

Exercise and Nutritional Sciences

In the College of Health and Human Services

OFFICE: Exercise and Nutritional Sciences 351

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<https://ens.sdsu.edu>

Accredited by the Commission on Accreditation of Athletic Training Education for Athletic Training.

Faculty

Emeritus: Aufmesser, Carter, Francis, Franz, Friedman, Harris, King, LaMaster, Landis, McKenzie, T., Mechikoff, Nichols-Bernhard, Patterson, Phillips, Rushall, Selder, Simmons, Sleet, Sucec, Wells, Williamson

Director: Mahar

Professors: Buono, Enwemeka, Kahan, Kolkhorst, Levy, Mahar, Rauh, Verity

Associate Professors: Goble, Hooshmand-Yazdi, Lebsack, Maluf

Assistant Professors: Baweja, Cannon, Domingo, Gombatto, Kressler, O'Connor, Rosenthal, Tuttle

Lecturers: Arellano, Comana, Lane, Prescher, Soto, Thomann

Offered by the School

Doctor of Physical Therapy.

Master of Science degree in exercise physiology.

Master of Science degree in kinesiology.

Master of Science degree in nutritional science and Master of Science degree in exercise physiology (concurrent program).

Major in athletic training with the B.S. degree in applied arts and sciences.

Major in kinesiology with the B.S. degree in applied arts and sciences.

Emphasis in exercise science generalist.

Emphasis in fitness specialist.

Emphasis in prephysical therapy.

The Major

Athletic Training. The athletic training major is a CAATE accredited undergraduate major. The program leads students to a career in athletic training and eligibility to sit for the Board of Certification athletic training examination. Certified athletic trainers are responsible for the prevention, management, and rehabilitation of athletic and physically active injuries. They work in such diverse areas as high schools, community colleges, universities, sports medicine clinics, corporate/industrial settings; and professional athletics. The athletic training program is comprised of two components of study, a preprofessional program and a professional program. The professional program requires application to the program and includes a clinical education component. The clinical education component is an intensive, hands-on service learning program that provides students with the opportunity to apply psychomotor skills in a real athletic environment under the direct supervision of a certified athletic trainer. Students are given the opportunity to practice what they learn in a variety of clinical education settings included, but not limited to, the Department of Athletics at San Diego State University, University of California, San Diego, University of San Diego, Grossmont Community College, San Diego Mesa Community College, Cuyamaca Community College, San Diego City College, Southwestern Community College, Rancho Bernardo High School, and Cathedral Catholic High School. Due to the required supervision of the clinical education component, there are a limited number of spaces for students in the professional program per year. Therefore, the application process is competitive and based upon a variety of criteria outlined under "Standards for Admission." Students interested in the athletic training major should meet with the program director as soon as possible in their academic career for the most current information.

Kinesiology. The kinesiology major with emphases in fitness specialist, and prephysical therapy presents to students the study of the processes through which individuals obtain optimal health, physical skill, and fitness. The professional, whether in a laboratory, school, medical or business setting, is ultimately concerned with improving the health and well-being of people.

The uniqueness of the academic area known as kinesiology is the study of human movement. The academic foundation for the study of human movement is covered by courses that explore movement as it affects and is affected by physiological, psychological, developmental, sociocultural, and mechanical parameters. Application of movement concepts evolves from an academic foundation and is covered by courses that study how movement is quantified, how learning experiences are sequenced to modify movement behaviors, and how movement is modified for special needs.

Emphasis in Exercise Science Generalist

Students in the exercise science generalist emphasis often find employment in the private and public sectors concerned with the fitness and health of employees. This emphasis prepares students to meet the academic requirements necessary to (1) evaluate and develop exercise programming for apparently healthy persons in diverse fitness and health settings, and (2) attain certifications that reflect knowledge of the scientific principles that govern leadership in exercise and health enhancement programs. Graduates work as fitness professionals in corporate, community, clinical, and commercial fitness programs. There are also career opportunities for employment in the business sector to include fitness and wellness, and community programs. Graduates in the exercise science generalist emphasis are not as well prepared as those coming from the fitness specialist and may not be as competitive for employment or admission to graduate kinesiology programs.

