

BS IN EXERCISE SCIENCE

The University of Toledo offers a bachelor of science degree in exercise science. This degree requires 120 credit hours for graduation. The degree is for students who want to study the anatomical, physiological, biomechanical and psychological bases of human physical performance. The curriculum has a strong foundation in the natural sciences. Students have the opportunity to concentrate in one of the following areas:

- Human Performance and Fitness Promotion
- Pre-Medical Professions
- Pre-Rehabilitation Sciences

Many students use the degree as a preparation for graduate education in exercise science, medicine and other allied health fields such as physical therapy and occupational therapy.

Additional information about the degree can be found at the department's web site at <http://www.utoledo.edu/hhs/exercise-science/undergradprograms.html>

Human Performance and Fitness Promotion

Many exercise science students are interested in applying their interest and expertise in human physical performance to the prevention and treatment of disease and disability, to the enhancement of health and fitness, and to the facilitation of sport performance through training and conditioning. The concentration in human performance and fitness promotion is for these students. Beyond the required exercise science courses, these students take additional course work that focuses on the use of exercise and exercise testing in the diagnosis and treatment of cardiovascular and metabolic diseases, reduced muscle strength and endurance tolerance. Students in this concentration will focus on the development of exercise programs designed to enhance health, general fitness and exercise performance.

In addition to two internships, many students complete one or more of the certification programs offered by organizations such as the American College of Sports Medicine and the National Strength and Conditioning Association. These certifications, in combination with the student's academic training, provide excellent credentials for employment in fitness/wellness programs or cardiovascular rehabilitation as well as many commercial fitness facilities.

Pre-Medical Professions

The Pre-Medical Professions concentration provides students with the opportunity to complete the exercise science degree and prepare for admission into medical school or physician assistant graduate programs. Students will identify and research the specific admission requirements for those programs to which they intend to apply. If the requirements are not in the degree program, they should be included among the supporting electives in consultation with the program advisor. It is the student's responsibility to make sure all prerequisites for intended programs are completed. All medical and physician assistant programs involve a competitive admission process. Thus, completion of the Pre-Medical

Professions option at UToledo does not guarantee acceptance to any graduate program.

Pre-Rehabilitation Sciences

The Pre-Rehabilitation Sciences concentration provides students with the opportunity to complete the exercise science degree and prepare for admission into a graduate entry-level program for athletic training, occupational therapy, or physical therapy. Students will identify and research the specific admission requirements for those programs to which they intend to apply. If the requirements are not in the degree program, they should be included among the supporting electives in consultation with the program advisor. It is the student's responsibility to make sure all prerequisites for intended programs are completed. All athletic training, occupational therapy, and physical therapy programs involve a competitive admission process. Thus, completion of the Pre-Rehabilitation Sciences option at UToledo does not guarantee acceptance to any graduate program.

Human Performance and Fitness Promotion Internship Requirements

- Certification in CPR.
- Criminal background check policy

All incoming human performance and fitness promotion students are required to complete both an Ohio BCI & I check and an FBI criminal background check. In the event that the background check report identifies a history of criminal activity, the student may be at risk for not being able to successfully complete the required internship education requirements of the program.

Successful completion of all designated internships is a graduation requirement. Further, students with a criminal background may be "at risk" for not meeting credentialing eligibility requirements (ACSM, NSCA, etc.) in some states due to a felony conviction.

- Medical policy

Each student, while enrolled in the didactic and internship portions of the curriculum, is required to complete various immunizations, titers, tests, and a physical examination each year as specified in the Student Health Form Packet in the Student Handbook and in conjunction with University affiliate agreements. Students are prohibited to engage in laboratory activities or to attend an internship if this information is not on file for the current year. Students are to refer to the Student Handbook for program information.

It should also be noted that some internship sites have additional health requirements (flu shots, drug screens, etc.). When these are known in advance, the program will inform the student of any additional health requirements. However, during preparations for upcoming internships, the student is responsible for checking with the Internship Coordinator to determine if there are any additional health requirements. It is recommended that this process be initiated approximately 4-6 weeks prior to the start of the internship to allow adequate time for completion of any additional health requirements. If the student does not complete the additional requirements of the internship site, the student is prohibited from attending that facility for their internship education experience.

All expenses incurred in obtaining a background check, physical, necessary laboratory tests, immunizations and additional health requirements are the responsibility of the student.

- Physical requirements: must be able to move, lift or carry equipment weighing up to 50 lbs., push equipment up to 600 lbs., and lift/assist clients up to 300 lbs. with assistance. Must have full range of body motion and eye/hand coordination. Required to have corrected vision and hearing to normal range.

