

BACHELOR OF SCIENCE IN APPLIED SCIENCE IN EXERCISE SCIENCE

Overview

The Department of Human Performance and Rehabilitation Sciences offers a Bachelor of Science in Applied Science degree with a major in exercise science. This program prepares students for certification through the American College of Sports Medicine (ACSM) as a Certified Exercise Physiologist (EP) and the National Strength & Conditioning Association (NSCA) as a Certified Strength and Conditioning Specialist (CSCS).

As such, graduates will be able to design safe and effective exercise prescriptions and conduct individual exercise programs, fitness testing, and health education for low- to moderate-risk individuals, individuals with controlled diseases, and individuals in special populations (e.g. pregnancy, hypertension, and osteoporosis).

Graduates are employed in a wide variety of settings that include:

- medically based wellness programs
- corporate wellness programs
- strength and conditioning
- clinical rehabilitation programs such as cardiac rehabilitation
- public and private fitness clubs

In addition, the program serves as a strong foundation for students wishing to pursue advanced degrees in the field of exercise science or enter professional schools such as:

- Athletic Training
- Physical Therapy
- Occupational Therapy
- Physician Assistant
- Medical school
- Graduate degree in Exercise Science/Physiology

Accreditation

The Bachelor of Science in Applied Science in Exercise Science is accredited by Commission on Accreditation of Allied Health Education Programs (CAAHEP). Accreditation Link (<http://www.coaes.org/>).

Current accreditation standing: Active Good Standing

Date of last campus visit: 2025

Date of next campus visit: 2035

For more information, visit Exercise Science - B.S. in Applied Science (<http://www.ysu.edu/academics/bitonte-college-health-and-human-services/exercise-science-major>).

Program Director

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The following are KSS courses required in the major for this degree:

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT - STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or YSU 1500S	Youngstown State University Success Seminar	
or HONR 1500	Intro to Honors	
General Education Requirements		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
MATH 1513	Algebra and Transcendental Function	4-6
or MATH 1510	College Algebra	
or MATH 1510C	College Algebra with Co-requisite Support	
Natural Science (2 courses; one with lab)		
BIOL 1551 & 1551L	Anatomy and Physiology 1 and Anatomy and Physiology 1 Laboratory	4
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
Social and Behavioral Science (6 s.h.)		
PSYC 1560	General Psychology	3
Social and Behavioral Science Elective		
Arts and Humanities (6 s.h.)		
HIST 2650	CL History of American Democracy	3
Arts and Humanities Elective		
General Education Electives (9 s.h.)		
CMST 1545	Communication Foundations	3
FNUT 1551	Normal Nutrition	3
General Education Elective Met with required course in major		
Major Requirements		
KSS 1595	Introduction to Kinesiology and Sport Science (FYE course)	2
KSS 1559	Aerobic Conditioning Activities	1
KSS 1560	Resistance Training	2
KSS 1500	Physical Activity Core Concepts	1
KSS 2605	Sports First Aid and Injury Prevention	3
STAT 2625	Statistical Literacy and Critical Reasoning	3-6
or STAT 2601	Introductory Statistics	
or STAT 2625C	Statistical Literacy and Critical Reasoning with Co-Requisite Support	
KSS 2625	Pedagogical Aspects of Exercise Science	3
KSS 3700	Exercise Evaluation and Testing	4
KSS 3710 & 3710L	Physiology of Exercise and Physiology of Exercise Laboratory	5
KSS 3720	Kinesiology and Applied Anatomy	4
KSS 3730	Exercise Prescription	4
KSS 3760	Strength Training and Conditioning	3
KSS 4805	Administration of Exercise Programs	3
KSS 4810	Clinical Exercise Testing and Prescription	4
KSS 4875	Exercise Counseling and Behavioral Strategies	4
KSS 4880	Internship	8
Additional Required Courses		
BIOL 1552 & 1552L	Anatomy and Physiology 2 and Anatomy and Physiology 2 Laboratory	4
PHYS 1506	Physics for Health Care	3
Electives		
Total Semester Hours		
		120-127

Year 1

Fall		S.H.
YSU 1500 or YSU 1500S or HONR 1500	Success Seminar or Youngstown State University Success Seminar or Intro to Honors	1-2
MATH 1513 or MATH 1510 or MATH 1510C	Algebra and Transcendental Function or College Algebra or College Algebra with Co-requisite Support	4-6
ENGL 1550 or ENGL 1549	Writing 1 or Writing 1 with Support	3-4
BIOL 1551 & 1551L	Anatomy and Physiology 1 and Anatomy and Physiology 1 Laboratory	4
KSS 1595	Introduction to Kinesiology and Sport Science	2
Semester Hours		14-18
Spring		
ENGL 1551	Writing 2	3
BIOL 1552 & 1552L	Anatomy and Physiology 2 and Anatomy and Physiology 2 Laboratory	4
HIST 2650	CL History of American Democracy	3
CMST 1545	Communication Foundations	3
KSS 1559	Aerobic Conditioning Activities	1
KSS 1560	Resistance Training	2
Semester Hours		16

