Civilization (All engineering majors are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization)

Integration:

- Knowledge Applications (satisfied by MTH 1555 for engineering majors)
- Capstone and Writing Intensive in the Major - ECE 4999
- Writing Intensive in General Education (may be met by an approved course in the Explorations area)

US. Diversity:

- May be met by an approved course in the Explorations area

*In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and sciences -- 32 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- MTH 2554 - Multivariable Calculus (4)
- CHM 1430 - Chemical Principles (4) or [CHM 1440 (4) and CHM 1470 (1)]
- PHY 1610 - Fundamentals of Physics I (4)
- PHY 1620 - Fundamentals of Physics II (4)

Select one elective course from the following

Students majoring in Electrical Engineering are advised to take MTH 2775 to broaden their knowledge of Linear Algebra. However, students who have an explicit interest in broadening their knowledge in another area of math or science should select an elective from the following approved course list:

- APM 2663 - Discrete Mathematics (4)
- APM 3332 - Applied Matrix Theory (4)
- APM 3557 - Elements Partial Differential Equations (4)
- APM 4333 - Numerical Methods (4)
- APM 4334 - Applied Numerical Methods: Matrix Methods (4)
- APM 4555 - Intermediate Ordinary Differential Equations (4)
- APM 4663 - Graph Theory and Combinatorial Mathematics (4)
- APM 4777 - Computer Algebra (4)
- BIO 1200 - Biology I (4)
- BIO 3400 - Genetics (4)

- BIO 3220 - Neurobiology (4)
- BIO 4412 - Functional Genomics and Bioinformatics (4)
- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- PHY 3250 - Biological Physics (4)
- PHY 3260 - Medical Physics (4)
- PHY 3310 - Optics (4)
- PHY 3610 - Mechanics I (4)
- PHY 3660 - Vibrations and Waves (4)
- PHY 3710 - Foundations of Modern Physics (4)
- PHY 4310 - Lasers and Applications (4)
- MTH 3552 - Complex Variables (4)
- or others by approval by petition to the SECS Committee on Academic Standing.

Engineering core -- 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

Required professional subjects -- 32 credits

- ECE 2005 - Electric Circuits (4)
- ECE 2700 - Digital Logic Design (4)
- ECE 3100 - Electronic Circuits and Devices I (4)
- ECE 3105 - Electronic Circuits and Devices II (4)
- ECE 3204 - Signals and Systems (4)
- ECE 3300 - Electromagnetics I (4)
- ECE 3600 - Electrical Machines (4)
- ECE 4999 - Senior Design (4)

Professional electives -- 16

Electrical engineering students must select two professional depth areas. In one depth area, students are required to take the key course and one of the two listed professional electives. In the other depth area, students are only required to take the key course. In addition, students must select one elective from any 4000 level ECE course. Students with an overall GPA of 3.0 or greater may select one elective from ECE 5000 or SYS 5000 level courses. Prior approval of the chairperson of the Department of Electrical and Computer Engineering is required for ECE 4996 and ECE 4998. The professional depth areas are:

1. Communications

Key course:

- ECE 4210 - Communication Systems (4)

Electives:

- ECE 4220 - Fundamentals of Digital Signal Processing (4)
- ECE 4230 - Satellite-based Positioning System (4)

2. Computer Engineering

Key course:

- ECE 3720 - Microprocessors (4)

Electives:

- ECE 4710 - Computer Hardware Design (4)
- ECE 4721 - Embedded Systems Design (4)

3. Control systems

Key course:

- ECE 4400 - Automatic Control Systems (4)

Electives:

- ECE 4410 - Digital Control Systems (4)
- ECE 4415 - Microcomputer-based Control Systems (4)

4. Electromagnetics

Key course:

- ECE 4305 - Electromagnetics II (4)

Electives:

- ECE 4310 - Antennas (4)
- ECE 4320 - Electromagnetic Compatibility (4)

5. Electronics

Key course:

- ECE 4132 - VLSIC Design of Digital Chips (4)

Electives:

- ECE 4130 - Electronic Materials and Devices (4)
- ECE 4135 - Integrated Electronics (4)

6. Industrial Robotics

Key course:

- ECE 4500 - Robotic Systems and Control (4)

Electives:

- ECE 4510 - Machine Vision (4)
- ECE 4520 - Automotive Mechatronics I (4)

7. Power systems

Key course:

- ECE 4610 - Introduction to Power Electronics (4)

Electives:

- ECE 4620 - Electrical Energy Systems (4)
- ECE 4630 - Electric and Hybrid Drive Systems (4)

Major standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science with a major in Electrical Engineering, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level courses. Forms may be obtained from the SECS Undergraduate Advising Office or from the SECS website.

To gain major standing in Electrical Engineering, students must:

A) have an average GPA of 2.0 in the following mathematics and science courses: MTH 1554, MTH 1555, APM 2555, CHM 1430 (or CHM 1440 and CHM 1470), PHY 1610 (or PHY 1510 and PHY 1100), and PHY 1620 (or PHY 1520 and PHY 1110)

B) have an average GPA of 2.0 in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400,EGR 2500, EGR 2600, EGR 2800.

C) have no more than two grades below C in the required courses listed in A and B above;

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time; and

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete the courses listed in A and B above.

Performance requirements

Satisfactory completion of the program requires a GPA of at least 2.0 within each course group: namely, mathematics and sciences, engineering core, and professional courses (including required professional subjects and professional elective). Within professional courses, at most two grades below C are

permitted; at most two different courses may be repeated, and a total of three repeat attempts per course are permitted.

Sample electrical engineering program 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 -- 17 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- MTH 1554 - Calculus I (4)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- CHM 1430 - Chemical Principles (4)
- WRT or general education (4)

Winter semester -- 16 credits

- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- MTH 1555 - Calculus II (4)
- PHY 1610 - Fundamentals of Physics I (4)
- General education (4)

Sophomore year

Fall semester -- 16 credits

- ECE 2005 - Electric Circuits (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- PHY 1620 - Fundamentals of Physics II (4)
- General education (4)

Winter semester -- 16 credits

- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)
- General education (4)

Junior year

Fall semester -- 16 credits

- MTH 2554 - Multivariable Calculus (4)
- ECE 3100 - Electronic Circuits and Devices I (4)
- ECE 3204 - Signals and Systems (4)
- General education (4)

Winter semester -- 16 credits

- ECE 3105 - Electronic Circuits and Devices II (4)
- ECE 3300 - Electromagnetics I (4)
- ECE 3600 - Electrical Machines (4)
- ECE 2700 - Digital Logic Design (4)

Senior year

Fall semester -- 16 credits

- Mathematics and sciences elective (4)
- Key course-area 1 (4)
- Key course-area 2 (4)
- General education (4)

Winter semester -- 16 credits

- General education (4)
- Elective-area 1 (4)
- ECE Elective (4)
- ECE 4999 - Senior Design (4)

Department of Industrial and Systems Engineering

502 ENGINEERING CENTER

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Chairperson: Robert P. Van Til

Professors: Barbara Oakley, Michael P. Polis, Sankar Sengupta, Robert P. Van Til

Associate Professors: Richard Olawoyin

Assistant Professors: Nasim Nezamoddini, Vijitashwa Pandey, Martha Smith

Special Instructor: William Edwards

Adjunct Assistant Professor: Patrick Hillberg

Advisory Board

The Industrial and Systems Engineering External Advisory and Development Board assists the department in enhancing its educational and research programs and ensuring their relevance to current and emerging technological needs. Board members are:

Gary Altman, Regional Director Process Excellence, McLaren Health Care

Kerry Coran, Lean Specialist, Ascension Health

Kevin Dahm, Supervising Engineer, DTE Energy Co.

Greggory R. Garrett, CEO & Managing Director, CGS Advisors LLC

Cameron T. Hill, Senior Manager Industrial Engineering, NAR Operations Excellence, Whirlpool Corp.

Patrick Hillberg, Consultant

Doneen McDowell, Executive Director, Global/GMNA Manufacturing Engineering - Vehicle Systems, General Motors Corp.

Steve Savoie, Senior Manager - Industrial Engineering, General Motors Corp.

Michael Sigelko, Chief Body Architect, General Motors Corp.

Tracey Stanyer, Senior Systems Engineer, ESG Automotive Inc.

Bryan Talbert, Container Quality & Procurement Support Manager, General Motors Corp

Anthony Verrino, Senior Manager - Production Control, Fiat Chrysler Automobiles

Gary Warren, Plant Manager, Rayconnect Inc.

Jeffrey Watt, Senior Manager - Model Planning and Launch Control, Fiat Chrysler Automobiles

Mission

The Department of Industrial and Systems Engineering carries out the mission of the School of Engineering and Computer Science by offering:

- an undergraduate major in Industrial and Systems Engineering;
- a master's degree program in Industrial and Systems Engineering;
- a master's degree program in Engineering Management with the cooperation of the School of Business Administration;
- a master's degree program in Systems Engineering;
- a graduate certificate program in Productivity Improvement.

Also, the department actively participates in the school-wide Ph.D. program in Systems Engineering.

Accreditation

The undergraduate program in the Industrial and Systems Engineering Department is accredited both in Industrial Engineering and in Systems Engineering by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Industrial and Systems Engineering, B.S.E.

