EXERCISE SCIENCE (MS)

Take the next step towards a career in rehabilitation, sports medicine, or fitness.

While a bachelor’s degree in exercise science is sufficient to get an entry-level position, continuing education in exercise science is a must to advance in the field. At Loyola, you can earn a master’s degree in exercise science and move to a career in rehabilitation, sports medicine, athletic performance, or fitness.

Picture yourself helping people making positive lifestyle choices for their health, whether it’s in hospitals, acute and chronic care health centers, sports medicine, cardiac or pulmonary rehabilitation, community health centers, sports performance, or fitness facilities. This degree is a great first step toward a doctorate in physical therapy or PhD in exercise science.

Curriculum

During your first year in this two-year program, you will build a foundation in exercise science-related fields through classroom instruction and lab-based activities. In your second year, you will complete advanced specialty coursework as well as a 200-hour internship and a comprehensive final examination.

MSES Curriculum (36-38 credits)

Pre-Requisites: Anatomy with Lab (4 credits); Physiology with Lab (4 credits); Exercise Physiology (3 credits); Biomechanics or Applied Kinesiology with Lab (4 credits)

Foundational Coursework

All students must enroll in the 4 courses listed below

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCM 401</td>
<td>Applied Physiology of Exercise</td>
<td>4</td>
</tr>
<tr>
<td>EXCM 450</td>
<td>Nutrition, Health and Performance</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 475</td>
<td>Exercise Applications in Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 482</td>
<td>Research Methods and Evidence in Exercise Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Human Performance Concentration Coursework

All students must enroll in the 4 courses listed below to successfully complete concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCM 444</td>
<td>Strength Training and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 424</td>
<td>Motor Learning and Performance</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 480</td>
<td>Advanced Exercise Assessment and Programming</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 485</td>
<td>Applied Biomechanics</td>
<td>4</td>
</tr>
</tbody>
</table>

Clinical Exercise Science Concentration Coursework

All students must enroll in the 4 courses listed below to successfully complete concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCM 478</td>
<td>EKG Interpretation</td>
<td>0</td>
</tr>
<tr>
<td>EXCM 435</td>
<td>Health Promotion and Wellness Theories and Frameworks</td>
<td>3</td>
</tr>
</tbody>
</table>

General Track and Concentration Elective Coursework

General track must complete a minimum of 18 credit hours (15 of which are EXCM courses) from below.

Concentrations must complete a minimum of 6 credit hours (3 of which are EXCM courses) from below.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCM 424</td>
<td>Motor Learning and Performance</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 435</td>
<td>Health Promotion and Wellness Theories and Frameworks</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 444</td>
<td>Strength Training and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 478</td>
<td>EKG Interpretation</td>
<td>0</td>
</tr>
<tr>
<td>MHA 405</td>
<td>U.S. Health Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>MPBH 413</td>
<td>The Epidemiology of Obesity: An Energy Balance Perspective</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 454</td>
<td>Applied Sports Science</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 458</td>
<td>Cardiac and Pulmonary Disease and Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 468</td>
<td>Application of Advanced Clinical Exercise Testing &amp; Prescription</td>
<td>4</td>
</tr>
<tr>
<td>EXCM 475</td>
<td>Exercise Applications in Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 480</td>
<td>Advanced Exercise Assessment and Programming</td>
<td>3</td>
</tr>
<tr>
<td>EXCM 485</td>
<td>Applied Biomechanics</td>
<td>4</td>
</tr>
</tbody>
</table>

Internship Coursework

All students must complete a 200-hour internship

- EXCM 495 Advanced Exercise Science Internship

Comprehensive Examination

A comprehensive exam is required for all students. Please contact your Graduate Program Director or visit the EXCM Graduate Student Sakai page for more information.

Five-Year BS/MS Degree

Loyola also offers a five-year bachelor to master’s program for undergraduate exercise science majors. Accelerate your progress and earn both degrees in just five years (earning the degrees separately takes at least six years).

Year 1

Fall

- General Biology I & Lab (4 credits)
- Human Anatomy (with lab and discussion) (4 credits)
- CORE: Societal & Cultural Tier I (3 credits)
- CORE (3 credits)
- UNIV 101 First Year Seminar (1 credit)

Spring

- College Writing Seminar (3 credits)
- General Biology II & Lab (4 credits)
- Human Physiology (with lab and discussion) (4 credits)
Exercise Science (MS)

• CORE (3 credits)
• CORE (3 credits)

Year 2
Fall
• General Psychology (3 credits, fulfills Tier II Societal & Cultural CORE)
• General Chemistry A & Lab (4 credits)
• Introduction to Exercise (with lab) (3 credits)
• CORE (3 credits)
• CORE (3 credits)

Spring
• Physiology of Exercise (with lab) (4 credits)
• General Chemistry B & Lab (4 credits)
• CORE (3 credits)
• Statistics (3 credits, fulfills Quantitative Knowledge CORE)
• CORE (3 credits)

Year 3
Fall
• Developmental Psychology (3 credits)
• CORE (3 credits)
• CORE (3 credits)
• College Physics I and Lab (4 credits)
• Intro to Clinical Exercise Testing & Prescription (with lab) (3 credits)
• Apply to MSES Program

Spring
• Special Populations (2 credits)
• Advanced Physiology (3 credits)
• College Physics II and Lab (4 credits)
• Prescription II (3 credits)
• CORE (3 credits)

Year 4
Fall
• Program Design (2 credits)
• Movement Anatomy (3 credits)
• Sports Nutrition (3 credits)
• Therapeutic Exercise (3 credits)
• Graduate Health Promotion Theories and Frameworks (3 credits)
• Graduate Nutrition, Health, and Performance (3 credits)

Spring
• Clinical Internship & Patient Management (6 credits)
• Kinesiology & Sports Biomechanics (with lab) (4 credits)
• Psychology of Health and Exercise (3 credits)
• Graduate Research Methods and Evidence in Exercise Science (3 credits)

Year 5
Advanced Specialty Coursework/Internship Experience/Culminating Experience
Fall
• Applied Physiology of Exercise (lecture and lab; 3+1, 4 total credits)
• Motor Learning and Performance (3 credits)

• Strength Training and Conditioning (3 credits)
• Health Promotion and Wellness Theories and Frameworks (3 credits) 
  *(If not already completed)*
• Nutrition, Health, and Performance (3 credits) *(If not already completed)*

Spring
• Application of Advanced Clinical Testing and Prescription (lecture and lab; 3+1, 4 total credits)
• Advanced Exercise Assessment and Programming (3 credits)
• Cardiac and Pulmonary Disease and Rehabilitation (3 credits)
• Exercise Applications for Special Populations (3 credits)
• Research Methods and Evidence in Exercise Science (3 credits) *(If not already completed)*

Summer
• Special Topics in Exercise Science (2 credits)
• Advanced Exercise Science Internship (4 credits)

Learning Outcomes
Upon successful completion of the program, graduates will be able to:
• Conduct comprehensive health and fitness assessments using theories and frameworks.
• Apply scientific principles and evidence-based recommendations into the prescription, implementation, and evaluation of exercise and fitness programs.
• Create lifestyle modification and health promotion plans for individuals and groups.
• Incorporate effective communication and motivational strategies to support clients or patients as they adopt, perform, and maintain a healthy lifestyle.
• Implement role behaviors consistent with the scope of practice of exercise sciences.
• Manage human, fiscal, and physical resources of health fitness facilities and programs.