EXERCISE SCIENCE MAJOR (B.S.)

https://chhs.unh.edu/kinesiology/program-bs/exercise-science-major

Description

This curriculum prepares students for careers in health and fitness promotion and education programs in hospitals, sports medicine centers, wellness clinics, universities, and rehabilitation facilities. Students are also prepared for advanced degree programs in the health professions, basic biology fields, medicine, or other health-related fields. Students must earn a grade of C (2.0) or better in every required course. Successful completion of early and prerequisite courses is required before advancing to sequenced and higher-level coursework. All required courses must be completed before enrolling in EXSC 650A Internship in Exercise Science. Interested students should consult with the undergraduate major coordinator, Summer Cook, Summer.Cook@unh.edu.

Requirements

Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BMS 507</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
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<tr>
<td>BMS 508</td>
<td>Human Anatomy and Physiology II</td>
<td>4</td>
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<tr>
<td>CHEM 403</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>&amp; CHEM 404</td>
<td>General Chemistry II</td>
<td>4</td>
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<tr>
<td>EXSC 520</td>
<td>Contemporary Perspectives in Exercise Science</td>
<td>4</td>
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<tr>
<td>EXSC 620</td>
<td>Physiology of Exercise</td>
<td>4</td>
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<tr>
<td>KIN 652</td>
<td>Clinical Kinesiology</td>
<td>4</td>
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<tr>
<td>EXSC 621</td>
<td>Exercise Laboratory Techniques</td>
<td>4</td>
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<tr>
<td>EXSC 660A</td>
<td>Internship in Exercise Science</td>
<td>4</td>
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<tr>
<td>EXSC 704</td>
<td>Electrocardiography</td>
<td>4</td>
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<tr>
<td>EXSC 705</td>
<td>Topics in Applied Physiology</td>
<td>4</td>
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<tr>
<td>EXSC 730</td>
<td>Science and Practice of Strength Training</td>
<td>4</td>
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<tr>
<td>EXSC 722</td>
<td>Applied Biomechanics</td>
<td>4</td>
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<tr>
<td>EXSC 724</td>
<td>Exercise Metabolism: Acute and Chronic Adaptations</td>
<td>4</td>
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<tr>
<td>EXSC 736</td>
<td>Fitness and Graded Exercise Testing</td>
<td>4</td>
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<tr>
<td>EXSC 737</td>
<td>Exercise Prescription and Leadership in Healthy and Special Populations</td>
<td>4</td>
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<tr>
<td>EXSC 794</td>
<td>Cardiopulmonary Pathologies</td>
<td>4</td>
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<tr>
<td>EXSC 795</td>
<td>Practicum in Cardiac Rehabilitation</td>
<td>2</td>
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<tr>
<td>KIN 585</td>
<td>Emergency Medical Responder</td>
<td>4</td>
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<tr>
<td>NUTR 400</td>
<td>Nutrition in Health and Well Being</td>
<td>4</td>
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<tr>
<td>PSYC 401</td>
<td>Introduction to Psychology</td>
<td>4</td>
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<td>Select one of the following:</td>
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<tr>
<td>PSYC 402</td>
<td>Statistics in Psychology</td>
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<tr>
<td>SOC 403</td>
<td>Statistics</td>
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</table>

Total Credits: 86-90

Students in exercise science complete the series of Capstone courses

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<td>EXSC 660A</td>
<td>Internship in Exercise Science</td>
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Total Credits: 12-16

Degree Plan

Suggested Course Sequence

Course                           Title                                           Credits

First Year

Fall
BMS 507  | Human Anatomy and Physiology I                  | 4       |
ENGL 401 | First-Year Writing                              | 4       |
EXSC 520 | Contemporary Perspectives in Exercise Science   | 4       |
PSYC 401 | Introduction to Psychology                      | 4       |

Credits: 16

Spring
BMS 508  | Human Anatomy and Physiology II                 | 4       |
KIN 585  | Emergency Medical Responder                     | 4       |
Discovery Course (INQ/HP)         | 4       |
Discovery Course: Statistics (QR) | 4       |

Credits: 16

Second Year

Fall
CHEM 403 | General Chemistry I                             | 4       |
EXSC 620 | Physiology of Exercise                          | 4       |
NUTR 400 | Nutrition in Health and Well Being              | 4       |

Credits: 12

Spring
CHEM 404 | General Chemistry II                            | 4       |
EXSC 621 | Exercise Laboratory Techniques                  | 4       |
KIN 652  | Clinical Kinesiology                            | 4       |
Discovery Course (FPA)            | 4       |

Credits: 16

Third Year

Fall
EXSC 704 | Electrocardiography                             | 4       |
EXSC 720 | Science and Practice of Strength Training       | 4       |
EXSC 724 | Exercise Metabolism: Acute and Chronic Adaptations | 4 |

Elective Course (e.g. BIOL 411)     | 4       |

Credits: 16

1 These courses give students practical experience in evaluating health and fitness and prescribing exercise to a wide range of clients. Specifically, students assess a number of disease risk factors, including blood pressure, blood chemistry, and body composition measures, and perform maximal graded exercise tests complete with electrocardiogram monitoring, as well as measure strength and flexibility. Students ultimately develop individualized exercise prescriptions for their clients and work with them one-on-one to improve their health and fitness. The internship experience is an off-campus, 10-week, 40-hours per week, full-time experience and can only be taken after all University and departmental courses are completed. Typically, this is taken during the summer after the student’s senior spring academic term.
Spring
EXSC 722  Applied Biomechanics  4
Discovery Course (HUMA)  4
Discovery Course - WI (WC)  4
Elective Course (e.g. BIOL 412)  4

Credits  16

Fourth Year
Fall
EXSC 736  Fitness and Graded Exercise Testing  4
EXSC 794  Cardiopulmonary Pathologies  4
EXSC 795  Practicum in Cardiac Rehabilitation  2
Elective Course (e.g. PHYS 401)  4

Credits  14

Spring
EXSC 705  Topics in Applied Physiology  4
EXSC 737  Exercise Prescription and Leadership in Healthy and Special Populations  4
Elective Course  4
Elective Course (e.g. PHYS 402)  4

Credits  16

Summer
EXSC 650A  Internship in Exercise Science  4-8

Credits  4-8

Total Credits  126-130

Student Learning Outcomes

• Apply fundamental principles of anatomy & physiology, chemistry, nutrition, exercise physiology, psychology, math and physics to anticipate and understand physiologic responses to acute and chronic exercise.
• Evaluate empirical literature in terms of accuracy, authority, bias and relevance, and synthesize information from a variety of sources for presentation in written and oral forms.
• Demonstrate competency in health and fitness assessments and use them to prescribe evidence-based exercise interventions to improve health, athletic performance, physical function and quality of life in diverse populations.
• Display professionally appropriate behaviors, ethical standards, sensitivity, compassion, and tolerance of individual differences, and demonstrate the ability to work in an interprofessional healthcare team.