Requirements for the major in industrial and systems engineering, B.S.E. program

The profession of Industrial and Systems Engineering is about choices. Other engineering disciplines apply skills to very specific areas. Industrial and Systems Engineering gives you the opportunity to work in a variety of businesses. Whether it's distributing products worldwide, manufacturing superior automobiles, or streamlining the procedures in an operating room, all of these situations share the common goal of increasing efficiencies and saving companies money. The most distinctive aspect of Industrial and Systems Engineering is the career and job flexibility it offers. Industrial and Systems Engineers work in various industries including automotive, energy, healthcare, advanced and digital manufacturing, defense, logistics, service, aerospace, entertainment and others. The B.S.E. in Industrial and Systems Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Program educational objectives

The educational objectives of the Industrial and Systems Engineering B.S.E. program are to produce graduates who will:

- design, develop, implement, sustain and improve systems which integrate people, materials, equipment, information and energy;
- operate effectively in dynamic and diverse organizations;
- demonstrate a professional attitude, integrity and commitment to life-long learning in their work.

Course requirements (128 total credits)

In order to earn the degree of Bachelor of Science in Engineering with a major in industrial and systems engineering, students must complete a minimum of 128 credits, satisfy all general education and SECS degree requirements, as well as meet the following course requirements:

1) General education course (excluding mathematics and sciences)

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General

Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below:

Foundations:

- Writing Foundations - WRT 1060
- Formal Reasoning - Satisfied by MTH 1554 for engineering majors; see Mathematics and sciences section

Explorations: One course from each of the seven Explorations areas

- Arts
- Foreign Language and Culture
- Global Perspective
- Literature
- Natural Science and Technology - Satisfied by EGR 2400 or EGR 2500; see engineering core
- Social Science - Engineering majors must take one of the following: ECN 1500, ECN 2010, ECN 2020 or ECN 2100; see economics requirement
- Western Civilization - ISE majors may take PHL 1310 - Introduction to Ethics in Science and Engineering. However, if an ISE major takes ISE 4421, then they may take any Western Civilization course; see ethics requirement

Integration:

- Knowledge Applications -Satisfied by MTH 1555 for engineering majors; see Mathematics and sciences section
- Capstone and Writing Intensive in the Major - ISE 4491
- Writing Intensive in General Education - May be met by an approved course in the Explorations area

U.S. Diversity:

- May be met by an approved course in the Explorations area.

* In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with a SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

2) Mathematics and sciences courses - 32 credits

- MTH 1554 - Calculus I (4)

- MTH 1555 - Calculus II (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- APM 2663 - Discrete Mathematics (4) or MTH 2554 - Multivariable Calculus (4)
- CHM 1430 - Chemical Principles (4)
- PHY 1610 - Fundamentals of Physics I (4)
- PHY 1620 - Fundamentals of Physics II (4)

Select one elective course from the following

It is recommended that students discuss their educational and career interests with an ISE Dept. faculty member or a SECS Undergraduate Academic Adviser prior to selecting this course:

- APM 2663 - Discrete Mathematics (4)
- APM 3332 - Applied Matrix Theory (4)
- APM 3557 - Elements Partial Differential Equations (4)
- APM 4333 - Numerical Methods (4)
- APM 4334 - Applied Numerical Methods: Matrix Methods (4)
- APM 4663 - Graph Theory and Combinatorial Mathematics (4)
- APM 4777 - Computer Algebra (4)
- BIO 1200 - Biology I (4)
- BIO 1300 - Biology II (4)
- BIO 2100 - Human Anatomy (4)
- BIO 2600 - Human Physiology (4)
- BIO 3400 - Genetics (4)
- MTH 2554 - Multivariable Calculus (4)
- MTH 2775 - Linear Algebra (4)
- MTH 3552 - Complex Variables (4)
- PHY 3250 - Biological Physics (4)
- PHY 3260 - Medical Physics (4)
- STA 4002 - Applied Linear Models I (4)
- Other math or science course with approval by written petition to the SECS Committee on Academic Standing. Please contact a SECS Undergraduate Academic Adviser for more information.

3) Engineering core courses – 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

4) Required professional courses - 35 credits

- ISE 3318 - Engineering Statistics and Economic Analysis (4)
- ISE 3330 - Engineering Operations Research (3)

- ISE 3341 - Ergonomics and Work Design (4)
- ISE 4469 - Computer Simulation of Discrete Event Systems (4)
- ISE 4483 - Production Systems and Workflow Analysis (4)
- ISE 4484 - Flexible and Lean Manufacturing Systems (4)
- ISE 4485 - Statistical Quality Analysis (4)
- ISE 4487 - Foundations of Systems Engineering (4)
- ISE 4491 - Senior Design (4)

5) Professional elective courses - 12 credits with at least 8 credits from Group A

Group A

- ISE 4410 - Supply Chain Modeling and Analysis (4)
- ISE 4421 - Leadership Principles and Positive Engagement (4)
- ISE 4422 - Robotic Systems (4)
- ISE 4423 - Industrial Automation Systems (4)
- ISE 4431 - Engineering Operations Research - Stochastic Models (4)
- ISE 4435 - Data Analytics (4)
- ISE 4441 - Human Factors Engineering (4)
- ISE 4450 - Fundamentals of Energy Management (4)
- ISE 4455 - Foundations of Safety Engineering (4)
- ISE 4456 - Engineering Risk Analysis (4)
- ISE 4461 - PLM Applications - Product Data Management (2)
- ISE 4462 - PLM Applications- Robotic Systems (2)
- ISE 4463 - PLM Applications - Ergonomics (2)
- ISE 4464 - Design for Manufacturing and Assembly Analysis (4)
- ISE 4466 - PLM Applications - Change Management (2)
- ISE 4467 - PLM Applications - Throughput Simulation (2)
- ISE 4480 - E-Commerce and ERP (4)
- ISE 4482 - Engineering Processes Decisions Using ERP (4)
- ISE 4488 - Advanced Systems Engineering (4)
- ISE 4900 - Special Topics (2 TO 4)
- ME 4700 - Manufacturing Processes (4)
- Any new ISE 4000-level courses listed in subsequent catalogs (2 TO 4)

Group B

- ISE 4996 - Independent Study (2 TO 4) *
- ISE 4998 - Senior Project (2 TO 4) *
- ME 3700 - Properties of Materials (4)
- HRD 4600 - Lean Kaizen in Organizations (4)

  * This course cannot be taken without prior written permission from the Chairperson of the Industrial and Systems Engineering Department.

TOTAL CREDITS – 128

Major Standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science in Engineering with a major in Industrial and Systems Engineering, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level courses. Forms may be obtained from the SECS Undergraduate advising office or from the SECS website.

To gain major standing in Industrial and Systems Engineering, students must:

1) have an average GPA of at least 2.0 in the following mathematics and sciences courses: MTH 1554, MTH 1555, APM 2555, CHM 1430, PHY 1610, PHY 1620.

2) have an average GPA of at least 2.0 in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400, EGR 2500, EGR 2600, EGR 2800.

3) have no more than two grades below C in the courses listed in 1 and 2 above;

4) have not attempted any course listed in 1 and 2 above more than three times. Students may petition to repeat a course a fourth time; and

5) have not repeated more than three different courses listed in 1 and 2 above. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted for the semester in which the student will complete the courses listed in 1 and 2 above.

Performance requirements

Satisfactory completion of the program requires a grade-point average of at least a 2.0 within each of the following three groups of courses: mathematics and sciences courses, engineering core courses, and professional courses (all required professional courses and professional elective courses).

Within the professional courses, at most two grades below C are permitted, at most two different courses may be repeated, and a total of three repeat attempts per course is permitted.

Ethics requirement

All industrial and systems engineering students must also fulfill the ethics requirement. This requirement may be met by completion of either PHL 1310 or ISE 4421.

Economics requirement

All industrial and systems engineering students must also fulfill the economics requirement. This requirement may be met by completion of ECN 1500, ECN 2010, ECN 2020 or ECN 2100.

General business minor

Students 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 section in School of Business Administration portion of this catalog). Credits from the minor may be used to satisfy the social science general education requirement and the economics requirement.

Sample industrial and systems engineering schedule

Industrial and systems engineering students with the required background may follow a schedule such as the one below. However, students will need additional time to complete the program if they do not have the required background upon entrance to the program. All students should contact the SECS Undergraduate Advising Office before completing their schedule.