Emphasis in Fitness Specialist

Students in the fitness specialist emphasis often find employment in the private and public sectors concerned with the fitness and health of employees. This emphasis prepares students to meet the academic requirements necessary to (1) evaluate and develop exercise programming for apparently healthy persons in diverse fitness and health settings, and (2) attain certifications that reflect knowledge of the scientific principles that govern leadership in exercise and health enhancement programs. Graduates work as fitness professionals in corporate, community, clinical, and commercial fitness programs. There are also career opportunities for employment in the business sector to include fitness and wellness, community programs, cardiac rehabilitation, and human efficiency research.

Emphasis in Prephysical Therapy

The prephysical therapy emphasis prepares students to meet the academic requirements necessary for entry to postgraduate education for rehabilitative professions such as physical therapy, chiropractic, occupational therapy, physician assistant, and podiatry. Students find employment in a broad range of medical environments. Students wishing to meet all requirements for postgraduate education for a professional degree should meet with the undergraduate adviser as well as contact potential postgraduate education sites to obtain specific entry requirements.

Retention Policy

The College of Health and Human Services expects that all athletic training and kinesiology majors will make reasonable academic progress towards the degree. Athletic training and kinesiology premajors who have completed major preparatory courses, earned 60 units, but have less than a 2.8 GPA may be removed from the premajor and placed in undeclared.

Standards for Admission

Admission to the University

Applicants must be eligible for admission to the university. See "Regulations: Admission and Registration" section of this catalog. Once accepted to the university, students interested in the athletic training major are subject to further screening by the School of Exercise and Nutritional Sciences and the athletic training professional program.

Admission to the Athletic Training or Kinesiology Major

Refer to "Impacted Programs" section of the Exercise and Nutritional Sciences section of this catalog.

Admission to the Athletic Training Professional Program

The application packet for the athletic training professional program can be obtained from the athletic training advising office or is available on the program website at: <http://www-rohan.sdsu.edu/dept/athletic/athletictraining/>.

1. **Application Deadline.** Application for admission is accepted each spring for the following fall. Program applications are due February 1. There is no spring admission cycle.
2. **Prerequisite Courses.** The following courses, or their equivalents, are required for admission to the athletic training professional program:

| | | |
|----------|--|---|
| BIOL 212 | Human Anatomy | 4 |
| CHEM 200 | General Chemistry | 5 |
| ENS 265 | Care and Prevention of Athletic and Recreational Injuries | 2 |
| ENS 265L | Care and Prevention of Athletic and Recreational Injuries Laboratory | 1 |
3. **Premajor Courses.** Students are expected to have most, if not all, of the premajor courses completed by the end of the spring semester in which they apply. This ensures transition into the major and major coursework.
4. **Minimum Overall Grade Point Average.** Applicants must have a minimum overall grade point average of 2.8. Please note that having the minimum grade point average does not guarantee admittance.
5. **Grade Point Average Requirement.** Applicants must have a minimum grade point average of 3.0 in Biology 212, Exercise and Nutritional Sciences 265 and 265L.
6. **CPR and First Aid Certification.** Students are required to have current CPR as a Health Care Provider through the American Red Cross or as a Professional Rescuer through the American Red Cross. In addition, they must have first aid certification at the time of application, and are expected to maintain current certifications in both CPR and First Aid throughout the time of enrollment in the program.
7. **Volunteer Clinical Hours.** Prior to program admission, students must obtain a minimum of 60 hours of observational experience in a traditional athletic setting under the supervision of a certified athletic trainer. These settings include athletic settings at a high school, community college, or university. A list of approved settings and locations can be obtained from the athletic training program director.
8. **Technical Standards for Admission.** All students upon admission to the athletic training professional program must have medical clearance by a physician, nurse practitioner, or physician assistant for the following abilities and expectations. In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into the program. The Student Disability Services office will evaluate a student who states he/she could meet the program's technical standards with accommodation and confirm that the stated condition qualifies as a disability under applicable laws. If a student states he/she can meet the technical standards with accommodation, the university will determine whether it agrees that the student can meet the technical standards with reasonable accommodation; this includes a review of whether the accommodations requested are reasonable, taking into account whether accommodation should jeopardize clinician/patient safety, or the educational process of the student or the institution, including all coursework, clinical experiences, and internships deemed essential to graduation.

