

of available resources, and best practices for commercial success also covered. Offered summer semester.
Prerequisite: EXS 470.

EXS 483 Special Topics (1,2,3 or 4)

An advanced course involving the study of current topics in the practical application of exercise principles. Topics vary. May be repeated for additional credit.

Prerequisite: program director permission.

EXS 493 Directed Study and Research (1, 2, 3 or 4)

Special study areas and research in exercise science. May be repeated for additional credit. Offered every semester.

Prerequisite: program permission.

Health Sciences Program

Health Sciences: Director, *Richard J. Rozek*

Professors Emeritus: *Ronald E. Olson, Philip Singer*

Professors: *Gary D. Russi, Kenneth R. Hightower*

Associate professor: *Richard J. Rozek*

Clinical professors: *Moon J. Pak, Donald Bronn*

Clinical assistant professors: *J. Kay Felt, Todd Lininger, Lynne M. Prybys, Monica Wilkinson*

Adjunct assistant professor: *Anthony Tersigni*

Clinical instructors: *Kim Bezas, Jennifer M. Cook, Angela Fern, Jennifer Guthrie, Elizabeth M. Mikulec, Donna Morrison*

A Bachelor of Science in health sciences degree combines a broad spectrum of liberal arts, basic 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 five academic concentration areas to obtain greater exposure to a specific health discipline. These five academic areas include exercise science, integrative holistic medicine, pre-pharmacy, pre-physical therapy and pre-health professional studies. The integrative holistic medicine concentration prepares students for many traditional and non-traditional health and service-oriented professions and graduate programs including the Oakland University Graduate Certificate in Complementary Medicine and Wellness. Students completing the exercise science concentration area obtain all the academic course prerequisites necessary for consideration for admission to the Master of Science in exercise science program. Students completing the pre-physical therapy concentration area obtain all the academic course prerequisites necessary for consideration for admission to the Oakland University Doctor of Physical Therapy (DPT) Program. The pre-health professional concentration area 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 area prepares students for application to the Doctor of Pharmacy program at Wayne State University.

Requirements for the B.S. degree with a major in health sciences (Concentration in Exercise Science, Integrative Holistic Medicine, Pre-physical Therapy, or Pre-health Professional studies)

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 sciences majors, this requirement is satisfied by completing HS 302.
3. Complete the prescribed number of credits from the following courses: BIO 111*, 205, 206 or 322, 207 or 321; CHM 157*, 158; HS 201*, 302, 401, 450; PHY 101*, 102, 158; (or PHY 151, 152, 158); PSY 100*; STA 225*. (Courses that also satisfy the university general education requirement.)
4. Complete the course requirements specified under one of the following academic concentration areas (exercise science, pre-physical therapy, or pre-health professional studies).

Exercise science academic concentration course requirements

Students completing the Bachelor of Science in health sciences with an academic concentration in exercise science must complete a minimum of 128 credits, including the following courses:

1. EXS 103, 105, 204, 207, 304, 306, 350, 401; HS 441; PSY 250, 344 (preferred, or PSY 321, 322, 323, 333, 338).
2. Complete a minimum of 12 credits (minimum of 6 credits at 300 level or above – minimum of 8 credits must be chosen from exercise science courses) from these EXS concentration elective courses: EXS 202, 203, 205, 215, 321, 360, 403, 405, 410, 415, 425, 435, 445, 450, 465, 470, 475, 483, 493; HS/NH 301; WHP 310, 311, 315, 360, 370, 420 or any other course pre-approved in writing by the health sciences director. A course may not be used to satisfy both an elective and a concentration requirement.

Integrative holistic medicine concentration course requirements

Students completing the Bachelor of Science in health sciences with an academic concentration in integrative holistic medicine must complete a minimum of 128 credits, including the following courses:

1. HS 441; WHP 315, 350, 461, 462; PSY 250, 318; MLS 210; HS/NH 301.
2. Complete a minimum of 14 credits from these IHM concentration elective courses: EXS 204, 215, 360; HS 331; MLS 423; WHP 370 or any other course pre-approved in writing by the health sciences coordinator. A course may not be used to satisfy both an elective and a concentration requirement.

Pre-physical therapy academic concentration course requirements

Students completing the Bachelor of Science in health sciences with an academic concentration in pre-physical therapy must complete a minimum of 124 credits, including the following requirements:

1. EXS 204, 207, 304, 306, 350; HS 441; MLS 210; MTH 141; PSY 250. Choose one of the following: PSY 225, 321, 322 or 323; PT 302, 321.
2. Complete a minimum of 8 elective 300/400 level credits from the following courses: BIO 323, 324, 341; CHM 453, 454, 457; EXS 360, 403, 405, 410, 415, 425, 435, 445, 450, 465, 493;

HS/NH 301, 311; HS 331, 359, 405; MLS 400, 401, 425; NH 300, 330, 331, 340, 401, 402, 403, 404, 405, 446; PHY 326; PSY 321, 322, 323, 333, 338; 341; PT 490; SOC 328; WHP (any 300/400 level); or any other 300/400 level course preapproved in writing by the health sciences director. A course may not be used to satisfy both an elective and a concentration requirement.