Freshman year

Fall semester -- 16 credits

- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- MTH 1554 - Calculus I (4)
- CHM 1430 - Chemical Principles (4)
- General education course (4)

Winter semester -- 17 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- MTH 1555 - Calculus II (4)
- PHY 1610 - Fundamentals of Physics I (4)
- General education course (4)

Sophomore year

Fall semester -- 16 credits

- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- PHY 1620 - Fundamentals of Physics II (4)
- General education course (4)

Winter semester -- 16 credits

- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)
- APM 2663 - Discrete Mathematics (4) or MTH 2554 - Multivariable Calculus (4)
- General education course (4)

Junior year

Fall semester -- 16 credits

- ISE 3318 - Engineering Statistics and Economic Analysis (4)
- ISE 3341 - Ergonomics and Work Design (4)
- General education course (4)
- Math or science elective course (4)

Winter semester -- 15 credits

- ISE 3330 - Engineering Operations Research (3)
- ISE 4469 - Computer Simulation of Discrete Event Systems (4)
- ISE 4484 - Flexible and Lean Manufacturing Systems (4)
- General education course (4)

Senior year

Fall semester -- 16 credits

- ISE 4483 - Production Systems and Workflow Analysis (4)
- Professional elective course(s) (one 4 credits or two 2 credits)
- Professional elective course(s) (one 4 credits or two 2 credits)
- General education course (4)

Winter semester -- 16 credits

- ISE 4485 - Statistical Quality Analysis (4)
- ISE 4487 - Foundations of Systems Engineering (4)
- ISE 4491 - Senior Design (4)
- Professional elective course(s) (one 4 credits or two 2 credits)

Department of Mechanical Engineering

402 ENGINEERING CENTER

(248) 370-2210

FAX: (248) 370-4416

Chairperson: Brian P. Sangeorzan

Professors emeriti: Bhushan Bhatt, Robert Edgerton, Michael Y.Y. Hung, Gilbert L. Wedekind

Professors: Gary C. Barber, Sergey Golovashchenko, Randy Gu, Laila Guessous, Zissimos P. Mourelatos, Sayed Nassar, Brian P. Sangeorzan, Xia Wang, Lianxiang Yang, Qian Zou

Associate professors: Yin-Ping Chang, Ching L. Ko, Krzysztof Kobus, Michael A. Latcha

Assistant professors: Christopher Cooley, Dan DelVescovo, Jonathan Maisonneuve, Ryan Monroe, Peng Zhao

Special Instructors: Stephen Bazinski, Turgay Bengisu, Zhijun Wu

Adjunct professors: Ismat Abu-Isa, Alex Alkidas, Dennis Corrigan, Shuxin (Peter) Gu, Yung-Li Lee, Edward Groff

Advisory Board

The Mechanical Engineering Advisory Board assists the department in enhancing its educational and research programs and ensuring their relevance to current and emerging technological needs. Board members are:

Ray Kuczera, Ph.D., Vice President of Engineering, GKN Driveline

David Lamb, Ph.D., Subject Technical Expert, Modeling and Simulation, TARDEC

Yung -Li Lee, Ph.D., Senior Technical Fellow, Fiat Chrysler Automobiles

Charon Morgan, Global Director of Engineering - Fuel and Diesel Systems, General Motors

Rohit Paranjpe, Ph.D., Director, Powertrain Virtual Engineering, Fiat Chrysler Automobiles

Jason A. Ryska, M.S., MBA, Global Chief Engineer, Stamping, Ford

Peter Schihl, Ph.D., P.E., Senior Research Scientist, Ground Vehicle Propulsion and Mobility, US Army Ground Vehicle Systems Center

David Sonntag, MSc., Manager of Capital Projects, Detroit Edison Company

Yucong Wang, Ph.D., Manager, Department of Materials Technology, General Motors Powertrain

General Information

The Department of Mechanical Engineering carries out the mission of the School of Engineering and Computer Science by offering undergraduate majors in mechanical engineering including various depth areas. The department also offers master's and Ph.D. programs in mechanical engineering and a Ph.D. program in mechanical engineering. The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Mechanical Engineering, B.S.E.

Requirements for the major in mechanical engineering, B.S.E.

The field of mechanical engineering offers career opportunities in areas such as design, analysis, test development, research and the manufacturing of various products. Oakland University's mechanical engineering program provides students with a foundation in the fundamental concepts and principles associated with mechanics of solids, thermodynamics, fluid and thermal energy, materials, manufacturing, design of mechanical systems, electrical circuits, computer programming and software utilization.   A strong laboratory experience and the utilization of instrumentation and computer simulation tools are interwoven through the curriculum. The program also provides numerous engineering design experiences. The BSE in Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Program educational objectives

The objectives of the Mechanical Engineering program are to produce graduates, who three to five years after graduation, will:

- function successfully in engineering roles within the automotive and other global industries,
- engage in lifelong learning and pursue graduate study in mechanical engineering or other post-graduate education,
- contribute effectively and ethically to a modern, multidisciplinary workplace, and
- demonstrate effective communication, problem-solving and teamwork skills.

Course requirements (minimum of 128 total credits)

In order to earn the degree of Bachelor of Science in Engineering with a major in mechanical engineering, students must complete a minimum of 128 credits and meet the following requirements:

General education (excluding mathematics and sciences)

The General Education Requirements are comprised of three parts: Foundations, Explorations, and Integration. In addition, U.S. Diversity requirements must also be met. For details, refer to the General Education section of the catalog. In order to satisfy both general education and other program requirements, in some of the general education areas students should select from the courses listed below:

Foundations:

- Writing Foundations - WRT 1060
- Formal Reasoning (Satisfied by MTH 1554 for engineering majors; see Mathematics and sciences section)

Explorations: One course from each of the seven Explorations areas:

- Arts
- Foreign Language and Culture
- Global Perspective
- Literature
- Natural Science and Technology (satisfied by EGR 2400 or EGR 2500; see engineering core)
- Social Science (Engineering majors must take one of the following: ECN 1500, ECN 2010, ECN 2020 or ECN 2100)
- Western Civilization (All engineering majors are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the general education requirement in Western Civilization)

Integration:

- Knowledge Applications (satisfied by MTH 1555 for engineering majors)
- Capstone and Writing Intensive in the Major - ME 4999
- Writing Intensive in General Education (may be met by an approved course in the Explorations area)

US. Diversity:

- May be met by an approved course in the Explorations area

*In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and sciences - 32 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- MTH 2554 - Multivariable Calculus (4)
- CHM 1430 - Chemical Principles (4) or [CHM 1440 (4) and CHM 1470 (1)]
- PHY 1610 - Fundamentals of Physics I (4) or [PHY 1510 (4) and PHY 1100 (1)]
- PHY 1620 - Fundamentals of Physics II (4) or [PHY 1520 (4) and PHY 1110 (1)]

Select one course from the list below.

Students majoring in mechanical engineering are advised to take MTH 2775 to broaden their knowledge of linear algebra. However, students who have an explicit interest in broadening their knowledge in a specific area of math or science should select an elective from the following approved course list:

- APM 3332 - Applied Matrix Theory (4)
- APM 3557 - Elements Partial Differential Equations (4)
- APM 4333 - Numerical Methods (4)
- APM 4334 - Applied Numerical Methods: Matrix Methods (4)

- CHM 1450 - General Chemistry II (4) and CHM 1480 - General Chemistry Laboratory II (1)
- BIO 1200 - Biology I (4)
- PHY 3250 - Biological Physics (4)
- PHY 3310 - Optics (4)
- PHY 3660 - Vibrations and Waves (4)
- PHY 3710 - Foundations of Modern Physics (4)
- MTH 2775 - Linear Algebra (4)
- MTH 3552 - Complex Variables (4)
- Other courses approved by petition to the SECS Committee on Academic Standing.

Engineering core -- 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

Required professional subjects -- 35 credits

- ME 3300 - Computer-Aided Design (3)
- ME 3200 - Engineering Mechanics (4)
- ME 3500 - Introduction to Fluid and Thermal Energy Transport (4)
- ME 3250 - Mechanics of Materials (4)
- ME 3700 - Properties of Materials (4)
- ME 4200 - Vibrations and Controls (4)
- ME 4300 - Mechanical Systems Design (4)
- ME 4500 - Energy Systems Analysis and Design (4)
- ME 4999 - Senior Mechanical Engineering Design Project (4) or ME 4998 (4)*

Note

*ME 4998 requires approval of project proposal by the Mechanical Engineering Department. If taken in place of ME 4999, it must be team-based.

Professional electives --12 credits

Mechanical engineering students must complete at least 12 additional credits of 4000- or 5000-level ME, BE, ISE, or ECE designated courses (must have instructor's permission to take 5000-level courses). At least 8 of these credits must have an ME designation. Students interested in broadening their knowledge in a specific area of mechanical engineering should elect sequences of courses as described in the specialized professional depth areas listed below:

1. Energy, fluid and thermal systems depth area. Includes courses in the fluid and thermal energy transport area.

Recommended fundamental subjects

- ME 4510 - Intermediate Fluid Mechanics (4)
- ME 4520 - Intermediate Heat Transfer (4)

Other relevant courses

- ME 4530 - Alternative Energy Systems (4)
- ME 4540 - Internal Combustion Engines I (4)
- ME 4550 - Fluid and Thermal Systems Design (4)

2. Computer-aided design depth area. Includes courses in the computer-aided design (CAD) and analysis area.

Recommended fundamental subjects

- ME 4350 - Mechanical Computer-Aided Engineering (4)
- ME 4360 - Mechanical Computer-Aided Manufacturing (4)

3. Automotive engineering depth area. Includes courses with an automotive engineering emphasis area with two possible areas of specialty: automotive structures or internal combustion engines.

