

# Milken Institute School of Public Health

THE GEORGE WASHINGTON UNIVERSITY

Department of Exercise and Nutrition Sciences

Master of Science in Exercise Science  
Strength and Conditioning  
2015-2016

## Program Director

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## Mission Statement

The mission of the this 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 this program in the Department of Exercise and Nutrition Sciences 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 and Nutrition Sciences Master Degree students who select the Strength and Conditioning Program enroll in both Core Courses (17 credits) and Program-Specific Courses (19 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: EXNS 6220, EXNS 6221, EXNS 6222, EXNS 6223.
- Skills necessary for the assessment of muscular strength and endurance in athletic and non-athletic populations. Relevant Courses: EXNS 6202, EXNS 6203, EXNS 6209, EXNS 6220, EXNS 6221, EXNS 6222
- Skills for prescribing therapeutic exercise activities. Relevant Courses: EXNS 6202, EXNS 6203, EXNS 6207, EXNS 6233, EXNS 6261, EXNS 6998
- Skills necessary for conducting general exercise testing. Relevant Courses: EXNS 6202, EXNS 6203, EXNS 6233, EXNS 6998
- Administrative and professional skills for working with other health and fitness professionals. Relevant Courses: EXNS 6204, EXNS 6207, EXNS 6208, EXNS 6209, EXNS 6233, EXNS 6998
- Skills of conducting exercise science research. Relevant Courses: EXNS 6202, EXNS 6203, EXNS 6204, EXNS 6208, EXNS 6222, EXNS 6998

**Please see the curriculum sheets that follow.**

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## Master of Science Exercise Science – Strength and Conditioning

### Program-at-a-Glance

2015-2016

#### Prerequisites

Undergraduate course in Exercise Physiology (must be completed prior to beginning coursework at GW)

		Credits	Semester Offered	Grade
<b>MSES Core Courses (17 credits)</b>				
EXNS 6202	Advanced Exercise Physiology I	3	Fall	
EXNS 6203	Advanced Exercise Physiology II	3	Spring	
EXNS 6204	Biostatistical Methods and Research Design	3	Fall	
EXNS 6207	Psychological Aspects of Sport and Exercise	3	Fall	
EXNS 6208	Physical Activity: Physiology & Epidemiology	2	Spring	
EXNS 6209	Advanced Concepts in Nutrition Science	3	Fall	
<b>Program Specific Courses (19 credits)</b>				
EXNS 6220	Power Training for Sports Performance	2	Fall	
EXNS 6221	Science and Theory of Resistance Training	3	Spring	
EXNS 6222	Current Topics in Strength and Conditioning	2	Fall	
EXNS 6223	Biomechanical Analysis	3	Spring	
Elective	Approved by Program Director	3	Fall, Spring, Summer	
<b>Students will choose one of the following as a culminating experience:</b>				
EXNS 6261	Thesis Seminar <b>and</b>	3	Fall, Spring, Summer	
<b>and</b> EXNS 6998	Thesis Research	3	Fall, Spring, Summer	
<b>OR</b>				
EXNS 6233	Graduate Internship <b>and</b>	6	Fall, Spring, Summer	
	Comprehensive Exam	0	Fall, Spring, Summer	

**Course Descriptions and Registration** information can be found on the website:

<http://publichealth.gwu.edu/academics/>.

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**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, 1<sup>st</sup> year (9 credits)

- EXNS 6202    Advanced Exercise Physiology I (3)
- EXNS 6204    Biostatistical Methods & Research Design (3)
- EXNS 6207    Psychological Aspects of Sport and Exercise (3)

### Spring Semester, 1<sup>st</sup> year (9 credits)

- EXNS 6203    Advanced Exercise Physiology II (3)
- EXNS 6223    Biomechanical Analysis (3)
- EXNS 6261    Thesis Seminar (3) **OR**
- Elective      Approved by Program Director (3)

### Fall Semester, 2<sup>nd</sup> year (10 credits)

- EXNS 6209    Advanced Concepts in Nutrition Science (3)
- EXNS 6220    Power Training for Sports Performance (2)
- EXNS 6222    Current Topics in Strength & Conditioning (2)
- EXNS 6233    Graduate Internship (3) **OR**
- Elective      Approved by Program Director (3)

### Spring Semester, 2<sup>nd</sup> year (8 credits)

- EXNS 6208    Physical Activity: Physiology & Epidemiology (2)
- EXNS 6221    Science and Theory of Resistance Training (3)
- EXNS 6233    Graduate Internship (3) **OR**
- EXNS 6998    Thesis Research