BACHELOR OF SCIENCE IN APPLIED SCIENCE IN EXERCISE SCIENCE

Program Director
Garrett Kellar
ggkellar@ysu.edu

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 (CAAEHP). 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, ggkellar@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:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST YEAR REQUIREMENT - STUDENT SUCCESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YSU 1500 or SS 1500 or HONR 1500</td>
<td>Success Seminar or Strong Start Success Seminar or Intro to Honors</td>
<td>1-2</td>
</tr>
<tr>
<td>General Education Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 1550 or ENGL 1549</td>
<td>Writing 1 or Writing 1 with Support</td>
<td>3-4</td>
</tr>
<tr>
<td>ENGL 1551</td>
<td>Writing 2</td>
<td>3</td>
</tr>
<tr>
<td>CMST 1545</td>
<td>Communication Foundations</td>
<td>3</td>
</tr>
<tr>
<td>STAT 2625</td>
<td>Statistical Literacy and Critical Reasoning</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1551 &amp; 1551L</td>
<td>Anatomy and Physiology 1 and Anatomy and Physiology 1 Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1552 &amp; 1552L</td>
<td>Anatomy and Physiology 2 and Anatomy and Physiology 2 Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 1560</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Social Science (1 Course)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FNUT 1551</td>
<td>Normal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>Social and Personal Awareness (1 Course)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities (2 Courses)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Major Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSS 1595</td>
<td>Introduction to Kinesiology and Sport Science (FYE course)</td>
<td>2</td>
</tr>
<tr>
<td>KSS 1559</td>
<td>Aerobic Conditioning Activities</td>
<td>1</td>
</tr>
<tr>
<td>KSS 1560</td>
<td>Resistance Training</td>
<td>2</td>
</tr>
<tr>
<td>KSS 1500 Activity Elective</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>KSS 2605</td>
<td>Sports First Aid and Injury Prevention</td>
<td>3</td>
</tr>
<tr>
<td>KSS 2625</td>
<td>Pedagogical Aspects of Exercise Science</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1513 or MATH 1510 &amp; MATH 1511</td>
<td>College Algebra and Trigonometry</td>
<td>5-7</td>
</tr>
<tr>
<td>MATH 3700</td>
<td>Exercise Evaluation and Testing</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3710</td>
<td>Physiology of Exercise</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3710L</td>
<td>Physiology of Exercise Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>KSS 3720</td>
<td>Kinesiology and Applied Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>KSS 3730</td>
<td>Exercise Prescription</td>
<td>4</td>
</tr>
<tr>
<td>KSS 3760</td>
<td>Strength Training and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>KSS 4805</td>
<td>Administration of Exercise Programs</td>
<td>3</td>
</tr>
<tr>
<td>KSS 4810</td>
<td>Clinical Exercise Testing and Prescription</td>
<td>4</td>
</tr>
<tr>
<td>KSS 4875</td>
<td>Exercise Counseling and Behavioral Strategies</td>
<td>4</td>
</tr>
<tr>
<td>KSS 4880</td>
<td>Internship</td>
<td>8</td>
</tr>
<tr>
<td>Additional Courses Needed</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>PHYS 1506</td>
<td>Physics for Health Care</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1515</td>
<td>General Chemistry 1</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1515L</td>
<td>General Chemistry 1 Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Total Semester Hours</td>
<td></td>
<td>120-124</td>
</tr>
</tbody>
</table>

Year 1

Fall

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>YSU 1500 or HONR 1500 or SS 1500</td>
<td>Success Seminar or Intro to Honors or Strong Start Success Seminar</td>
<td>1-2</td>
</tr>
<tr>
<td>KSS 1559</td>
<td>Aerobic Conditioning Activities</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1513 or MATH 1510 or MATH 1511</td>
<td>Algebra and Transcendental Function or College Algebra or Trigonometry</td>
<td>5-7</td>
</tr>
</tbody>
</table>
Bachelor of Science in Applied Science in Exercise Science

ENGL 1550 or ENGL 1549 Writing 1 or Writing 1 with Support 3-4
BIOL 1551 Anatomy and Physiology 1 and Anatomy and Physiology 1 Laboratory 4

**Semester Hours:** 14-18

**Spring**

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 Anatomy and Physiology 2 and Anatomy and Physiology 2 Laboratory 4
CMST 1545 Communication Foundations 3

**Semester Hours:** 17

**Year 2**

**Fall**

KSS 2625 Pedagogical Aspects of Exercise Science 3
KSS 2605 Sports First Aid and Injury Prevention 3
CHEM 1515 General Chemistry 1 and General Chemistry 1 Laboratory 4
PSYC 1560 General Psychology 3

**Semester Hours:** 13

**Spring**

KSS Activity Elective 1
KSS 3700 Exercise Evaluation and Testing 4
FNUT 1551 Normal Nutrition 3
STAT 2625 Statistical Literacy and Critical Reasoning 4
PHYS 1506 Physics for Health Care 3

**Semester Hours:** 15

**Year 3**

**Fall**

KSS 3710 Physiology of Exercise 4
KSS 3710L Physiology of Exercise Laboratory 1
KSS 3720 Kinesiology and Applied Anatomy 4
KSS 4805 Administration of Exercise Programs 3
Elective 3

**Semester Hours:** 15

**Spring**

KSS 3730 Exercise Prescription 4
KSS 3760 Strength Training and Conditioning 3
Arts & Humanities Elective 3
Social Science Elective 3
Social & Personal Awareness Elective 3

**Semester Hours:** 16

**Year 4**

**Fall**

KSS 4810 Clinical Exercise Testing and Prescription 4
Elective 3
Elective 3
Elective 3

**Semester Hours:** 13

**Spring**

KSS 4880 Internship 8
KSS 4875 Exercise Counseling and Behavioral Strategies 4
Elective 2

**Elective** 3

**Semester Hours:** 17

**Total Semester Hours:** 120-124

**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.

**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), individuals 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 #2**

- Students will 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.

**DESIGNED 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.