Recommended fundamental subjects: Automotive Structures Specialty

- ME 4210 - Analysis and Design of Mechanical Structures (4)
- ME 4220 - Vehicle Dynamics (4)

Recommended fundamental subjects: Internal Combustion Engines Specialty

- ME 4540 - Internal Combustion Engines I (4)

Other relevant courses

- ME 4260 - Acoustics and Noise Control (4)
- ME 4510 - Intermediate Fluid Mechanics (4)
- ME 4520 - Intermediate Heat Transfer (4)
- ME 4750 - Optical Measurement and Quality Inspection (4)
- ME 4350 - Mechanical Computer-Aided Engineering (4)
- ME 4730 - Fasteners and Bolted Joints (4)
- ECE 4400 - Automatic Control Systems (4)
- ECE 4110 - Automotive Electronics (4)
- ECE 4520 - Automotive Mechatronics I (4)

4. Manufacturing engineering depth area. This depth area includes courses in the manufacturing area.

Recommended fundamental subjects

- ME 4600 - Materials Properties and Processes (4)
- ME 4700 - Manufacturing Processes (4)

Other relevant courses

- ME 4710 - Flexible and Lean Manufacturing Systems (4)
- ME 4750 - Optical Measurement and Quality Inspection (4)
- ME 4740 - Robotic Systems (4)
- ME 4360 - Mechanical Computer-Aided Manufacturing (4)
- ECE 4400 - Automatic Control Systems (4)
- ISE 4485 - Statistical Quality Analysis (4)

5.Materials engineering depth area. This depth area includes courses in the areas of basic and advanced materials, plastics and composites manufacturing

Recommended fundamental subjects

- ME 4610 - Polymeric Materials (4)
- ME 4600 - Materials Properties and Processes (4)
- ME 5530 - Plastics Processing Engineering (4)

6. Nuclear engineering depth area. This depth area includes courses in the nuclear engineering area.

Required fundamental subjects

- ME 4520 - Intermediate Heat Transfer (4)
- ME 4580 - Fundamentals of Nuclear Engineering (3)
- ME 4585 - Nuclear Reactors and Power Plants (3)
- PHY 3180 - Nuclear Physics Laboratory (2) (PHY 3180 (2) requires ME 4580 (3) as a pre or co-requisite)

Optional Specializations:

The Mechanical Engineering Department offers optional specializations in Automotive Engineering, Manufacturing, and Energy to students interested in broadening their knowledge in a specific area of mechanical engineering and wishing an area of specialization in their degree. Specializations are available to, but not required of, any student enrolled in the Bachelor of Science degree in Mechanical Engineering. The sequences of courses listed below for each specialization are taken to satisfy the professional electives requirement. Note that completing the Bachelor of Science degree in Mechanical Engineering with a specialization may require more than 128 credits. Students may earn only one specialization and the specialization must be completed as part of their degree. The specialization will be noted on the students' transcript and diploma.

1. Automotive Engineering Specialization

The Automotive Engineering Specialization includes courses related to powertrain, vehicle dynamics, as well as systems integration as they relate to vehicle design. To earn a Bachelor of Science degree in Mechanical Engineering with a specialization in Automotive Engineering, students must complete the following sequence of courses to satisfy their professional electives requirement. Please note that completing this specialization may require more than 128 credits.

Required fundamental subjects - 12 credits

- ME 4220 - Vehicle Dynamics (4)
- ME 4350 - Mechanical Computer-Aided Engineering (4)
- ME 4540 - Internal Combustion Engines I (4)

Select at least 4 credits from the following:

- ME 4260 - Acoustics and Noise Control (4)
- ME 4510 - Intermediate Fluid Mechanics (4)
- ME 4630 - Lubrication, Friction, and Wear (4)
- ECE 4110 - Automotive Electronics (4)
- ECE 4520 - Automotive Mechatronics I (4)
- ME 4900 - Special Topics (2 TO 4) /5900 with prior approval (2 TO 4)
- ME 5560 - Combustion processes (4)

2. Manufacturing Specialization

The Manufacturing Specialization includes courses related to manufacturing processes for metals and plastics as well as manufacturing systems. To earn a Bachelor of Science degree in Mechanical Engineering with a specialization in Manufacturing, students must complete the following sequence of courses to satisfy their professional electives requirement. Please note that completing this specialization may require more than 128 credits.

Required fundamental subjects - 12 credits

- ME 4360 - Mechanical Computer-Aided Manufacturing (4)
- ME 4600 - Materials Properties and Processes (4)
- ME 4700 - Manufacturing Processes (4)

Select at least 4 credits from the following:

- ME 4750 - Optical Measurement and Quality Inspection (4)
- ME 4710 - Flexible and Lean Manufacturing Systems (4)
- ME 4740 - Robotic Systems (4)
- ECE 4400 - Automatic Control Systems (4)
- ISE 4485 - Statistical Quality Analysis (4)
- ME 4900 - Special Topics (2 TO 4) /5900 - with prior approval (2 TO 4)
- ME 5700 - Polymer Processing (4)

3. Energy Specialization

The Energy Specialization includes fundamental courses in energy systems as well as fundamental courses in the fluid and thermal sciences. To earn a Bachelor of Science degree in Mechanical Engineering with a specialization in Energy, students must complete the following sequence of courses to satisfy their professional electives requirement. Please note that completing this specialization may require more than 128 credits.

Required fundamental subjects - 8 credits

- ME 4510 - Intermediate Fluid Mechanics (4) or ME 4520 - Intermediate Heat Transfer (4)
- ME 4530 - Alternative Energy Systems (4)

Select at least 8 credits from the following:

- ME 4510 - Intermediate Fluid Mechanics (4)   if not taken as a required fundamental subject
- ME 4520 - Intermediate Heat Transfer (4) if not taken as a required fundamental subject
- ME 4540 - Internal Combustion Engines I (4)
- ME 4550 - Fluid and Thermal Systems Design (4)
- ME 4580 - Fundamentals of Nuclear Engineering (3)
- ME 4585 - Nuclear Reactors and Power Plants (3)
- PHY 3180 - Nuclear Physics Laboratory (2) (requires ME 4580 (3) as a pre- or co-requisite)
- ME 4996 - Independent Study (1 TO 4) with prior approval
- ME 4900 - Special Topics (2 TO 4) /ME 5900 (2 TO 4) with prior approval
  ME 5560 - Combustion Processes (4)

Major Standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science in Engineering with a major in Mechanical Engineering, students must gain major standing. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level courses. Forms may be obtained from the SECS Undergraduate advising office or from the SECS website.

To gain major standing in Mechanical Engineering, students must:

A) have an average GPA of 2.0 in the following mathematics and science courses: MTH 1554, MTH 1555, APM 2555, CHM 1430 (or CHM 1440 and CHM 1470), PHY 1610 (or PHY 1510 and PHY 1100), PHY 1620 (or PHY 1520 and PHY 1110).

B) have an average GPA of 2.0 in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400, EGR 2500, EGR 2600, EGR 2800. Note that some mechanical engineering courses require a minimum grade of C in EGR 2500 or EGR 2800 .

C) have no more than two grades below C in the required courses in A and B above;

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time; and

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete the courses listed in A and B above.

Performance requirements

Satisfactory completion of the program requires a GPA of at least 2.0 within each course group: namely, mathematics and sciences, engineering core, and professional subjects (including professional subjects and professional electives) and a grade of C or better in the senior design capstone course (ME 4999 or ME 4998). Within professional courses, at most two grades below C are permitted; at most two different courses may be repeated, and a total of three repeat attempts per course are 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 -- 17 total credits

- EGR 1200 - Engineering Graphics and CAD (1)
- MTH 1554 - Calculus I (4)
- CHM 1430 - Chemical Principles (4)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- General education (4)

Winter semester -- 16 total credits

- MTH 1555 - Calculus II (4)
- PHY 1610 - Fundamentals of Physics I (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- General education (4)

Sophomore year

Fall semester -- 16 total credits

- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- PHY 1620 - Fundamentals of Physics II (4)
- EGR 2500 - Introduction to Thermal Engineering (4)
- General education (4)

Winter semester -- 16 total credits

- MTH 2554 - Multivariable Calculus (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)
- General education (4)

Junior year

Fall semester -- 16 total credits

- ME 3200 - Engineering Mechanics (4)
- ME 3500 - Introduction to Fluid and Thermal Energy Transport (4)
- ME 3700 - Properties of Materials (4)
- General education (4)

Winter semester -- 15 total credits

- ME 3300 - Computer-Aided Design (3)
- ME 3250 - Mechanics of Materials (4)
- Professional elective (4)
- Approved Math/Science elective (4)

Senior year

Fall semester -- 16 total credits

- ME 4200 - Vibrations and Controls (4)
- ME 4500 - Energy Systems Analysis and Design (4)
- One professional subject (required or elective) (4)
- General education (4)

Winter semester -- 16 total credits

- ME 4999 - Senior Mechanical Engineering Design Project (4)
- ME 4300 - Mechanical Systems Design (4)
- One professional subject (required or elective) (4)
- General education (4)

Engineering Sciences Programs

Engineering Chemistry Program

Coordinators: Peng Zhao (SECS), Jennifer Tillinger (Chemistry)

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.

Engineering Physics Program

Coordinators: Hoda Abdel-Aty-Zohdy (SECS) with, Andrei Slavin (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, and 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.

Engineering Chemistry, B.S.

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

Coordinators: Peng Zhao (SECS), Jennifer Tillinger (Chemistry)

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.