Candidates for selection must demonstrate:

- a. The mental capacity to assimilate, analyze, synthesize, integrate concepts and problem solve to formulate assessment and therapeutic judgments and to be able to distinguish deviations from the norm.

- b. Sufficient postural and neuromuscular control, sensory function, and coordination to perform CPR, primary and secondary surveys, emergency transport and transfers, appropriate physical examinations, and manual therapeutic exercise procedures; including the safe and efficient use of equipment and materials during the assessment and treatment of patients.
- c. The ability to communicate effectively and sensitively with patients and colleagues, including individuals from different cultural and social backgrounds; this includes, but is not limited to, the ability to establish rapport with patients and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with the competent professional practice.
- d. The ability to write effectively as it relates to the discipline.
9. **Transfer and Retention.** Transfer students should check with the advising offices of the respective institutions for transfer equivalents and admission criteria. Once students are accepted into the athletic training professional program/major, there is a retention policy that requires students to maintain both academic and clinical standards for continuation in the program. Academically, students must achieve a semester GPA of 2.80 or better each semester enrolled in the professional program and clinically they must obtain a grade of B (3.0) or better in the ENS 389, Practicum in Athletic Training, series coursework or they will be put on academic or clinical probation. Should a student have two semesters of probation, they will be dismissed from the program.
10. **Appeal Policy.** Should a student have special circumstances that he/she feels should be considered regarding an admission decision or retention decision, there is a formal appeal process that can be applied. Refer to the athletic training policies and procedures manual for a copy of these policies. This manual is available in the athletic training advising office or on the athletic training website.

Athletic Training Professional Program Expectations

If accepted to the athletic training professional program, the following expectations apply:

1. Become a student member of the National Athletic Trainers' Association within four months of program admittance. Student membership rate is \$125 per year.
2. Become a member of the Future Athletic Trainers Society within four months of program admittance. Membership rate is \$40 per year.
3. Obtain Student Professional Liability Insurance by the first start date of clinical placement. Student rate is \$20 per year.
4. Provide own transportation to off-campus clinical education sites.
5. Be enrolled as a full-time student (at least 12 units), unless special circumstances are approved for part-time enrollment by the program director.
6. Maintain current CPR certification through the American Heart Association (AHA), health care provider course, or American Red Cross (ARC) professional rescuer course.
7. Engage in a clinical education program that averages 20 hours per week at a designated clinical site for a minimum of four semesters. Clinical exposure may commence in early August and might extend into December or January.
8. Adhere to designated policies and procedures for program retention and progression. A copy of the policies and procedures manual is available on the program website or can be obtained from the advising office.

Impacted Programs

The athletic training major and the kinesiology major with emphases in exercise science generalist, fitness specialist, and prephysical therapy are impacted programs.

To be admitted to the athletic training major or a kinesiology major emphasis, students must meet the following criteria:

Exercise and Nutritional Sciences

- Complete with a grade of C (2.0) or better: Exercise and Nutritional Sciences 200 and Biology 212. These courses cannot be taken for credit/no credit (Cr/NC). Biology 212 must be completed with a grade of B (3.0) or better for students in the athletic training major;
- Complete a minimum of 60 semester units applicable to the lower division General Education requirements to include all Preparation for the Major requirements for kinesiology major emphasis, and electives to reach 60 units. Exercise and Nutritional Sciences 200 and Biology 212 must be completed before taking upper division major courses. Preparation for the Major courses cannot be taken for credit/no credit (Cr/NC);
- Have a cumulative GPA of 2.80 or better. For the athletic training major, the GPA is also required for application submission and program consideration.
- For the athletic training major, students must be accepted into the professional program.
- For the athletic training major, complete with a minimum overall grade point average of 3.0: Biology 212, Exercise and Nutritional Sciences 265, 265L. These courses cannot be taken for credit/no credit (Cr/NC).