Physical Demands: Performance of appropriate exercise recommendations involves standing, walking, and moving of heavy exercise equipment.

Speech, Vision and Hearing Demands: Be able to interact and communicate effectively.

Mental Demands: Must possess the emotional health required for full utilization of intellectual abilities (appropriate medical judgment).

Transportation: Students must provide own transportation to sites up to 100 mile radius.

- BS in Exercise Science, Human Performance and Fitness Promotion (p. 2)
- BS in Exercise Science, Pre-Medical Professions
 - Pre-Medicine (p. 3)
 - Pre-Physician Assistant (p. 3)
- BS in Exercise Science, Pre-Rehabilitation Sciences (p. 4) (include pre-athletic training, pre-occupational therapy, pre-physical therapy)

BS in Exercise Science, Human Performance and Fitness Promotion

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance	4
BIOL 2180	Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance	1
ENGL 1110	College Composition I	3
EXSC 1700	Intro to Exercise Science ¹	2
HHS 1000	Health And Human Services/College Orientation	1
MATH 1340	College Algebra And Trigonometry	5
Hours		16
Second Term		
ENGL 2950	Science And Technical Report Writing	3
EXSC 2510	Human Anatomy ¹	3
EXSC 2520	Human Anatomy Lab ¹	1
HEAL 1800	Medical Terminology	3
PSY 1010	Principles Of Psychology	3

Arts/Humanities Core (Diversity of US)		3
Hours		16
Third Term		
COMM 2840	Interpersonal Communication	3
EXSC 2530	Human Physiology ¹	3
EXSC 2540	Human Physiology Lab ¹	1
PHYS 2070	General Physics I (FL)	5
Non-US Diversity		3
Hours		15
Fourth Term		
CHEM 1230	General Chemistry I	4
CHEM 1280	General Chemistry Lab I	1
EXSC 3240	Concepts of Exercise Fitness and Health Strategies ¹	3
EXSC 3520	Applied Exercise Physiology ¹	3
EXSC 3530	Applied Exercise Physiology Laboratory ¹	1
EXSC 3580	Exercise Pathophysiology ¹	3
Hours		15
Fifth Term		
EXSC 3620	Professional Responsibilities in the Fitness Industry (FL) ¹	3
EXSC 3830	Principles of Strength Conditioning (FL) ¹	3
EXSC 3850	Cardiac Dysrhythmia Interpretation (FL) ¹	3
EXSC 3860	Cardiac Dysrhythmia Lab (FL) ¹	1
EXSC 4830	Principles of Endurance Conditioning (FL) ¹	3
HEAL 4700	Nutritional Science	3
Hours		16
Sixth Term		
EXSC 3680	Sport and Exercise Pharmacology (SP) ¹	3
EXSC 4540	Applied Biomechanics ¹	3
EXSC 4550	Applied Biomechanics Lab ¹	1
EXSC 4850	Clinical Exercise Testing (SP) ¹	3
EXSC 4860	Clinical Exercise Testing Lab (SP) ¹	1
HPFP Elective		3
Hours		14
Seventh Term		
EXSC 4140	Fitness Internship I (FL) ¹	4
RESM 4100	Educational Statistics	3
HPFP Elective		3
Social Sciences Core		3
Elective		2
Hours		15
Eighth Term		
EXSC 3950	Research Design in Exercise Science (SP) ¹	3
EXSC 4210	Exercise Facility Management (SP) ¹	3
EXSC 4640	Neurological And Pathological Foundations Of Rehabilitation ¹	3

EXSC 4840	Fitness Internship II (SP) ¹	4
Hours		13
Total Hours		120

¹ A "C" or better is required in this course.

Courses noted with FL or SP are only offered in those semesters. Biology, Chemistry, and Math placement can alter this sequence.

BS in Exercise Science, Pre-Medical Professions (Pre-Medicine)