Course requirements (minimum of 128 total credits)

To earn the degree of Bachelor of Science with a major in engineering chemistry, students must complete a minimum of 128 credits, satisfy writing requirement (also see Undergraduate degree requirements) and meet the following requirements:

General education (excluding mathematics and science)

Students are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the General Education Requirements in Western Civilization.

In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and Sciences -- 34 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- MTH 2554 - Multivariable Calculus (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- PHY 1610 - Fundamentals of Physics I (4)
- PHY 1620 - Fundamentals of Physics II (4)
- CHM 1440 - General Chemistry I (4) and CHM 1470 General Chemistry Laboratory I (1)
- CHM 1450 - General Chemistry II (4) and CHM 1480 General Chemistry Laboratory II (1)

Engineering core -- 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- EGR 2500 - Introduction to Thermal Engineering (4)
- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

Required Professional Subjects -- 34 credits

- CHM 2340 - Organic Chemistry I (4)
- CHM 2350 - Organic Chemistry II (4)
- CHM 2370 - Organic Chemistry Laboratory (2)
- CHM 3250 - Analytical Chemistry (4)
- CHM 3420 - Physical Chemistry I (4)
- CHM 3430 - Physical Chemistry II (4)
- CHM 3480 - Physical Chemistry Laboratory (2)
- CHM 4710 - Structure and Synthesis of Polymers (3)
- ME 3500 - Introduction to Fluid and Thermal Energy Transport (4)
- One lecture or laboratory course above CHM 4000 (3); Note: CHM 3620 may satisfy this requirement.

Plus 8 credits from Professional Electives:

- ME 4510 - Intermediate Fluid Mechanics (4)
- ME 4520 - Intermediate Heat Transfer (4)
- ME 4500 - Energy Systems Analysis and Design (4)
- ME 4540 - Internal Combustion Engines I (4)
- ME 4550 - Fluid and Thermal Systems Design (4)
- ECE 4400 - Automatic Control Systems (4)

Capstone Course -- 3-4 credits

- ME 4999 - Senior Mechanical Engineering Design Project (4) or
- CHM 4996 - Independent Research (3)

Major Standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science with a major in Engineering Chemistry, students must gain major standing in Engineering Chemistry. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level courses. Forms may be obtained from the SECS Undergraduate advising office or from the SECS website.

To gain major standing in Engineering Chemistry, students must meet the following requirements:

A) have an average GPA of 2.0 in the following mathematics and science courses: MTH 1554, MTH 1555, APM 2555, PHY 1610, PHY 1620, CHM 1440, CHM 1450, CHM 1470, and CHM 1480.

B) have an average GPA of 2.0 in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400, EGR 2500, EGR 2600, and EGR 2800.

C) have no more than two grades below C in the required courses in A and B above.

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time.

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete the courses listed in A and B above.

Performance requirements and additional general education notes

Students in this program are not required to complete the College of Arts and Sciences college exploratory requirements. Students must complete the university's General Education Requirements, including the capstone course of either CHM 4996 or ME 4999 (see Undergraduate Degree Requirements). In addition to the previously stated requirements, satisfactory completion of the program requires an average grade of at least C in the courses taken to satisfy the engineering and chemistry requirements and in the courses prescribed for the mathematics and science requirements.

Engineering Physics, B.S.

Requirements for the major in engineering physics, B.S. program

Coordinators: Hoda Abdel-Aty-Zohdy (SECS) with, Andrei Slavin (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.

Course requirements (minimum of 128 total credits)

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:

General education (excluding mathematics and science)

- Students are required to take PHL 1310 - Introduction to Ethics in Science and Engineering to satisfy the General Education Requirements in Western Civilization.
- In order to graduate on-schedule without taking additional courses, it is highly recommended that students meet with an SECS Undergraduate Academic Adviser concerning the selection of all of their general education courses.

Mathematics and sciences -- 48 credits

- MTH 1554 - Calculus I (4)
- MTH 1555 - Calculus II (4)
- MTH 2554 - Multivariable Calculus (4)
- APM 2555 - Introduction to Differential Equations with Matrix Algebra (4)
- CHM 1430 - Chemical Principles (4) ; or [CHM 1440 (4) and CHM 1470 (1)]
- PHY 1510 - Introductory Physics I (4) and PHY 1100 - General Physics Lab I (1)
- PHY 1520 - Introductory Physics II (4) and PHY 1110 - General Physics Lab II (1)
- PHY 3170 - Modern Physics Laboratory (2)
- PHY 3510 - Intermediate Theoretical Physics (4)
- PHY 3610 - Mechanics I (4)
- PHY 3710 - Foundations of Modern Physics (4)

Must choose one course from the list below:

- PHY 3310 - Optics (4)
- PHY 3660 - Vibrations and Waves (4)
- PHY 3810 - Electricity and Magnetism (4)
- PHY 4720 - Quantum Mechanics I (4)

Engineering core -- 21 credits

- EGR 1200 - Engineering Graphics and CAD (1)
- EGR 1400 - Computer Problem Solving in Engineering and Computer Science (4)
- EGR 2400 - Introduction to Electrical and Computer Engineering (4)
- EGR 2500 - Introduction to Thermal Engineering (4)

- EGR 2600 - Introduction to Industrial and Systems Engineering (4)
- EGR 2800 - Design and Analysis of Electromechanical Systems (4)

Required professional subjects -- 11 to 14 credits

- ECE 2005 - Electric Circuits (4)
- ECE 3100 - Electronic Circuits and Devices I (4)
- PHY 4995 - Independent Research (3 TO 6)

Professional Electives -- 12 credits

The following two depth areas are offered as typical. Select 12 credits from one of these. Students with different interests can construct different depth areas in consultation with the program coordinators.

1. Solid state physics and technology depth area

- ECE 4130 - Electronic Materials and Devices (4)
- PHY 4720 - Quantum Mechanics I (4)

Choose one design elective course from the list below

- ECE 3710 - Computer Hardware Design (4)
- ECE 4135 - Integrated Electronics (4)
- ECE 4210 - Communication Systems (4)
- ECE 4720 - Microprocessors-based Systems Design (4)

2. Applied mechanics depth area

- PHY 3660 - Vibrations and Waves (4)
- ME 3200 - Engineering Mechanics (4) (or ME 3250) (4)

Choose one design elective course from the list below

- ME 4500 - Energy Systems Analysis and Design (4)
- ME 4210 - Analysis and Design of Mechanical Structures (4)
- ME 4550 - Fluid and Thermal Systems Design (4)
- ME 4300 - Mechanical Systems Design (4)
- ME 4350 - Mechanical Computer-Aided Engineering (4)

Technical electives, choose 8 credits from

- MTH 2775 - Linear Algebra (4)
- APM 2663 - Discrete Mathematics (4)
- PHY 3180 - Nuclear Physics Laboratory (2)
- PHY 3310 - Optics (4)
- PHY 3660 - Vibrations and Waves (4)

- PHY 3720 - Nuclear Physics (4)
- PHY 3810 - Electricity and Magnetism (4)
- PHY 4180 - Modern Optics Laboratory (2)
- PHY 4720 - Quantum Mechanics I (4)
- PHY 4820 - Electricity and Magnetism II (4)
- ECE 3710 - Computer Hardware Design (4)
- ME 3500 - Introduction to Fluid and Thermal Energy Transport (4)
- ME 3250 - Mechanics of Materials (4)
- Any 4000-level ECE, ME or ISE courses (4-8)

Major Standing

To enroll in 3000- or higher level courses and to become candidates for the degree of Bachelor of Science with a major in Engineering Physics, students must gain major standing in Engineering Physics. An application for major standing should be submitted prior to intended enrollment in 3000- or higher level courses. Forms may be obtained from the SECS Undergraduate advising office or from the SECS website.

To gain major standing in Engineering Physics, students must meet the following requirements:

A) have an average GPA of 2.0 in the following mathematics and science courses: MTH 1554, MTH 1555, APM 2555, CHM 1430, PHY 1510, PHY 1100, PHY 1520, and PHY 1110.

B) have an average GPA of 2.0 in the following engineering core courses: EGR 1200, EGR 1400, EGR 2400, EGR 2500, EGR 2600, and EGR 2800.

C) have no more than two grades below C in the required courses in A and B above.

D) have not attempted any course listed in A and B above more than three times. Students may petition to repeat a course a fourth time.

E) have not repeated more than three different courses listed in A and B. Courses in which a W (withdrawal) grade is recorded will not be counted.

Conditional major standing may be granted in the semester in which the student will complete the courses listed in A and B above.

Performance Requirements and Additional General Education Notes

Satisfactory completion of the program requires an average grade of C within each course group: namely, mathematics and sciences, engineering core, and professional subjects (including required professional subjects and professional depth areas). Within professional subjects, at most two grades below C are permitted, at most two different courses may be repeated and a total of three attempts are permitted. Students in this program are not required to complete the college distribution requirement of the College of Arts and Sciences.