To complete the major, students must fulfill the degree requirements for the major emphasis described in the catalog in effect at the time they are accepted into the premajor at SDSU (assuming continuous enrollment).

Major Academic Plans (MAPs)

Visit <http://www.sdsu.edu/mymap> for the recommended courses needed to fulfill your major requirements. The MAPs website was created to help students navigate the course requirements for their majors and to identify which General Education course will also fulfill a major preparation course requirement.

Athletic Training Major

With the B.S. Degree in Applied Arts and Sciences (Major Code: 08375) (SIMS Code: 556522)

All candidates for a degree in applied arts and sciences must complete the requirements listed in the section of this catalog on "Graduation Requirements."

Acceptance into the athletic training professional program is required for major status. Application to the program is competitive and limited in number. Applications are due February 1. Those students interested in the athletic training program should contact the athletic training program director.

Preparation for the Major. Exercise and Nutritional Sciences 200, 265, 265L; Biology 203, 203L, 212; Chemistry 200; Nutrition 201; Psychology 101, 260; Sociology 101; and one of the following: Biology 215, Economics 201, Psychology 280, Sociology 201, Statistics 119. (34 units)

Preparation for the Major courses cannot be taken for credit/no credit (Cr/NC). Exercise and Nutritional Sciences 200 must be completed with a grade of C (2.0) or better. Exercise and Nutritional Sciences 265, 265L, and Biology 212 must have a minimum overall grade point average of 3.0. Biology 212 must be completed with a grade of B (3.0) or better.

Graduation Writing Assessment Requirement. Passing the Writing Placement Assessment with a score of 10 or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See "Graduation Requirements" section for a complete listing of requirements.

International Experience. Athletic training majors are required to participate in an international experience to increase awareness of cross-cultural issues, global health, economic, political, cultural, social services, and health challenges experienced by local populations in international environments. Students participate in residence for two or more weeks (exemption from the study abroad portion of the requirement must be approved by the dean of the college based on serious and compelling life events or physical limitations; a relevant course and community service activity in the U.S. will be substituted). Specific details can be found on the college website at <http://www.chhs.sdsu.edu/international>.

To meet the international experience requirement, majors must complete one of the following:

- A CSU Study Abroad Program;
 - An SDSU Exchange Program;
 - An SDSU Study Abroad Program;
 - An SDSU Study Travel Program;
- OR**
- One course selected from:
 - Health and Human Services 290 or 350;
 - Asian Studies 490;
 - Education 450;
 - General Studies 450;
 - International Security and Conflict Resolution 450;
 - Latin American Studies 450;
 - Political Science 450;
 - Science 350.

Major. A minimum of 53 upper division units to include Exercise and Nutritional Sciences 303, 304, 304L, 305, 306, 307, 332, 333, 365, 367, 367L, 368, 368L, 389A, 389B, 389C, 389D, 401A, 434, 438, 463, 463L, 465, 466; Biology 336. Biology 336 will also satisfy three units of the General Education requirement in IV.A. Recommended: Students should take Sociology 355 to satisfy the General Education requirement in IV.B.

Kinesiology Major

With the B.S. Degree in Applied Arts and Sciences (Major Code: 08351)

All candidates for a degree in applied arts and sciences must complete the requirements listed in the section of this catalog on "Graduation Requirements."

Preparation for the Major courses cannot be taken for credit/no credit (Cr/NC). Exercise and Nutritional Sciences 200 and Biology 212 must be completed with a grade of C (2.0) or better.

