

### Master of Science in Exercise Science

(This option elevation to a standalone degree was recommended by the Academic Senate on March 10, 2022 and approved by the President on March 15, 2022. The CSU Chancellor's Office approved on September 26, 2022.)

#### Master of Science in Exercise Science

Exercise Science is a multidisciplinary degree that consists of courses in Biomechanics, Exercise Physiology, and Motor Control & Learning. Students completing a **Master of Science in Exercise Science** will experience an in-depth journey into the world of human movement by focusing on quantitative methods of analysis, understanding the physiological and/or biomechanical changes and underlying mechanisms associated with human performance and pathological states, and learning about central nervous system changes that occur in various skill learning environments. Students who study within the Exercise Science option have a multitude of options after completion of their degree that include employment in health-related fields and preparation for graduate and professional school opportunities.

#### Careers

Biomechanist working in sport and rehabilitation programs; Exercise physiologist working in sports, wellness programs, and clinical settings; a researcher working in sports medicine, fitness, and pathophysiology, exercise specialist working with healthy, clinical, and aging populations; research lab technician or manager; Sport and fitness product development; Strength and conditioning coach working in sport performance centers, fitness centers, colleges and universities, professional sports, rehabilitation centers, military facilities; Personal trainer; Health and Wellness Coach; Preparation for graduate programs in allied health fields (e.g. medical school, physical therapy, occupational therapy, orthotics & prosthetics, Ph.D. programs).

#### Admission requirements:

- A bachelor's degree from an accredited institution with a major in Kinesiology/Physical Education or the equivalent;
- If a prospective graduate student has a baccalaureate degree in a field other than Kinesiology or Physical Education, he/she may be required to take prerequisite or foundational upper-division undergraduate coursework in Kinesiology. Students must consult with the Associate Chair for Graduate Studies and/or major advisor before enrolling in foundational courses. The courses, which vary depending on the student's academic background and Option, may be taken at CSULB or another college/university. All foundational coursework must be completed prior to Advancement to Candidacy.
- An overall undergraduate GPA of 2.5 or better and an upper division Kinesiology/Physical Education major GPA of 2.75 or better;
- A minimum cumulative score of 150 on the verbal, 141 on the quantitative and 3.5 on the analytical writing sections of the Graduate Record Examination.

**Degree requirements:**

*Required Coursework (12 units):*

- KIN 530 - Neuromotor Control (3 units)
- KIN 541 - Applied Biomechanics: Lifting and Work Capacity (3 units)
- KIN 551 - Advanced Exercise Physiology (3 units)
- KIN 696 - Research Methods and Statistical Analysis (3 units)

*Elective Courses (18 units):*

Select six of the following courses:

- KIN 540 - Biomechanical Factors in Human Movement (3 units)
- KIN 552 - Exercise Testing and Training in Health and Disease (3 units)
- KIN 553 - Environmental Aspects of Human Performance (3 units)
- KIN 562 - Advanced Strength and Conditioning (3 units)
- KIN 563 - Exercise Physiology Laboratory Practicum (3 units)
- KIN 565 - Clinical Exercise Electrocardiography (3 units)
- KIN 566 - Biochemical and Hormonal Adaptations to Physical Activity (3 units)
- KIN 568 - Nutrition for Exercise and Performance (3 units)
- KIN 594 - Exercise Science Internship (3 units)
- KIN 630 - Seminar in Motor Learning (3 units)
- KIN 697 - Directed Studies (1-3 units)

*Culmination Activity (6 units)*

*Select option A or B:*

- A. Pass written and oral portions of Comprehensive Exam and complete 6 units of electives from within or outside of the department offerings selected from appropriate areas of interest in consultation with advisor.
- B. Thesis/Project: Complete KIN 698 (6 units)

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**EFFECTIVE: Fall 2023**