School of Nursing

3001 HUMAN HEALTH BUILDING

(248) 370-4253

Fax: (248) 364-8740

Dean: Judy Didion; Executive Secretary: Julie Rank

Associate Dean: Carrie Buch; Assistant to Associate Dean: Jill Asselin

Undergraduate Program Director: Kimberly Holka

Graduate Program Director: Meghan Harris

Interim Nurse Practitioner (NP) Track Director: Zorica Kauric-Klein

Forensic Nursing Track Director: Kelly Berishaj

Doctor of Nursing Practice - Nurse Anesthesia (DNP-NA) Program Director: Anne Hranchook; DNP-NA Program Coordinator: Susan Davis

Post-Master's DNP and PhD Program Coordinator: Laura Pittiglio; Post Master's DNP and PhD Progam Coordinator; Kristen Damiano, PhD Program Coordinator

Director of Advising: Jason Pennington

Senior Academic Advisers: Patrina Carper, Sarah Mullin

Academic Advisers: Laura Christensen Saims, Katherine McMullen, Emily Stepanian-Bennett, April Thomas-Powell

Registrar Office Coordinator: Heidi Donnelly

Office Assistant III: Ben Craine

Director of Clinical Services: Sonya Gary

Clinical Services Coordinator: Kathryn Amejka

NP Coordinator: Steven Efthyvoulidis

Clinical Services Assistant: Maryann Szalka

Clinical Data and Procedure Specialist: Roxanne Knudson

Assistant Dean: Michele St Denis; Office Assistant III: Alicia Nott

Business Manager/Financial Analyst: Kenyettera Junior

Payroll Specialist: Cortney Tokarczyk

Director of Philanthropy: Jackie McIntosh

Event Planner: Kate Lionas

Faculty Secretary: Andrea Patton

Office Assistant III: Colleen Tomaszewski

Technical Support Coordinator: NingNing Zheng

Information Technical Specialist: Zachary Walters

Director of Nursing Laboratories: Diane Noack

Professors: Judy Didion, Karen Dunn, Suha Kridli

Associate Professors: Carrie Buch, Judith Fouladbakhsh, Claudia Grobbel, Margaret Harris, Zorica Kauric-Klein, Julie Kruse, Anne Mitchell, Gary Moore, Sarah Newton, Laura Pittiglio

Assistant Professors: Elizabeth Eisenhauer, Ellen Gajewski, Toni Glover, Mary Golinski, Deana Hays, Joanna Hernandez, Anne Hranchook, Cheryl Jusela, Kristen Munyan, Julia Paul, Patricia Cameron, Lan Yao

Special Instructors: Kelly Berishaj, Carolyn Tieppo, Kathleen Spencer, Stephanie Vallie

Adjunct Assistant Professors: Kimberly Holka, Lynda Poly-Droulard

Adjunct Instructors: Teresa Chahine, Nicole Clark, Margaret Kennedy, Carly Miller,Renee Mirovsky, Katie Mysen

Visiting Instructors: Cheniece Harris, Angelika Maly

Professors Emerita: Frances Jackson, Mary Mittelstaedt, Cheryl Riley-Doucet, Darlene Schott-Baer, Justine Speer, Diane Wilson, Carol Zenas

Maggie Allesee Endowed Professor in Gerontology: Karen Dunn

Ascension Providence Rochester Hospital Foundation Endowed Professor: Toni Glover

Board of Visitors

The School of Nursing (SON) Board of Visitors (BOV) is composed of community leaders from the greater Detroit area. The SON Dean consults with the BOV as needed, the BOV assists the SON with fundraising, and members of the BOV provide generous scholarships for students.

Members of the Board of Visitors are:

Maggie Allesee, MS, Counselor

Lynn Chiesa, MSN, RN, NE-BC, CNO, Ascension Providence Southfield & Novi

Douglas Dascenzo, MSN, RN,CENP, CNO, St. Joseph Mercy Oakland

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Christine Zambricki, CRNA, MS, RN, FAAN, Consultant

Accreditation

The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program, and post-graduate APRN certificate programs at Oakland University is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791.

Programs Offered

The SON offers programs of study leading to the Bachelor of Science in Nursing (BSN) degree, Master of Science in Nursing (MSN) degree, Doctor of Nursing Practice (DNP) degree, and Doctor of Philosophy in Nursing (PhD) degree. Graduates of the undergraduate program pre-licensure tracks (Basic-BSN and Accelerated Second-Degree BSN) are eligible to take the NCLEX-RN licensure examination. The following are the BSN tracks available at Oakland University.

- Basic-BSN track (pre-licensure)
- Accelerated Second-Degree BSN track (pre-licensure)
- BSN Degree Completion Sequence (RN-BSN, post-licensure)

School of Nursing Mission

The mission of the OU School of Nursing is to prepare transformational leaders committed to caring and using the best evidence in nursing practice, education and research to optimize the health of the public in a diverse ever-changing global society.

School of Nursing Vision

The faculty and graduates of the OU School of Nursing will be recognized as transformational leaders, caring practitioners and scholars who optimize the health and well-being of a diverse global society.

Baccalaureate Program Curriculum

The BSN curriculum is developed to meet professional standards in accordance with the mission and vision of Oakland University and the School of Nursing.

Baccalaureate Program Outcomes (Student-Learning Outcomes)

1. Apply concepts from the Arts and Sciences in the promotion of health and the management of simple to complex nursing care.
2. Demonstrate use of the nursing process in clinical decision-making.
3. Apply principles of patient safety and quality improvement in nursing practice.
4. Apply principles of wellness, health promotion, disease prevention, rehabilitation, risk reduction, palliative and end-of-life care to individuals, families, communities, and populations.
5. Demonstrate values-based, ethical professional behaviors that integrate caring, autonomy, integrity, social justice, respect for diversity and human dignity throughout the lifespan.
6. Use best-evidence in nursing practice.
7. Demonstrate inter/intra-professional collaboration to optimize health outcomes.
8. Demonstrate transformational leadership in nursing practice in a variety of settings.
9. Use knowledge, processes, and skills from informatics to inform clinical decision making.
10. Apply knowledge of health policy, economics, legal, and political principles to nursing practice.
11. Demonstrate a commitment to professional development and lifelong learning.

School of Nursing Admission Mission

The OU SON seeks caring individuals who strive to meet the needs of a globally inclusive community and who will use their education to influence healthcare through practice, leadership, and scholarship.

Admission to the SON Undergraduate Program

All students pursuing admission to the SON undergraduate program must first gain admission to Oakland University. For additional information on admission requirements for specific degree tracks, please see the Basic-BSN, the Accelerated-Second Degree, and the BSN Degree Completion Sequence sections below.

SON Direct Admission to the Basic-BSN Track (only for Oakland University applicants in their senior-year of high school)

Admission is competitive. Applicants who satisfy all of the requirements listed below will be considered for admission. However, completion of the admission requirements does not guarantee an offer of direct admission to the Basic-BSN track.

SON Direct Admission Requirements:

1. Students must have applied and been accepted to OU by no later than November 1st of the student's senior year of high school;
2. Student's must have earned a non-weighted high school grade-point average (GPA) of 3.5 or higher at the completion of their Junior year or following the sixth semester;
3. SAT and ACT scores:
   o An SAT composite score of 1160 or higher. The SAT score must include an English score of 580 or higher and a Math score of 580 or higher; OR
   o An ACT composite score of 24 or higher with no section score (Math, English, Reading, and Science) less than 24;
4. Two semesters of high school Biology completed prior to the senior year with both semesters' final course grades B or higher; and
5. Two semesters of high school Chemistry completed prior to the senior year with both semesters' final course grades B or higher.
6. Supplemental materials may be required to be considered for direct admission to the Basic-BSN.

Progression in the SON as a Direct Admission Basic-BSN Student

Students admitted to the Basic-BSN track by direct admission are required to attend OU full-time. Direct admission students will take all of the Basic-BSN prerequisite courses during their first academic year, and are required to achieve a final course grade of B or higher in each course, and obtain a combined GPA of 3.2 or higher in five prerequisite courses (BIO 1200, BIO 2006, CHM 1040, CHM 2010, and PSY 1000) in order to progress in the Basic-BSN track. Students with AP or IB scores in any prerequisite course will be considered placed out of the course and will not have to complete the course in their first academic year. Any direct admission student who does not meet the aforementioned requirements will forfeit their seat in the BSN program.

SON BSN Admission for Basic-BSN and Accelerated Second-Degree (ASD) Tracks

Program Link: Bachelor of Science in Nursing (BSN) Plan of Study

Program Link: Accelerated Second-Degree BSN Track

Admission is competitive. Applicants who satisfy all of the requirements listed below will be considered for admission. Completion of the admission requirements does not guarantee an offer of admission to the SON Basic-BSN or ASD tracks.

ASD applicants must also have a posted bachelor's degree from an accredited institution of higher learning prior to gaining admission to Oakland University as a second-degree student.

Basic-BSN and ASD Competitive Admission Requirements:

1. Be an active OU student at the time of applying to the Basic-BSN or ASD tracks.
2. Have successfully completed BIO 1200, BIO 2006; CHM 1040, CDS 2010, and PSY 1000 with a final course grade of B or higher in each course and a combined GPA of 3.2 or higher in the five courses;
3. Have successfully completed PHL 1100, OR PHL 1000 OR PHL 1300 with a final course grade of B or higher;
4. Have successfully completed WRT 1060 (not required for ASD).
5. Have successfully completed MTH 0661 or an approved statistics course with a grade of B or higher. (The math requirement is waived for any student who receives an SAT Math score of 490 or higher, or an ACT Math score of 18 or higher, or who took an OU placement test and placed into MTH 0662 or a higher level math course).
6. Be in good academic standing in the university.
7. Supplemental materials may be required to be considered for admission to the Basic-BSN and ASD tracks.