Emphasis in Exercise Science Generalist (SIMS Code: 556526)

Open only to AA-T/TMC for Kinesiology

Preparation for the Major. The emphasis in exercise science generalist is open only to students who have completed the California Community College Associate in Arts in Kinesiology for Transfer (AA-T) degree completing the Transfer Model Curriculum (TMC) for Kinesiology. Students must complete the following courses as part of the TMC or at SDSU: Exercise and Nutritional Sciences 265; Nutrition 201; Chemistry 100, 102, or 200; Statistics 119. (5-13 units)

Graduation Writing Assessment Requirement. Passing the Writing Placement Assessment with a score of 10 or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See "Graduation Requirements" section for a complete listing of requirements.

International Experience. All kinesiology majors are required to participate in an international experience to increase awareness of cross-cultural issues, global health, economic, political, cultural, social services, and health challenges experienced by local populations in international environments. Students participate in residence for two or more weeks (exemption from the study abroad portion of the requirement must be approved by the dean of the college based on serious and compelling life events or physical limitations; a relevant course and community service activity in the U.S. will be substituted). Specific details can be found on the college website at <http://www.chhs.sdsu.edu/international>.

To meet the international experience requirement, majors must complete one of the following:

1. A CSU Study Abroad Program;
 2. An SDSU Exchange Program;
 3. An SDSU Study Abroad Program;
 4. An SDSU Study Travel Program;
- OR**
5. One course selected from:
 - Health and Human Services 290 or 350;
 - Asian Studies 490;
 - Education 450;
 - General Studies 450;
 - International Security and Conflict Resolution 450;
 - Latin American Studies 450;
 - Political Science 450;
 - Science 350.

Students must complete nine upper division units from General Education Explorations of Human Experience.

Major. A minimum of 40 upper division units to include Exercise and Nutritional Sciences 303, 304, 304L, 305, 306, 307, 332, 333, 388A (one unit) or 388B (one unit), 401B, 432, 432L, 433, 434, 439, 440; Health and Human Services 350. Health and Human Services 350 will satisfy three units of the General Education requirement IV.B. Communication 321 is recommended, if needed, for students to complete their 60 unit requirement at SDSU.

Emphasis in Fitness Specialist (SIMS Code: 556524)

Preparation for the Major. Exercise and Nutritional Sciences 200, 265; Biology 100, 100L, 212; Chemistry 100; Communication 103; Gerontology 101; Nutrition 201; Psychology 101; Sociology 101; and one of the following: Biology 215, Economics 201, Psychology 280, Sociology 201, Statistics 119. (35 units)

Graduation Writing Assessment Requirement. Passing the Writing Placement Assessment with a score of 10 or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See "Graduation Requirements" section for a complete listing of requirements.

International Experience. All kinesiology majors are required to participate in an international experience to increase awareness of cross-cultural issues, global health, economic, political, cultural, social services, and health challenges experienced by local populations in international environments. Students participate in residence for two or more weeks (exemption from the study abroad portion of the requirement must be approved by the dean of the college based on serious and compelling life events or physical limitations; a relevant course and community service activity in the U.S. will be substituted). Specific details can be found on the college website at <http://www.chhs.sdsu.edu/international>.

To meet the international experience requirement, majors must complete one of the following:

1. A CSU Study Abroad Program;
 2. An SDSU Exchange Program;
 3. An SDSU Study Abroad Program;
 4. An SDSU Study Travel Program;
- OR**
5. One course selected from:
 - Health and Human Services 290 or 350;
 - Asian Studies 490;
 - Education 450;
 - General Studies 450;
 - International Security and Conflict Resolution 450;
 - Latin American Studies 450;
 - Political Science 450;
 - Science 350.

Major. A minimum of 49 upper division units to include Exercise and Nutritional Sciences 303, 304, 304L, 305, 306, 307, 332, 333, 388A (one unit) or 388B (one unit), 401B, 432, 432L, 433, 434, 438, 439, 440; Biology 336; Communication 321; Gerontology 350. Biology 336 will also satisfy three units of the General Education requirement in IV.A. Recommended: Students should take Health and Human Services 350 to satisfy the General Education requirement in IV.B.

