

Kinesiology

In the School of Exercise and Nutritional Sciences
In the College of Health and Human Services

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Faculty

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Susan S. Levy, Ph.D., Professor of Exercise and Nutritional Sciences
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Katrina S. Maluf, Ph.D., P.T., Associate Professor of Exercise and Nutritional Sciences
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Shawn M. O'Connor, Ph.D., Assistant Professor of Exercise and Nutritional Sciences
Michael D. Rosenthal, Ph.D., P.T., Assistant Professor of Exercise and Nutritional Sciences
Lori J. Tuttle, Ph.D., M.P.T., Assistant Professor of Exercise and Nutritional Sciences

Associateships and Assistantships

Graduate teaching associateships are available for a limited number of qualified students. These provide essential education, technical training, and creative experience necessary for future professional and scholarly activity or college-level teaching. Graduate assistantships are also available in some cases to aid faculty research. Applications and additional information on graduate programs may be obtained from the School of Exercise and Nutritional Sciences website at <http://ens.sdsu.edu>.

General Information

The School of Exercise and Nutritional Sciences offers graduate study leading to the Master of Science degree in kinesiology with a specialization in applied movement science. Applied movement science is a growing, interdisciplinary field that focuses on the measurement and evaluation of human function, and its relation to fitness, disability, and rehabilitation. The program delivers a unique combination of biomechanical, motor control, and exercise physiology principles aimed at preparing professionals for a diverse set of health and fitness-related careers. In particular, the program emphasizes clinical research to include the development of "hands-on" data acquisition/analysis skills for the assessment of motor performance in health and sport and exercise-related environments. The degree can serve as an entry point into clinical research positions or as preparation for doctorate degrees in kinesiology, physical therapy, or other rehabilitation science-based graduate programs.

Faculty in the program are broadly based and include high-level researchers from disciplines such as biomechanics, motor control, rehabilitation sciences, and sensorimotor neuroscience.

Master of Science Degree in Kinesiology

Admission to Graduate Study

All students must satisfy the general requirements for admission to the university with classified graduate standing as described in Part Two of this bulletin. In addition, a student applying for admission to the graduate program in exercise physiology must meet the following requirements.

- (1) A bachelor's degree. Applicants who do not have an undergraduate major in kinesiology or related discipline may be admitted to conditionally classified graduate standing on the recommendation of the graduate adviser of the school. Students will be required to complete or have equivalent preparation in Biology 212, 336, Exercise and Nutritional Sciences 306, 304, 307, and an undergraduate statistics course.
- (2) A grade point average (GPA) of at least 3.0 overall or at least 3.0 the last 60 units of baccalaureate coursework.
- (3) A minimum score of 475 (old GRE score) or 151 (new GRE score) on the verbal and 475 (old GRE score) or 142 (new GRE score) on the quantitative sections of the GRE General Aptitude Test.

Students will be admitted ONLY in the fall semester. Submit applications by the application deadline. Applicants should refer to the admission to master's and doctoral study section for application instructions. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Exercise and Nutritional Sciences.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

- (1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:

- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

- (2) GRE scores (<http://www.ets.org> SDSU institution code 4682);
- (3) English language score, if medium of instruction was in a language other than English (<http://www.ets.org> SDSU institution code 4682).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Four of this bulletin.

Specific Requirements for the Master of Science Degree

(Major Code: 08351)

In addition to meeting the requirements for classified graduate standing the student must satisfy the basic requirements for the master's degree, as described in Part Four of this bulletin. The 36-unit program includes a minimum of 28 units in exercise and nutritional sciences, biology, and doctor of physical therapy courses acceptable in master's degree programs in kinesiology, of which at least 28 units must be in 600- and 700-numbered courses. Also, students can complete their degree by choosing either Plan A or Plan B. If students select Plan A, Exercise and Nutritional Sciences 799A (thesis) is required for completion of their degree, accompanied by a final oral examination on the field of the thesis/project and on the implications of the thesis research for the broader field of kinesiology. If students select Plan B, Exercise and Nutritional Sciences 790 (Directed Readings) is required for completion of the degree.

Students seeking a Master of Science degree in kinesiology with a specialization in applied movement science are required to develop a formal plan of study that must be approved by the graduate adviser before being forwarded to the Division of Graduate Affairs. Students are required to take mandated core courses and select a number of electives. The offerings in the specialization allow a student to achieve certain competencies once the degree has been completed.

The school expects a student to complete the degree within seven years. Failure to complete the degree requirements within seven years will result in dismissal from the program.