Any applicant who has been dismissed from a nursing program or has ever received two or more nursing course grades of B- or lower must first obtain approval from the SON to apply to the Basic-BSN and/or ASD tracks.

Bachelor of Science in Wellness and Health Promotion to Accelerated Second-Degree BSN Pathway

The School of Health Sciences (SHS) and the School of Nursing (SON) have partnered to create the Wellness and Health Promotion (WHP) to Accelerated Second-Degree (ASD) Bachelor of Science in Nursing (BSN) pathway. This pathway is for first-time Pre-Nursing freshman students who did not gain admission to the Basic BSN program after their first year of study. Up to five pre-nursing students will be offered automatic admission to the ASD program through the WHP-ASD pathway. Students on the WHP-ASD pathway must meet all of the following requirements to gain admission into the SON's ASD BSN track in the semester following degree attainment:

1. Completion of all nursing prerequisites in the first year of study with a grade of B or higher in each course and with no repeated coursework. These courses include BIO 1200, BIO 2006, CHM 1040, CHM 2010, PSY 1000, PHL 1100 (1000 or 1300 also accepted), and WRT 1060.
2. A combined grade point average of 3.2 or higher in BIO 1200, BIO 2006, CHM 1040, CHM 2010, and PSY 1000.
3. Completion of the B.S. in WHP with a 3.0 cumulative grade point average or higher.
4. No repeated courses in the B.S. in WHP.
5. Completion of CDS 3300 and CDS 3310 or BIO 2650, and PSY 2250 with a grade of B- or higher in each course.
6. Adherence to Oakland University's undergraduate admission requirements for second-degree students, including the completion of a second-degree application through Undergraduate Admissions.

A criminal background check and a urine drug screen are requirements for admission into the SON. A flagged background check and/or drug screen may prevent acceptance into the SON.

Transfer Credit

For SON admission purposes, grades for courses taken at other academic institutions will be used to calculate a student's pre-nursing GPA. Letter grades are converted as follows: A = 4.0, A- = 3.7, B+ = 3.3, B = 3.0.

BSN Degree Completion Sequence (RN-BSN Track)

Program Link: BSN Degree Completion Sequence (RN-BSN) Track for Registered Nurses

Additional information for RN to BSN Plan of Study on SON Website

The School of Nursing offers an RN-BSN track for registered nurses with an Associate's Degree in Nursing (ADN) and who possess a valid and unrestricted RN license. A cumulative GPA of 2.5 or higher from the student's ADN program is required for unconditional admission to the RN-BSN track. Students seeking admission to the RN-BSN track must first apply to Oakland University through the OU Office of Undergraduate Admissions. The School of Nursing will verify the applicant's unrestricted RN license. Students admitted to the RN-BSN track will be required to meet all Oakland University general education requirements and should seek guidance regarding transcript evaluation and obtaining the Michigan Transfer Agreement (MTA) through the School of Nursing Academic Advising office.

Applicants who have been dismissed from a BSN completion program or who have ever received two (or more) grades in nursing courses below B- must obtain SON permission to apply to the BSN Degree Completion Sequence (RN-BSN Track). For more information, contact SON Academic Advising.

Undergraduate Program Policies and Procedures

Students admitted to the SON undergraduate program should consult the SON Undergraduate Program Student Handbook for information regarding program policies and procedures.

Academic Advising

All students admitted to the Basic-BSN and ASD tracks are required to attend a mandatory SON orientation run by the SON Academic Advising office. Students are encouraged to meet regularly with their academic adviser to discuss academic issues and/or concerns.

Assessment Technology Institute (ATI)

The SON uses ATI Nursing Education for all pre-licensure (Basic-BSN and ASD) students. ATI Nursing Education is designed to facilitate student academic success. ATI Nursing Education provides resources that, when used effectively by pre-licensure nursing students, help them to be successful in the nursing

courses, and prepares them for the NCLEX-RN. Students will receive account and payment information for ATI Nursing Education as part of SON orientation and during NRS 2012. The ATI Nursing Education Learning System is mandatory for all students in the SON. Refer to the Undergraduate Student Handbook for chart outlines for the ATI Assessments that pre-licensure (Basic-BSN and ASD) students are required to complete during the nursing curriculum. Additional resources are available on the ATI website, and SON faculty may assign their use.

ATI Comprehensive Predictor Assessment (CPA) is a SON graduation requirement. All pre-licensure students (Basic-BSN and ASD) take the CPA during the semester in which they are enrolled in NRS 4026 Nursing Capstone. Students must achieve a score of 89% or higher to satisfy the SON benchmark. Students not scoring 89% or higher on the first attempt will be given a second opportunity to demonstrate the SON benchmark on a retake of the CPA. The student will be responsible for paying the cost of the second CPA attempt. If the student does not demonstrate the SON benchmark on the second attempt, the student will be responsible to purchase the ATI Virtual Tutor for remediation and proof of readiness to take the NCLEX board examination. Students will be eligible to graduate at the end of the semester in which they complete the ATI Virtual Tutor. Students need to apply to graduate and adhere to the OU Office of the Registrar's deadline dates.

Clinical Health Requirements for BSN Students

A student's ability to start and/or remain in the Basic-BSN and ASD tracks is contingent upon successful completion of all of the SON clinical health requirements and their ability to satisfy the SON core performance standards. Newly admitted pre-licensure students who do not submit the required clinical health documentation by the published due date will forfeit their seat and will need to re-apply. Continuing students who do not submit the required clinical health documentation by the published due date will not be allowed to enroll in any clinical nursing courses and the corresponding didactic course(s), and their progression in the nursing curriculum may be delayed. The SON clinical health requirements are available on the SON website and in the Undergraduate Student Handbook. In addition, a criminal background check and a urine drug screen are required for admission to the SON. A flagged criminal background check and/or drug screen may prevent admission to the SON website. Students are responsible for all costs associated with the SON clinical health requirements. Please note that clinical partners may require/request their own security-criminal history checks, urine drug screens, and health documentations in addition to SON clinical health requirements in order to participate in clinical experiences at their site. Students are required to comply with any additional requirements of any clinical or enrichment site(s). Students are encouraged to maintain their own health insurance. Please note that payment for injury or illness that occurs while in the nursing program will be the responsibility of the student.

Clinical Placements

The SON provides students with a range of clinical experiences with diverse populations, organizations, and agencies. The SON's clinical partners are located in urban and suburban settings throughout metropolitan Detroit and southeastern Michigan. Each student is responsible for providing his/her own transportation to all clinical experiences.

Leave of Absence

Students can request a leave of absence (LOA) in the SON for personal or academic reasons for a total of 12 months. Students who wish to take a LOA in the SON must meet with their SON academic adviser. A student's return from a LOA is contingent upon availability of space. Students who return from LOA must comply with all SON policies in effect at the time they return and their clinical health requirements must be current with the SON.

Withdrawal from BSN Program

Students can withdraw from their respective BSN track for personal or academic reasons. Students who wish to withdraw from their track must contact their SON academic adviser and submit a SON Withdrawal form.

Qualification for Registered Nurse Licensure (NCLEX-RN)

Certified graduates of the BSN program's pre-licensure tracks (Basic-BSN and ASD) are eligible to take the NCLEX-RN licensure examination. Registered Nurse licensure in Michigan is granted by the State of Michigan. Requirements for licensure include successful completion of a state-approved nursing educational program and satisfactory performance on the National Council of State Boards of Nursing Licensing Examination for Registered Nurses (NCLEX-RN).

Student Nursing Organizations

Sigma Theta Tau International (STTI) -Theta Psi Chapter at Large

The Oakland University chapter of Sigma Theta Tau International, Theta Psi, was chartered in April 1986. After many years of chapter success, Oakland University and Rochester University partnered to charter the STTI Theta Psi Chapter at Large in the spring of 2019. Each year, eligible nursing students from both universities are invited to become members of this international nursing honor society. Candidates for membership are selected on the basis of scholastic achievement.

Student Nurses Association of Oakland University (SNAOU)

Nursing students are eligible for and encouraged to become members of the SNAOU. This organization provides undergraduate nursing students the opportunity to interact with other nursing students, engage in professional nursing activities, and network with SON faculty and administrators.

Black Student Nurses Association (BSNA)

The purpose of this organization is to give students an opportunity to promote unity among minorities and other students by providing a support network for pre-nursing and current nursing students. BSNA allows members to increase their professional networking skills and helps educate and inform the community about health issues that affect minorities.

Requirements for the Bachelor of Science in Nursing - BSN Degree

Students in the SON must complete 125 credits and satisfy the following:

1. Complete all academic requirements identified in the SON plan of study.

2. Satisfy the general education requirements.

3. Complete at least 32 credits at or above the 3000-level.[CB1]

 [CB1]Please add this information to the catalog.