Pre-health professional academic concentration course requirements

Students completing the Bachelor of Science in health sciences with an academic concentration in pre-health professional studies must complete a minimum of 130 credits, including the following courses: BIO 113*, 341, 342; CHM 234, 235, 237; MLS 430, 432; 425; MTH 141; PSY 225; HS 301, 331, 441; EXS 304, 306.

Requirements for BS degree with a major in health science with an academic concentration in pre-pharmacy

Students completing the Bachelor of Science in Health Sciences with an academic concentration in pre-pharmacy must complete a minimum of 124 credits.

1. Meet the university general education requirements. Note that several courses under #3 below satisfy general education requirements and Health Sciences degree requirements. See courses marked with “*”.
2. Complete the U.S. diversity requirement. For Health Sciences majors, this requirement is satisfied by completing HS 302.
3. Complete the prescribed number of credits from the following courses: PHL 103*; ECN 150; BIO 111*, 205, 206, 207; CHM 157, 158, 234, 235, 237; HS 201*, 302, 401, 450*, 490; MTH 154*; STA 225*; PHY 101*, 102, 158 (PHY 151, 152, 158); PSY 100*; MLS 430, 432.

There are two tracks for students pursuing a Bachelor of Science in health sciences at Oakland University with a pre-pharmacy concentration and a Doctor of Pharmacy (Pharm D) at Wayne State University.

TRACK ONE: Guaranteed admission criteria Oakland University “Health Pro Start” (for entering freshmen only):

1. High school GPA of 3.50 (recalculated, including weighting for AP/honors classes)
2. Minimum ACT score of 25 in each category of the ACT
3. Explanation of experience (describe the amount of time devoted to the activity) in these areas:
 - health care
 - community service
 - team activities (for example, athletics, debate)
 - leadership
 - high school extracurricular activities
 - employment
 - summer activities.
4. Submission of a one-page typed essay describing the student is pursuing HealthPro Start and why s/he should be accepted.
5. Two letters of recommendation:
 - One from a high school teacher, counselor or administrator who is familiar with the applicant’s extracurricular activities, team and/or leadership skills; and

- One from a nonfamily member who can address the applicant's healthcare experience, community service and/or employment.

If you meet the minimum requirements and complete a separate HealthPro Start application, you will be invited to campus for a series of interviews with representatives from the Eugene Applebaum College of Pharmacy and Health Sciences at Wayne State University.

Once at Oakland University, Wayne State University/Oakland University "Health Pro Start" participants must:

1. Maintain a GPA at or above 3.30 during the first year in college. Maintain an overall 3.50 GPA.
2. Make regular progress towards the B.S. Degree in Health Sciences from OU, taking all courses at OU – NO TRANSFER WORK ALLOWED.
3. All course work must be successfully completed. Repeated prerequisite courses will not be allowed.
4. All Pharm D prerequisites must be completed with a grade of "C" (2.0) or better.
5. Complete all academic and non-academic entrance requirements of the doctor of pharmacy program.
6. Participate in the WSU/OU HealthPro Start Seminar and Doctor of Pharmacy Program mentoring process.
7. Demonstrate continuing activity in related volunteer work.
8. Students must declare their intent to enter into the doctor of pharmacy program by August 10, just prior to their sophomore year.
9. To be considered, the applicant must successfully complete the admission requirements and submit both these applications:
 - a. The Pharm CAS application.
 - b. Eugene Applebaum College of Pharmacy and Health Sciences supplemental application.
10. The student must be interviewed by the Doctor of Pharmacy Program Admissions committee during the student's junior year.
11. The student must be accepted for admission into the Doctor of Pharmacy program.
 - a. Notification of formal admission into the Pharm D program will be provided to the student before the completion of their junior year.
12. After formal acceptance into the Doctor of Pharmacy program, the student must maintain the continuation criteria outlined above.

TRACK TWO: Competitive Admission Criteria for students who do not meet admission criteria for Health Pro Start or who are already enrolled at OU:

1. Admission in Oakland University;
2. Minimum 3.30 GPA.
3. Score above the 70th percentile on PCAT with no subscore (Writing, Verbal, Biology, Quantitative) below the 50th percentile.
4. All Pharm D prerequisites completed with at least a 2.0.
5. To be considered, the applicant must successfully complete the admission requirements and submit both these applications:
 - a. The Pharm CAS application
 - b. Eugene Applebaum College of Pharmacy and Health Sciences supplemental application

If admitted, in the senior year students take the following courses taught at Wayne State University:

PSC 3110 Pharmaceutical Biochemistry (3) PSC 3210 Biotechnology in Therapeutics (2)
PSC 3120 Dosage Form Design & Bioph (4) PPR 3120 Pharmacy Jurisprudence (2)

PPR 3020 Intro to Patient Care I (2) PPR 3060 Patient Care II (2)
PPR 3040 Patient Care I Lab (1) PPR 3070 Patient Care II Lab (1)
PHA 3030 Pharm Calc & Descriptive Stats (1) PPR 3040 Medical Informatics (2)

It is recommended that students consult with the academic adviser prior to enrolling in classes.

