Exercise Science, BS

Learning Outcomes
Students will be able to:

• undertake focused study in physical fitness, physical activity, sport nutrition, and sport conditioning as they pertain to health and performance outcomes;
• use and understand scientific methods to approach and solve problems in exercise science;
• effectively communicate physical wellness issues to key stakeholders; and
• encourage life-long learning in the rapidly evolving fields of exercise science.

Requirements

The Bachelor of Science with a major in exercise science requires a minimum of 120 s.h., including at least 48-50 s.h. of work for the major. A minimum of 16 s.h. in the major must be earned at the University of Iowa. Students must maintain a grade-point average of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core.

The BS in exercise science is intended for students seeking careers as professionals in fitness and in strength and conditioning. The major provides focused study in physical fitness, physical activity, sport nutrition, and sport conditioning as they pertain to health and performance outcomes. The curriculum has been approved by the American College of Sports Medicine (ACSM) as meeting the academic preparation for certification as an ACSM-certified exercise physiologist and ACSM-certified personal trainer. It also prepares students for certification by the National Strength and Conditioning Association as a certified strength and conditioning specialist and certified special population specialist. The strong physiological science-based curriculum can serve as preparation for professional or graduate study in rehabilitation sciences, performance sciences, or medical fields.

Students who earn the major in exercise science may not earn a major in human physiology, health promotion, or health studies.

Students who earn the major in exercise science may not earn a minor in lifestyle medicine, but can earn a minor in human physiology.

The BS with a major in exercise science requires the following coursework.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Science and Math Foundation Courses</td>
<td>10-12</td>
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<tr>
<td>Exercise Science Foundation Courses</td>
<td>12</td>
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<tr>
<td>Exercise Science Core Courses</td>
<td>20</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
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</tbody>
</table>

Science and Math Foundation Courses
Students complete three foundation courses (minimum of 10 s.h.), one each in chemistry, biology, and mathematics or statistics. Note that courses may have required prerequisites.

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM:1080</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM:1120</td>
<td>Principles of Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL:1140</td>
<td>Human Biology: Nonmajors</td>
<td>4</td>
</tr>
<tr>
<td>BIOL:1141</td>
<td>Human Biology: Health Professions</td>
<td>4</td>
</tr>
<tr>
<td>BIOL:1411</td>
<td>Foundations of Biology</td>
<td>4</td>
</tr>
</tbody>
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<tr>
<th>Course #</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MATH:1020</td>
<td>Elementary Functions</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1350</td>
<td>Quantitative Reasoning for Business</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1380</td>
<td>Calculus and Matrix Algebra for Business</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1440</td>
<td>Mathematics for the Biological Sciences</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1460</td>
<td>Calculus for the Biological Sciences</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1850</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PSQF:4143/STAT:4143</td>
<td>Introduction to Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>STAT:1020/PSQF:1020</td>
<td>Elementary Statistics and Inference</td>
<td>3</td>
</tr>
<tr>
<td>STAT:1030</td>
<td>Statistics for Business</td>
<td>4</td>
</tr>
<tr>
<td>STAT:3510/IGPI:3510</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Exercise Science Foundation Courses
Students must complete the four-course departmental core (12 s.h.).

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHP:1100</td>
<td>Human Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>HHP:1300</td>
<td>Fundamentals of Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HHP:2200</td>
<td>Physical Activity and Health</td>
<td>3</td>
</tr>
<tr>
<td>HHP:2310</td>
<td>Nutrition and Health</td>
<td>3</td>
</tr>
</tbody>
</table>

Exercise Science Core Courses
Students complete three core courses (minimum of 12 s.h.), one each in biomechanics, physical activity psychology, applied exercise physiology, metabolic exercise testing and prescription, and musculoskeletal exercise testing and prescription. Note that courses may have required prerequisites.