Accelerated Second-Degree BSN Track

Semester 1 - 18 credits

- BIO 3520 - Introduction to Human Microbiology (4) or CDS 3300 - Microbiology of Infectious Diseases (3) and CDS 3310 - Microbiology of Infectious Diseases Laboratory (1)
- NRS 2010 - Pathophysiology (3)
- NRS 2012 - Introduction to Professional Nursing (3)
- NRS 2014 - Health Assessment (4)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)

Semester 2 - 17 credits

- NRS 2020 - Pharmacology (4)
- NRS 2024 Fundamentals of Professional Nursing Practice (5)
- NRS 3012 - Research for Evidence-Based Nursing Practice (3)
- NRS 3015 - Nursing Care of Adults I (5)

Semester 3 - 17 credits

- NRS 3022 - Informatics for Nursing Practice (2)
- NRS 3016 - Nursing Care of Individuals with Behavioral and Mental Health Disorders (5)
- NRS 3025 - Nursing Care of Adults II (5)
- NRS 3026 - Nursing Care of the Childbearing Family (5)

Semester 4 - 17 credits

- NRS 4012 - Nursing Leadership (2)
- NRS 4015 - Nursing Care of Communities and Populations (5)
- NRS 4016 - Nursing Care of the Childrearing Family (5)
- NRS 4026 - Nursing Capstone (5)

69 credits

Bachelor of Science in Nursing (BSN) Plan of Study

Requirements for the Bachelor of Science in Nursing - BSN Degree

Students in the SON must complete 125 credits and satisfy the following:

1. Complete all academic requirements identified in the SON plan of study.

2. Satisfy the general education requirements.

3. Complete at least 32 credits at or above the 3000-level.

Pre-nursing Semester 1 - 16 credits

- BIO 1200 - Biology I (4)
- CHM 1040 - Introduction to Chemical Principles (4)
- PSY 1000 - Introduction to Psychology (4)
- WRT 1050 - Composition I (4)

Pre-nursing Semester 2 - 17 credits

- BIO 2006 - Clinical Anatomy and Physiology (5)
- CHM 2010 - Introduction to Organic and Biological Chemistry (4)
- WRT 1060 - Composition II (4)
- (Select one) PHL 1000, PHL 1070, PHL 1100, PHL 1300, PHL 2200, PHL 2210, PHL 2220 (4)

Nursing Year 1

Semester 1 - 14 credits

- BIO 3520 - Introduction to Human Microbiology (4) or CDS 3300 - Microbiology of Infectious Diseases (3) and CDS 3310 - Microbiology of Infectious Diseases Laboratory (1)
- NRS 2010 - Pathophysiology (3)
- NRS 2012 - Introduction to Professional Nursing (3)

- NRS 2014 - Health Assessment (4)

Semester 2 - 17 credits

- NRS 2020 - Pharmacology (4)
- NRS 2024 - Fundamentals of Professional Nursing Practice (5)
- PSY 2250 - Introduction to Life-Span Developmental Psychology (4)
- General Education course (4)

Nursing Year 2

Semester 1 - 17 credits

- NRS 3012 - Research for Evidence-Based Nursing Practice (3)
- NRS 3015 - Nursing Care of Adults I (5)
- NRS 3016 - Nursing Care of Individuals with Behavioral and Mental Health Disorders (5)
- General Education course (4)

Semester 2 - 16 credits

- NRS 3022 - Informatics for Nursing Practice (2)
- NRS 3025 - Nursing Care of Adults II (5)
- NRS 3026 - Nursing Care of the Childbearing Family (5)
- General Education course (4)

Nursing Year 3

Semester 1 - 16 credits

- NRS 4012 - Nursing Leadership (2)
- NRS 4015 - Nursing Care of Communities and Populations (5)
- NRS 4016 - Nursing Care of the Childrearing Family (5)
- General Education course (4)

Semester 2 - 12 credits

- NRS 4026 - Nursing Capstone (5)
- NRS XXXX - Nursing Elective (3)
- General Education course (4)

125 Total Credits

Note

Writing Intensive in General Education: Recommend Global Perspectives that also meets Writing Intensive in General Education.

General Education: Students choose one approved course from each of the following categories: Arts; Foreign Language and Culture; Formal Reasoning; Global Perspective; Literature; Natural Science and Technology; Social Science; Western Civilization; Writing Intensive in the General Education. Students are encouraged to consult with an academic adviser for assistance selecting and scheduling general education courses and in particular the course selected to fulfill the Writing Intensive in the General Education within their academic schedule. In many instances, you may select one course to fulfill more than one degree requirement.

BSN Degree Completion Sequence (RN-BSN) Track for Registered Nurses

Semester 1 - 13 credits

- NRS 3022 - Informatics for Nursing Practice (2)
- NRS 3071 - Research Basis of Nursing Practice (3)
- NRS 3511 - Transition to Baccalaureate Nursing Education (4)
- NRS 3531 - Health Promotion in the Community (4)

Semester 2 - 15 credits

- NRS 3541 - Nursing Leadership and Health Care Issues (3)
- NRS 4551 - Nursing Care of Populations with Health Disparities (4)
- NRS 4561 - Community Nursing (4)
- NRS 4571 - Nursing Synthesis (4)

Semester 3 - 4 credits

- NRS 4585 - Nursing Capstone Experience (4)

University Transfer policy

Students admitted to OU SON from a regionally accredited Associate's Degree in Nursing Program (ADN), may transfer a maximum of 63 credits as established by the university transfer policy. Students transferring in without the completion of the Michigan Transfer Agreement, please reference the general education transfer guide for courses that satisfy individual categories.

Additional 30 Prior Learning credits

Oakland University awards an additional 30 prior learning credits awarded for successful completion of the NCLEX-RN.

32 total nursing credits

The Honors College

210 Oak View Hall

(248) 370-4450

Dean: Graeme Harper, DCA Ph.D. FRGS FRSA FRAI

Council: Eddie Cheng, Math; Virgil Zeigler-Hill, Psychology; Matthew Fails, Political Science; Brad Roth, Physics; Susan Wood, Art History; Darrin Hanna, Engineering; Kathleen Spencer, Nursing; Christopher Wilson, Health Sciences; Fritz McDonald, Philosophy; Karen Conn, Administrative Assistant; Sheri Rourke

The Honors College was established to provide highly motivated students an intellectually stimulating community. The curriculum offers a distinctive undergraduate experience that integrates the sciences the professional fields and the arts through research, colloquia, creative activities, scholarly and extra-curricular activities, as well as leadership and service opportunities within the university and larger community. It offers specially designed general education requirements, and in major Honors choices, in conjunction with a departmental major. Students applying to The Honors College must first be admitted to or enrolled at Oakland University. Courses with the HC prefix are open only to students who have been accepted into The Honors College. Please visit our website at oakland.edu for additional information on the Honors College, its programs and requirements.

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 Education and Human Services, the School of Engineering and Computer Science, the School of Health Sciences, or the School of Nursing.

The Honors College also offers the option of utilizing approved in-major courses that can take the place of an Honors College requirement. This must be discussed with an Honors College adviser for approval prior to completion of the course.

General education requirements of The Honors College

The Honors College offers selected core general education courses, from this catalog, as designed for student needs or determined by proposals submitted by faculty and accepted by an Honors College committee. Specific offerings for each semester may be found on SAIL and on The Honors College website.

The Honors College Council may allow HC courses to satisfy general education requirements by section when the content is appropriate. Course sections must be designated prior to the start of the semester.

1. The student must successfully complete HC 1000 and at least two Honors College core courses (12 credits).

- HC 1000 - First Year Colloquium
- HC 2010 - Art
- HC 2020 - Literature
- HC 2040 - Western Civilization
- HC 2050 - International Studies
- HC 2060 - Social Science
- HC 2070 - Math/Logic or Computer Science
- HC 2080 - Natural Science and Technology
- HC 4900 - Independent Study

2. The student must complete eight semesters (once a semester) of Honors College Aspire or Presidential Aspire. Aspire is a zero credit course that tracks HC involvement and is reflected on the students' transcript.

3. The student must successfully complete at least one approved General Education course in each of the 10 knowledge areas that are not covered by the HC core courses taken.

4. The student must complete an approved writing intensive course in General Education Requirements, (which may be satisfied by choosing an HC 2020), a writing intensive course in the major, a diversity course and a capstone. These four requirements may be met by courses that double-count in other general education areas or in the major.

5. The student must complete a foreign language requirement (see policy on the Honors College website).

6. The student must successfully complete HC 3900.

7. The student must complete a senior thesis.

Note: Honors College requirements partially replace university general education requirements and replace Exploratory requirements for students in the College of Arts and Sciences.

The Honors College Involvement

- 10 hours per year of involvement outside of the classroom
- One HC event per year
- Meet with an HC advisor yearly

Academic Advisement

The student must maintain yearly requirements in the Honors College. Academic Advisement Guidelines are available in the Honors College office and online.

Honors thesis

Each Honors College student will successfully complete a major scholarly work or creative project under the guidance and supervision of a faculty mentor. The Honors College Thesis can be awarded as Thesis (Pass), Thesis (with Distinction) or Thesis (with Distinction and a Thesis Award in a particular field). The Honors College thesis/project provides a unique opportunity to work at length on a project designed to contribute to the student's field of expertise and enhance their level of research or creative practice experience. Students complete individual theses, but can choose to work individually or in a team.

A minimum grade-point average of 3.50 is required for graduation with Honors College designation. The diploma indicates that the student is a graduate of The Honors College.