Specialization in Applied Movement Science (SIMS Code: 556543)

Application of principles of biomechanics, motor control, and neurophysiology to science of physical rehabilitation. Emphasis is placed on techniques of data acquisition and analysis to assess and evaluate motor performance of clinical and non-clinical populations.

Required courses for the 36-unit program:

ENS 601	Experimental Methods in Exercise and Nutritional Sciences (3)
ENS 602	Research Evaluation in Exercise and Nutritional Sciences (3)
ENS 610	Biomechanics: Measurement Techniques I – Kinematics (3)
ENS 611	Biomechanics: Measurement Techniques II – Kinetics (3)
ENS 612	Biomechanics: Measurement Techniques III – EMG (3)
ENS 613	Motor Control and Rehabilitation Science (3)
BIOL 570	Neurobiology (3)
DPT 750	Concepts in Physiology, Pathophysiology, and Pharmacology (4)

Electives: Eight units to be selected in consultation with a specialization adviser (a minimum of three units must be in 600- or 700-numbered courses).

Plan A

ENS 799A Thesis (3) Cr/NC/RP

or Plan B

ENS 790 Seminar in Directed Readings (3) Cr/NC

Courses Acceptable for Master's Degree Programs in Kinesiology (ENS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Exercise and Nutritional Sciences (ENS) UPPER DIVISION COURSE

ENS 596. Selected Topics in Exercise and Nutritional Sciences (1-3)

Selected topics in exercise and nutritional sciences. May be repeated with new content and approval of instructor. See *Class Schedule* for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Exercise and Nutritional Sciences (ENS) GRADUATE COURSES

ENS 601. Experimental Methods in Exercise and Nutritional Sciences (3)

Prerequisite: Undergraduate statistics course.
Experimental methods in exercise and nutritional science.

ENS 602. Research Evaluation in Exercise and Nutritional Sciences (3)

Prerequisite: Exercise and Nutritional Sciences 601.
Techniques in designing, conducting, and reporting research in exercise and nutritional science. Qualitative and quantitative paradigms examined. Ethical consideration of human research.

ENS 603. Measurement and Evaluation in Exercise and Rehabilitation (3)

Prerequisites: Exercise and Nutritional Sciences 305 and Statistics 119.

Measurement theory and practice as applied to exercise and rehabilitation. Interpretation of measures used in physical medicine and rehabilitation contexts.

ENS 610. Biomechanics: Measurement Techniques I-Kinematics (3)

Prerequisites: Exercise and Nutritional Sciences 306 and 603.
Kinematic analysis of human movement using videography, electrogoniometry, and accelerometry with automated data reduction techniques typically used in study of pathomechanics.

ENS 611. Biomechanics: Measurement Techniques II-Kinetics (3)

Prerequisites: Exercise and Nutritional Sciences 306 and 603.
Kinetic analysis of human movement using clinical tools and laboratory devices to measure loads and forces applied to body under typical and pathological conditions.

ENS 612. Biomechanics: Measurement Techniques III-EMG (3)

Prerequisites: Exercise and Nutritional Sciences 306 and 603.
Tissue structure, neurological function, and muscular performance of typical and pathological human movement.

ENS 613. Motor Control and Rehabilitation Science (3)

Prerequisites: Exercise and Nutritional Sciences 307 and 603.
Human movement in clinical and non-clinical populations using principles of motor control.

ENS 696. Advanced Topics in Exercise and Nutritional Sciences (3)

Intensive study in specific areas of exercise and nutritional sciences. May be repeated with new content. See *Class Schedule* for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

ENS 790. Seminar in Directed Readings (3) Cr/NC

Prerequisites: Exercise and Nutritional Sciences 602 and advancement to candidacy.

Preparation for comprehensive examination for students pursuing either an M.A. or an M.S. degree under Plan B.

ENS 798. Special Study (1-3) Cr/NC/RP

Prerequisite: Consent of department chair.

Individual study. Maximum credit six units applicable to a master's degree.

ENS 799A. Thesis or Project (3) Cr/NC/RP

Prerequisites: An officially appointed thesis committee and advancement to candidacy.

Preparation of a project or thesis for the master's degree.

ENS 799B. Thesis Extension (0) Cr/NC

Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.

Registration required in any semester or term following assignment of RP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.

ENS 799C. Comprehensive Examination Extension (0) Cr/NC

Prerequisite: Completion or concurrent enrollment in degree program courses.

Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