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHP:2350</td>
<td>Biomechanics of Sport and Physical Activity</td>
<td>3</td>
</tr>
<tr>
<td>HHP:3045</td>
<td>Physical Activity Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HHP:3400</td>
<td>Applied Exercise Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HHP:4200</td>
<td>Metabolic Exercise Testing and Prescription</td>
<td>4</td>
</tr>
<tr>
<td>HHP:4210</td>
<td>Musculoskeletal Exercise Testing and Prescription</td>
<td>4</td>
</tr>
<tr>
<td>HHP:4310</td>
<td>Sport and Exercise Nutrition</td>
<td>3</td>
</tr>
</tbody>
</table>
Electives

Course # | Title | Hours
---|---|---
At least 6 s.h. from these:
Health and human physiology courses numbered HHP:2000 or above

Combined Programs

BS/MS in Athletic Training
The Department of Health and Human Physiology and the Department of Orthopedics and Rehabilitation (Carver College of Medicine) offer a combined Bachelor of Science/Master of Science in athletic training. The combined degree program allows students to count a limited amount of credit toward both degrees, enabling them to begin the study of athletic training before they complete their bachelor’s degree. Coursework taken during the first three years on campus constitutes the required prerequisites for application to the master’s degree program.

Admission
Students apply to the MS program in their third year of undergraduate study. Admission to the MS program in athletic training is for summer entry. Students should consult their advisor about the appropriate sequence of courses and other requirements.

For more information, see the MS in athletic training in the Carver College of Medicine section of the catalog.

Honors

Honors in the Major
Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall grade-point average (GPA) of at least 3.33 in work for their major and a cumulative University of Iowa GPA of at least 3.33.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Research Methods and Ethics and HHP:4900 Honors Research; write an honors thesis that is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

University of Iowa Honors Program
In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the university’s honors program.

Membership in the UI Honors Program is not required to earn honors in the exercise science major.

Career Advancement
The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Academic Plans

Four-Year Graduation Plan
The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the university’s Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: one foundation course and at least six more courses in the major.

Before the seventh semester begins: at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree.

Before the eighth semester begins: at least two more courses in the major (total of 15).

During the eighth semester: enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

Sample Plan of Study
Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

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Course | Title | Hours
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Academic Career
Any Semester
GE CLAS Core: Sustainability
0

First Year
Fall
CHEM:1070 General Chemistry I 3
RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4
GE CLAS Core: Diversity and Inclusion 3
GE CLAS Core: Social Sciences 3
CSI:1600 Success at Iowa 2

Hours 14-15

Spring
CHEM:1080 General Chemistry II 3
HHP:2200 Physical Activity and Health 3
Major: math/statistics major requirement 3
ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4
Elective course 3

Hours 15-16

Second Year
Fall
HHP:2310 Nutrition and Health 3
Major: biology requirement 4
GE CLAS Core: Historical Perspectives 3
GE CLAS Core: World Languages First Level Proficiency or elective course 4 - 5
Elective course 2

Hours 16-17
### Spring
- HHP:1100 Human Anatomy 3
- HHP:3045 Physical Activity Psychology 3
- GE CLAS Core: International and Global Issues 3
- GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5
- Elective course 3

**Hours** 16-17

### Third Year

#### Fall
- HHP:1300 Fundamentals of Human Physiology 3
- HHP:4310 Sport and Exercise Nutrition 3
- GE CLAS Core: Literary, Visual, and Performing Arts 3
- GE CLAS Core: World Languages Third Level Proficiency or elective course 4 - 5
- Elective course 3

**Hours** 16-17

#### Spring
- HHP:2350 Biomechanics of Sport and Physical Activity 3
- HHP:3400 Applied Exercise Physiology 3
- GE CLAS Core: World Languages Fourth Level Proficiency or elective course 4 - 5
- Elective course 3
- Elective course 3

**Hours** 16-17

### Fourth Year

#### Fall
- HHP:4200 Metabolic Exercise Testing and Prescription 4
- Major: elective course 3
- Elective course 3
- Elective course 3
- Elective course 2

**Hours** 15

#### Spring
- HHP:4210 Musculoskeletal Exercise Testing and Prescription 4
- Major: elective course 3
- Elective course 3
- Elective course 3
- Elective course 2

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours** 15

**Total Hours** 123-129

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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
b Course not required before CHEM:1080 if student has completed high school chemistry.
c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
d Fulfills a major requirement and may fulfill a GE requirement.
e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
g Students must complete at least 6 s.h. selected from HHP courses numbered 2000 or above.
h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.