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance	4
BIOL 2180	Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance	1
CHEM 1230	General Chemistry I	4
CHEM 1280	General Chemistry Lab I	1
HHS 1000	Health And Human Services/College Orientation	1
MATH 1340	College Algebra And Trigonometry	5
Hours		16
Second Term		
BIOL 2150	Fundamentals Of Life Science: Diversity Of Life, Evolution And Adaptation	4
BIOL 2160	Fundamentals Of Life Science Laboratory: Diversity Of Life, Evolution And Adaptation	1
CHEM 1240	General Chemistry II	4
CHEM 1290	General Chemistry Lab II	1
ENGL 1110	College Composition I	3
EXSC 1700	Intro to Exercise Science ¹	2
Hours		15
Third Term		
CHEM 2410	Organic Chemistry I	3
CHEM 2460	Organic Chemistry Laboratory I for Non-Majors	1
ENGL 2950	Science And Technical Report Writing	3
EXSC 2510	Human Anatomy ¹	3
EXSC 2520	Human Anatomy Lab ¹	1
HEAL 1800	Medical Terminology	3
PSY 1010	Principles Of Psychology	3
Hours		17
Fourth Term		
CHEM 2420	Organic Chemistry II	3
CHEM 2470	Organic Chemistry Laboratory II for Non-Majors	1
PSY 2510	Lifespan Developmental Psychology	3
EXSC 2530	Human Physiology ¹	3
EXSC 2540	Human Physiology Lab ¹	1

EXSC 2590	Microbiology and Infectious Diseases	3
Hours		14

Fifth Term

CHEM 3510	Biochemistry I (FL)	3
EXSC 3580	Exercise Pathophysiology	3
PHYS 2070	General Physics I (FL)	5
RESM 4100	Educational Statistics	3
Hours		14

Sixth Term

COMM 2840	Interpersonal Communication	3
EXSC 3520	Applied Exercise Physiology ¹	3
EXSC 3530	Applied Exercise Physiology Laboratory ¹	1
EXSC 3950	Research Design in Exercise Science (SP)	3
PHYS 2080	General Physics II (SP)	5
Hours		15

Seventh Term

EXSC 3850	Cardiac Dysrhythmia Interpretation (FL) ¹	3
EXSC 3860	Cardiac Dysrhythmia Lab (FL) ¹	1
EXSC 4540	Applied Biomechanics	3
EXSC 4550	Applied Biomechanics Lab	1
Arts/Humanities Core		3
Diversity of US		3
Hours		14

Eighth Term

HEAL 4700	Nutritional Science	3
EXSC 4850	Clinical Exercise Testing (SP)	3
EXSC 4860	Clinical Exercise Testing Lab (SP)	1
PHIL 3370	Medical Ethics	3
Social Sciences Core (Non-US Diversity)		3
Elective		2
Hours		15
Total Hours		120

¹ A "C" or better is required in this course.

Courses noted with FL or SP are only offered in those semesters. Please be aware that requirements for medical school may vary. It is your responsibility to make sure that you have completed all prerequisites for the programs in which you intend to apply. Biology, Chemistry, and Math placement can alter this sequence.

BS in Exercise Science, Pre-Medical Professions (Pre-Physician Assistant)

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance	4
BIOL 2180	Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance	1

CHEM 1230	General Chemistry I	4
CHEM 1280	General Chemistry Lab I	1
HHS 1000	Health And Human Services/College Orientation	1
MATH 1340	College Algebra And Trigonometry	5
Hours		16

Second Term

BIOL 2150	Fundamentals Of Life Science: Diversity Of Life, Evolution And Adaptation	4
BIOL 2160	Fundamentals Of Life Science Laboratory: Diversity Of Life, Evolution And Adaptation	1
CHEM 1240	General Chemistry II	4
CHEM 1290	General Chemistry Lab II	1
ENGL 1110	College Composition I	3
EXSC 1700	Intro to Exercise Science ¹	2
Hours		15

Third Term

CHEM 2410	Organic Chemistry I	3
CHEM 2460	Organic Chemistry Laboratory I for Non-Majors	1
ENGL 2950	Science And Technical Report Writing	3
EXSC 2510	Human Anatomy ¹	3
EXSC 2520	Human Anatomy Lab ¹	1
HEAL 1800	Medical Terminology	3
PSY 1010	Principles Of Psychology	3
Hours		17

Fourth Term

EXSC 2530	Human Physiology ¹	3
EXSC 2540	Human Physiology Lab ¹	1
PSY 2510	Lifespan Developmental Psychology	3
Pre-Med Professions Elective		3
Pre-Med Professions Elective		3
Pre-Med Professions Elective		3
Hours		16

Fifth Term

BIOL 3030	Cell Biology	3
PHIL 3370	Medical Ethics	3
PHYS 2070	General Physics I (FL)	5
Pre-Med Professions Elective		3
Hours		14

Sixth Term

BIOL 4030	Microbiology (SP)	3
BIOL 4040	Microbiology Laboratory (SP)	1
COMM 2840	Interpersonal Communication	3
EXSC 3520	Applied Exercise Physiology ¹	3
EXSC 3530	Applied Exercise Physiology Laboratory ¹	1
RESM 4100	Educational Statistics	3
Hours		14

Seventh Term

EXSC 4540	Applied Biomechanics	3
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EXSC 4550	Applied Biomechanics Lab	1
Arts/Humanities Core (Diversity of US)		3
Pre-Med Professions Elective		3
Pre-Med Professions Elective		3
Hours		13

Eighth Term

HEAL 4700	Nutritional Science	3
Non-US Diversity		3
Social Sciences Core		3
Pre-Med Professions Elective		3
Pre-Med Professions Elective		3
Hours		15
Total Hours		120

¹ A "C" or better is required in this course.