Year 2

Fall		
KSS 2625	Pedagogical Aspects of Exercise Science	3
KSS 2605	Sports First Aid and Injury Prevention	3
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
PSYC 1560	General Psychology	3
Semester Hours		13
Spring		
KSS 1500	Physical Activity Core Concepts	1
FNUT 1551	Normal Nutrition	3
KSS 3710 & 3710L	Physiology of Exercise and Physiology of Exercise Laboratory	5
STAT 2625 or STAT 2601 or STAT 2625C	Statistical Literacy and Critical Reasoning or Introductory Statistics or Statistical Literacy and Critical Reasoning with Co-Requisite Support	3-6
PHYS 1506	Physics for Health Care	3
Semester Hours		15-18

Year 3

Fall		
KSS 3700	Exercise Evaluation and Testing	4
KSS 3720	Kinesiology and Applied Anatomy	4
KSS 4805	Administration of Exercise Programs	3
Elective		3
Semester Hours		14
Spring		
KSS 3730	Exercise Prescription	4
KSS 3760	Strength Training and Conditioning	3
Arts & Humanities Elective		3
Social Science Elective		3
Elective		3
Semester Hours		16

Year 4

Fall		
KSS 4810	Clinical Exercise Testing and Prescription	4
Elective		3
Elective		3
Elective		3
Elective		1
Semester Hours		14
Spring		
KSS 4880	Internship	8
KSS 4875	Exercise Counseling and Behavioral Strategies	4
Elective		3
Elective		3
Semester Hours		18
Total Semester Hours		120-127

Student Learning Outcomes

Student Learning Outcome #1:

- Students will demonstrate knowledge and skills in health, fitness, and performance assessment.
- Students will conduct physical fitness assessments for healthy participants and those with controlled disease.
- Students will interpret cardiorespiratory fitness assessments.

Student Learning Outcome #2

- Students will demonstrate skills in risk factor and health risk identification and the ability to prescribe and implement exercise safely in healthy individuals, special populations (i.e. older adults, youth, and pregnant women), individuals with controlled cardiovascular, pulmonary, and metabolic diseases, and other clinical populations.
- Students will prescribe and implement Exercise Rx, using FITT-VP principles, for healthy participants, special populations (i.e. older adults, youth, and pregnant women), participants with controlled cardiovascular, pulmonary, and metabolic diseases, and other clinical populations based on health status and goals.
- Students will establish progression guidelines for resistance, aerobic and flexibility exercises to achieve the goals of the participant.
- Students will determine safe and effective exercise programs to achieve desired outcomes and goals.
- Students will demonstrate knowledge regarding the implementation of a weight management program as indicated by personal goals that are supported by pre-participation health screening, health history, and body composition/anthropometric
- The student will demonstrate skill in modifying exercise prescriptions based on environmental conditions.

Student Learning Outcome #3

- Students will demonstrate competency in effectively educating, exercise counseling and using behavioral strategies regarding lifestyle modification for individuals.
- Optimize adoption and adherence to exercise programs and other healthy behaviors by applying effective communication techniques, behavioral and motivational strategies.
- Students will demonstrate their knowledge by providing educational resources to support clients in the adoption and maintenance of healthy lifestyle behaviors.
- Students will demonstrate their knowledge by providing support within the scope of practice of an ACSM Certified Exercise Physiologist and refer to other health professionals as indicated.

Student Learning Outcome #4:

- Students will demonstrate competency in the legal and professional tasks related to the discipline
- Students will create and disseminate risk management guidelines for a health/fitness facility, department or organization to reduce member, employee and business risk
- Students will create an effective injury prevention program and ensure that emergency policies and procedures are in place.
- Students will demonstrate knowledge in establishing policies and procedures for the management of health fitness facilities based on accepted safety and legal guidelines, standards and regulations

Student Learning Outcome #5

- Students will demonstrate knowledge of implementing management policies related to the discipline.
- Students will demonstrate knowledge in developing and executing a marketing plan to promote programs, services and facilities
- Students will demonstrate knowledge in managing human resources in accordance with leadership, organization, and management techniques.
- Students will demonstrate knowledge in managing fiscal resources in accordance with leadership, organization, and management techniques.