Mission Statement

The mission of the program is to provide formal graduate level academic instruction in the science and theory of resistance training, as well as to promote student production of research that directly relates to the neuromuscular adaptations involved with resistance training.

Goals

The goals of the program in the Department of Exercise Science are to:

- Establish scientific basis for the value of anaerobic exercise, and to provide internal and external programs that promote health behaviors across the lifespan.
- Meet an increasing demand for well-educated professional capable of delivering a broad range of exercise-based preventive, technical, educational, and rehabilitative services.
- Gain insight into strategies for the prevention and treatment of sarcopenia, osteoporosis and childhood obesity.
- Provide advanced training in exercise physiology as it relates specifically to resistance training for the purpose of increasing athletic performance and the prevention or treatment of inactivity-related health disorders.
- Prepare students with knowledge and skills to take the Certified Strength and Conditioning Specialist (CSCS) exam offered through the NSCA, and the Level One Weightlifting Coaching Course offered through United States Weightlifting (USAW).

Course Requirements

All GW Department of Exercise Science Master Degree students who select the Strength and Conditioning Program enroll in both Core Courses (18 credits) and Program-Specific Courses (18 credits). The 36 total credit requirement includes a culminating experience consisting of either successful completion of an Oral Research Defense or the Comprehensive Exam.
Competencies

Upon completion of the MS Strength and Conditioning program, professionals will possess the following functional competencies:

- Skills necessary for the evaluation and development of resistance training programs that develop and improve neuromuscular function. Relevant Courses: EXSC 6220, EXSC 6221, EXSC 6222, EXSC 6223.
- Skills necessary for the assessment of muscular strength and endurance in athletic and non-athletic populations. Relevant Courses: EXSC 6202, EXSC 6203, EXSC 6209, EXSC 6220, EXSC 6221, EXSC 6222
- Skills for prescribing therapeutic exercise activities. Relevant Courses: EXSC 6202, EXSC 6203, EXSC 6207, EXSC 6233, EXSC 6261, EXSC 6998
- Skills necessary for conducting general exercise testing. Relevant Courses: EXSC 6202, EXSC 6203, EXSC 6233, EXSC 6998
- Administrative and professional skills for working with other health and fitness professionals. Relevant Courses: EXSC 6204, EXSC 6207, EXSC 6208, EXSC 6209, EXSC 6233, EXSC 6998
- Skills of conducting exercise science research. Relevant Courses: EXSC 6202, EXSC 6203, EXSC 6204, EXSC 6208, EXSC 6222, EXSC 6998

Please see the curriculum sheets that follow.
Prerequisites
Undergraduate course in Exercise Physiology (must be completed prior to beginning coursework at GW)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Offered</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSC 6202</td>
<td>Advanced Exercise Physiology I</td>
<td>3</td>
<td>Fall</td>
<td></td>
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<tr>
<td>EXSC 6203</td>
<td>Advanced Exercise Physiology II</td>
<td>3</td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>EXSC 6204</td>
<td>Biostatistical Methods and Research Design</td>
<td>3</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>EXSC 6207</td>
<td>Psychological Aspects of Sport and Exercise</td>
<td>3</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>EXSC 6208</td>
<td>Physical Activity: Physiology &amp; Epidemiology</td>
<td>2</td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>EXSC 6209</td>
<td>Advanced Concepts in Nutrition Science</td>
<td>3</td>
<td>Fall</td>
<td></td>
</tr>
</tbody>
</table>

**MSES Core Courses**

**Program Specific Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Offered</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSC 6220</td>
<td>Power Training for Sports Performance</td>
<td>2</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>EXSC 6221</td>
<td>Science and Theory of Resistance Training</td>
<td>3</td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>EXSC 6222</td>
<td>Current Topics in Strength and Conditioning</td>
<td>2</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>EXSC 6223</td>
<td>Biomechanical Analysis</td>
<td>3</td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>Approved by Program Director</td>
<td>3</td>
<td>Fall, Spring, Summer</td>
<td></td>
</tr>
</tbody>
</table>

Students will choose one of the following as a culminating experience:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Offered</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSC 6261 and EXSC 6998</td>
<td>Thesis Seminar and Thesis Research</td>
<td>3</td>
<td>Fall, Spring, Summer</td>
<td></td>
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<tr>
<td>EXSC 6233</td>
<td>Graduate Internship and Comprehensive Exam</td>
<td>6</td>
<td>Fall, Spring, Summer</td>
<td></td>
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</tbody>
</table>

OR

Course Descriptions and Registration information can be found on the website: [http://publichealth.gwu.edu/academics/](http://publichealth.gwu.edu/academics/).
Graduation Requirements
1. **Graduate Credit Requirement**: 36 graduate credits are required.
2. **Course Requirements**: Successful completion of core courses and the program specific courses are required.
3. **Grade Point Requirement**: A 3.0 (B average) overall grade point average is required.
4. **Time Limit Requirement**: The degree must be completed within four years.
5. **Transfer Credit Policy**: Up to 12 graduate credits that have not been applied to a previous graduate degree may be transferred to the MSES. Courses need to have been taken within the past three years from an accredited institution with a grade of B or better.

Prerequisite
Exercise Physiology – Course must be completed prior to beginning coursework at GW
Exercise Science
Strength and Conditioning

Suggested Course Sequence

Fall Semester, 1st year (9 credits)
EXSC 6202 Advanced Exercise Physiology I (3)
EXSC 6204 Biostatistical Methods & Research Design (3)
EXSC 6207 Psychological Aspects of Sport and Exercise (3)

Spring Semester, 1st year (9 credits)
EXSC 6203 Advanced Exercise Physiology II (3)
EXSC 6223 Biomechanical Analysis (3)
EXSC 6261 Thesis Seminar (3) OR
Elective Approved by Program Director (3)

Fall Semester, 2nd year (10 credits)
EXSC 6209 Advanced Concepts in Nutrition Science (3)
EXSC 6220 Power Training for Sports Performance (2)
EXSC 6222 Current Topics in Strength & Conditioning (2)
EXSC 6233 Graduate Internship (3) OR
Elective Approved by Program Director (3)

Spring Semester, 2nd year (8 credits)
EXSC 6208 Physical Activity: Physiology & Epidemiology (2)
EXSC 6221 Science and Theory of Resistance Training (3)
EXSC 6233 Graduate Internship (3) OR
EXSC 6998 Thesis Research

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