

# BACHELOR OF SCIENCE IN APPLIED SCIENCE IN EXERCISE SCIENCE

## Program Director

Garrett Kellar  
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## Overview

The Department of Health Professions 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: 2018

Date of next campus visit: 2023

## Admission

Application forms and other information about this program can be obtained through the Department of Health Professions or by contacting Dr Garrett Kellar, ggekellar@ysu.edu. This program can be completed in eight semesters if students average 16 hours per semester.

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/>).

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

COURSE	TITLE	S.H.
<b>FIRST YEAR REQUIREMENT - STUDENT SUCCESS</b>		
YSU 1500	Success Seminar	1-2
or YSU 1500S	Youngstown State University Success Seminar	
or HONR 1500	Intro to Honors	
<b>General Education Requirements</b>		
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	
Gen Ed NS		
BIOL 1551 & 1551L	Anatomy and Physiology 1 and Anatomy and Physiology 1 Laboratory	4
BIOL 1552 & 1552L	Anatomy and Physiology 2 and Anatomy and Physiology 2 Laboratory	4
Social Science (1 Course)		
PSYC 1560	General Psychology	3
Arts and Humanities (2 Courses)		
General Education Elective -Met in major with KSS classes, PHYS or CHEM		
FNUT 1551	Normal Nutrition	3
<b>Major Requirements</b>		
KSS 1595	Introduction to Kinesiology and Sport Science (FYE course)	2
KSS 1559	Aerobic Conditioning Activities	1
KSS 1560	Resistance Training	2
KSS 1500	Activity Elective	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
<b>Additional Required Courses</b>		
PHYS 1506	Physics for Health Care	3
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CMST 1545	Communication Foundations	3
Electives		
<b>Total Semester Hours</b>		<b>120-127</b>

Year 1		S.H.
<b>Fall</b>		
YSU 1500 or YSU 1500S or HONR 1500	Success Seminar or Youngstown State University Success Seminar or Intro to Honors	1-2
KSS 1559	Aerobic Conditioning Activities	1
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
<b>Semester Hours</b>		<b>13-17</b>
<b>Spring</b>		
KSS 1560	Resistance Training	2
KSS 1595	Introduction to Kinesiology and Sport Science	2
ENGL 1551	Writing 2	3
Arts & Humanities Elective		3
BIOL 1552 & 1552L	Anatomy and Physiology 2 and Anatomy and Physiology 2 Laboratory	4
CMST 1545	Communication Foundations	3
<b>Semester Hours</b>		<b>17</b>
<b>Year 2</b>		
<b>Fall</b>		
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
<b>Semester Hours</b>		<b>13</b>
<b>Spring</b>		
KSS Activity Elective		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
<b>Semester Hours</b>		<b>15-18</b>
<b>Year 3</b>		
<b>Fall</b>		
KSS 3700	Exercise Evaluation and Testing	4
KSS 3720	Kinesiology and Applied Anatomy	4
KSS 4805	Administration of Exercise Programs	3
Elective		3
<b>Semester Hours</b>		<b>14</b>
<b>Spring</b>		
KSS 3730	Exercise Prescription	4
KSS 3760	Strength Training and Conditioning	3
Arts & Humanities Elective		3
Social Science Elective		3
Elective		3
<b>Semester Hours</b>		<b>16</b>

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

**Student Learning Outcomes****Student Learning Outcome #1:**

- Students will demonstrate knowledge and skills in health, fitness, and performance assessment.

## DESIRED LEARNING OUTCOME

- 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.

## DESIRED PERFORMANCE OUTCOME

- 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.

## DESIRED PERFORMANCE OUTCOME

- 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

## DESIRED PERFORMANCE OUTCOME

- 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.

## DESIRED PERFORMANCE OUTCOMES

- 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.