Courses noted with FL or SP are only offered in those semesters. Please be aware that requirements for graduate school for Physician Assistant may vary. It is your responsibility to make sure that you have completed all prerequisites for the programs in which you intend to apply. Biology, Chemistry, and Math placement can alter this sequence.

BS in Exercise Science, Pre-Rehabilitation Sciences

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term	Hours	
BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance	4
BIOL 2180	Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance	1
EXSC 1700	Intro to Exercise Science ¹	2
HHS 1000	Health And Human Services/College Orientation	1
MATH 1340	College Algebra And Trigonometry	5
Arts/Humanities Core		3
Hours		16

Second Term

BIOL 2150	Fundamentals Of Life Science: Diversity Of Life, Evolution And Adaptation	4
BIOL 2160	Fundamentals Of Life Science Laboratory: Diversity Of Life, Evolution And Adaptation	1
ENGL 1110	College Composition I	3
PSY 1010	Principles Of Psychology	3
Pre-Rehab Sci Elective		3
Hours		14

Third Term

CHEM 1230	General Chemistry I	4
CHEM 1280	General Chemistry Lab I	1
ENGL 2950	Science And Technical Report Writing	3
EXSC 2510	Human Anatomy ¹	3

EXSC 2520	Human Anatomy Lab ¹	1
SOC 1010	Introduction To Sociology	3
Hours		15
Fourth Term		
CHEM 1240	General Chemistry II	4
CHEM 1290	General Chemistry Lab II	1
EXSC 2530	Human Physiology ¹	3
EXSC 2540	Human Physiology Lab ¹	1
HEAL 1800	Medical Terminology	3
Diversity of US		3
Hours		15
Fifth Term		
EXSC 3520	Applied Exercise Physiology ¹	3
EXSC 3530	Applied Exercise Physiology Laboratory ¹	1
PHYS 2070	General Physics I (FL)	5
RCRT 4900	Seminar In Recreation And Leisure	3
Select one of the following		3
PSY 2510	Lifespan Developmental Psychology	
PSY 2700	Social Psychology	
PSY 2200	Abnormal Psychology	
Hours		15
Sixth Term		
COMM 2840	Interpersonal Communication	3
or COMM 1010	or Comm Principles And Practices	
EXSC 3580	Exercise Pathophysiology	3
PHYS 2080	General Physics II (SP)	5
Pre-Rehab Sci Elective		3
Hours		14
Seventh Term		
EXSC 4540	Applied Biomechanics	3
EXSC 4550	Applied Biomechanics Lab	1
RESM 4100	Educational Statistics	3
Pre-Rehab Sci Elective		3
Pre-Rehab Sci Elective		3
Pre-Rehab Sci Elective		3
Hours		16
Eighth Term		
EXSC 4640	Neurological And Pathological Foundations Of Rehabilitation	3
HEAL 4700	Nutritional Science	3
Pre-Rehab Sci Elective		3
Pre-Rehab Sci Elective		3
Non-US Diversity		3
Hours		15
Total Hours		120

Biology, Chemistry, and Math placement can alter this sequence. Please be aware that requirements for graduate school for Physical Therapy, Athletic Training, and Occupational Therapy may vary. It is your responsibility to make sure that you have completed all prerequisites for the programs in which you intend to apply.

1. Examine the physiological, biomechanical and anatomical foundations of exercise.
2. Describe the role of physical activity in the maintenance of health, with particular focus on the physiological mechanisms whereby physical activity reduces incidences of cardiovascular disease, diabetes and obesity.
3. Compare and contrast: a) pre-participation screening/ health risk appraisal and stratification, b) fitness assessment and evaluation with appropriate exercise techniques of both apparently healthy and chronic disease populations.
4. Perform a search of the scientific literature within exercise science.
5. Develop critical thinking/analytical skills in the design and implementation of laboratory research projects.

¹ A grade of "C" or better is required in this course.

Courses noted with FL or SP are only offered in those semesters.