Emphasis in Prephysical Therapy (SIMS Code: 556511)

Students interested in applying to postgraduate allied health programs are advised to follow the prephysical therapy emphasis. It should be noted that required courses attempt to prepare individuals for graduate application, however specific course requirements and admission standards may vary for each graduate school.

Preparation for the Major. Exercise and Nutritional Sciences 200, 265; Biology 203, 203L, 211, 211L, 212; Chemistry 200, 201; Communication 103; Nutrition 201; Physics 180A and 180B, 182A and 182B; Psychology 101; Sociology 101; and one of the following: Biology 215, Economics 201, Psychology 280, Sociology 201, Statistics 119. (50 units)

Graduation Writing Assessment Requirement. Passing the Writing Placement Assessment with a score of 10 or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See "Graduation Requirements" section for a complete listing of requirements.

International Experience. All kinesiology majors are required to participate in an international experience to increase awareness of cross-cultural issues, global health, economic, political, cultural, social services, and health challenges experienced by local populations in international environments. Students participate in residence for two or more weeks (exemption from the study abroad portion of the requirement must be approved by the dean of the college based on serious and compelling life events or physical limitations; a relevant course and community service activity in the U.S. will be substituted). Specific details can be found on the college website at <http://www.chhs.sdsu.edu/international>.

To meet the international experience requirement, majors must complete one of the following:

1. A CSU Study Abroad Program;
 2. An SDSU Exchange Program;
 3. An SDSU Study Abroad Program;
 4. An SDSU Study Travel Program;
- OR**
5. One course selected from:
 - Health and Human Services 290 or 350;
 - Asian Studies 490;
 - Education 450;
 - General Studies 450;
 - International Security and Conflict Resolution 450;
 - Latin American Studies 450;
 - Political Science 450;
 - Science 350.

Major. A minimum of 39 upper division units to include Exercise and Nutritional Sciences 303, 304, 304L, 305, 306, 307, 332, 333, 388A (one unit) or 388B (one unit), 434, 438; Biology 336, 436; Communication 321; Psychology 350. Biology 336 will also satisfy three units of the General Education requirement in IV.A. Recommended: Students should take Health and Human Services 350 to satisfy the General Education requirement in IV.B. Students should take Exercise and Nutritional Sciences 466 to learn more about clinical pathology of general medical conditions.

Types of Activity Courses

The department offers a wide variety of physical activity courses ranging from adapted physical education through intermediate level classes. The purpose of the physical activity program is to:

1. Provide quality physical activity skill instruction at the beginning and intermediate levels in a wide variety of sport and dance activities.
2. Provide a vehicle for vigorous physical activity in an instructional setting.
3. Provide knowledge about various sport and dance activities.
4. Provide knowledge about the value of physical activity as it relates to an improved quality of life.
5. Provide opportunity for physical activity instruction to all segments of the student population, including those with temporary or permanent disabilities.

COURSES (ENS)

Refer to Courses and Curricula and University Policies sections of this catalog for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

LOWER DIVISION COURSES

Courses offered for one unit credit meet two hours per week or equivalent.

Dance activity courses: Yoga for Dancers, Beginning Modern Dance. Refer to Dance 100 course in this section of the catalog.

ENS 104A-104B. Weight Training (1-1)

ENS 108A-108B. Basketball (1-1)

(Exercise and Nutritional Sciences 108A formerly numbered Exercise and Nutritional Sciences 108.)

ENS 109A-109B-109C. Soccer (1-1-1)

ENS 110A-110B. Volleyball (1-1)

(Exercise and Nutritional Sciences 110A formerly numbered Exercise and Nutritional Sciences 110.)

ENS 116A-116B. Golf (1-1)

ENS 118A-118B. Tennis (1-1)

ENS 119A-119B. Bowling (1-1)

ENS 124. Sailing (1)

ENS 138. Selected Activities (1)

May be repeated with new activity for additional credit. See *Class Schedule* for specific content.