Course Offerings

The school offers selected courses from this catalog as warranted by student needs and availability of faculty. Specific offerings for each term may be found in the *Schedule of Classes*.

HS 101 Careers in Health (0)

An introduction to programs and career opportunities offered through the School of Health Sciences. Class meets only the first week of the fall semester. Not graded.

HS 201 Health in Personal and Occupational Environments (4)

Current information about the impact of environmental and lifestyle factors on health. The impact of exercise, weight control, substance abuse, nutrition and stress management on a person's ability to cope with environmental stresses will be analyzed. *Satisfies the general education requirement in the natural science and technology knowledge exploration area.*

HS 301 Human Nutrition and Health (4)

Chemical, biological, social and psychological elements of human nutrition. Constituents of food and their functions in human health and disease. NH 300 strongly recommended as prerequisite or corequisite. Identical with NH 301, AHS 301.

HS 302 Community and Public Health (4)

Biological, psychosocial, social-cultural, economic, philosophical, political, ethical, environmental, community and public health organization factors, as determinants of health are discussed relative to the distribution, cause, prevention, and treatment of disease. Topics include epidemiological health indicators, goals, systems of health care delivery, disparities, diversity/stereotyping, gender, age and disability issues. *Satisfies the university general education requirement in the social science knowledge exploration area and in U.S. diversity.*

Prerequisite: HS 201 or instructor permission.

HS 311 Contemporary Topics in Nutrition (2)

Explores the changing frontier of nutritional sciences and provides the basis for understanding and evaluation of new nutritional information with an emphasis on encouraging individuals to make healthy food/lifestyle choices. Summer semester in odd-numbered years. Identical with NH 311.

Prerequisite: HS 301 or instructor permission.

HS 331 Pharmacology (2)

An introduction to the principles of pharmacology, including the principles of drug therapy and the actions of the basic classes of drugs. Will satisfy requirements for NRS 230. Cross-listed with AHS 331.

Prerequisite: BIO 207 or BIO 321.

HS 359 Public Policy and Health Care (4)

Cross-listed with PS 359.

HS 401 Human Pathology (4)

Basic principles of human pathology appropriate for students pursuing curricula in the health-related disciplines. Diseases of the major systems of the body are studied. Credit will not be granted for both HS

401 and HS 501. Cross-listed with AHS 401, HS 501.

Prerequisite: BIO 111 and BIO 207 or BIO 321.

HS 402 Field Experience in Integrative Studies (4)

This course integrates previous academic course work into a coherent understanding of how the educational experience serves to enhance individual and community well being. *Satisfies the university general education requirement for a writing intensive course in the major. Prerequisite for writing intensive: completion of the university writing foundation requirement. Satisfies the university general education requirement for the capstone experience.*

Prerequisite: senior standing and completion of WRT 160 with at least a 2.0

HS 405 Special Topics (2, 3 or 4)

May be repeated for additional credit.

Prerequisite: permission of instructor.

HS 406 The Brain and Disease (2)

Reviews current neurological research on the brain in health in disease, including addiction, depression, stroke, viral infections, Alzheimer's and Parkinson's. Emphasis on multidisciplinary research studies on the role of exercise and nutritional antioxidants. Summer elective.

Prerequisite: EXS 304, HS 401 or permission of instructor.

HS 441 Integrative Holistic Medicine Principles and Practice (2 or 4)

Evidence-based complementary and alternative modalities will be explored and used to formulate new, holistic approaches for promoting health and treating diseases. Discussions will be related to students' life experiences and other disciplines. Topics include: Stress management, psychoneuroimmunology, biofeedback, nutrition, herbology and oriental medicine.

Prerequisite: If 2 credits, instructor's permission required.

HS 450 Law, Values and Health Care (4)

Examination of legal concepts, problems, institutions that shape/control professional responsibility, problems associated with maintaining and terminating life, licensure and related questions in organization and delivery of health services. *Satisfies the university general education requirement for the capstone experience. Satisfies university general education requirement for a writing intensive course in the major. Prerequisite for writing intensive: completion of the university writing foundation requirement.*

Identical with AHS 450 and MLS 450.

Prerequisite: junior standing.

HS 451 Mind-Body Medicine (2)

Examines the role of stress, emotions and other psychological states that bring about physiological changes affecting health and disease. Topics include psychoneuroimmunology, stress management, guided imagery, the relaxation response, exercise, nutrition, laughter and humor, and the role of personality. Applications include patient motivation, empowerment and variability in response to treatment.

HS 490 Directed Study (1, 2, 3 or 4)

Student-initiated and problem-oriented directed study focusing on health sciences issues. May be repeated for additional credit. Graded numerically or S/U.

Prerequisite: departmental permission.