ENS 139A. Beginning Rock Climbing (1)

Two hours of activity.
Rock climbing concepts and theories. Active participation using beginning techniques and training concepts.

ENS 139B. Intermediate Rock Climbing (1)

Two hours of activity.
Prerequisite: Exercise and Nutritional Sciences 139A.
Rock climbing concepts and theories. Active participation using advanced techniques, training concepts, and lead climbing concepts expected.

ENS 145. Wakeboarding and Waterskiing (1)

ENS 146. Surfing (1)

ENS 147. Windsurfing (1)

Theory and mechanical skills of windsurfing. Proper rigging, body position, and sailing theory, right-of-way rules and boating safety for good fundamental base to confidently continue.

ENS 200. Introduction to Exercise and Nutritional Sciences (3)

Overview of disciplines of kinesiology and foods and nutrition. Current and emerging issues, ethical considerations, and professional practice. Not open to students with credit in Exercise and Nutritional Sciences 210.

ENS 241A. Physical Education of Children-Theory (1)

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 241B.

Physical education of elementary school-aged children: Theoretical and scientific bases. Not open to kinesiology majors.

ENS 241B. Physical Education of Children-Activities (1)

Two hours of activity.
Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 241A.

Physical education of elementary school-aged children: Activities and instruction. Not open to kinesiology majors.

ENS 265. Care and Prevention of Athletic and Recreational Injuries (2)

Prerequisites: Premajor in kinesiology. Recommended: Credit or concurrent registration in Biology 212.

Mechanisms of common sports injuries, acute care of injuries, risk management and prevention of injuries, psychosocial intervention and referral, and basic health care administration.

ENS 265L. Care and Prevention of Athletic and Recreational Injuries Laboratory (1)

Three hours of laboratory.
Prerequisites: Premajor in kinesiology. Concurrent registration in Exercise and Nutritional Sciences 265.

ENS 296. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See *Class Schedule* for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES (Intended for Undergraduates)

ENS 301. Physical Growth and Development (3)

Prerequisites: Credit or concurrent registration in Exercise and Nutritional Sciences 200. Limited to kinesiology premajors, majors, and liberal studies majors. Major Codes: 08351, 49012, 49015, 49081.
Principles of human growth; performance as affected by developmental levels and individual differences in structure and function.

ENS 302. Sociocultural History and Philosophy of Sport (3)

Prerequisites: Credit or concurrent registration in Exercise and Nutritional Sciences 200. Limited to kinesiology premajors and majors. Major Code: 08351.

Integrated approach to understanding of historical, philosophical, and sociological forces shaping development of physical activity and sport.

ENS 303. Applied Kinesiology (3)

Prerequisites: Grade of C (2.0) or better in Biology 212; credit or concurrent registration in Exercise and Nutritional Sciences 200 or Dance 181; or completion of Associate of Arts in Kinesiology for Transfer (AA-T) degree and Transfer Model Curriculum (TMC) for Kinesiology. Limited to kinesiology, exercise physiology, nutritional sciences, foods and nutrition, dance majors; premajors in kinesiology, foods and nutrition. Major Codes: 08351, 08355, 08356, 10081, 13061.

Arthrology, syndesmology and myology, with emphasis on movement analysis. Muscle groups and their functional relationships. Application of simple mechanical principles to movement analysis.

ENS 304. Physiology of Exercise (3)

Prerequisites: Grade of C (2.0) or better in Biology 336 or completion of Associate of Arts in Kinesiology for Transfer (AA-T) degree and Transfer Model Curriculum (TMC) for Kinesiology. Limited to undergraduate majors in kinesiology, foods and nutrition; graduate degrees in exercise physiology, nutritional sciences, and the dual degree in nutritional sciences and exercise physiology. Major Codes: 08351, 08355, 08356, 13061.

Effects of physical activities on physiological functions of the body.

ENS 304L. Exercise Physiology Laboratory (1)

Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 304.
Laboratory experiences in the application of exercises and the analysis of the results.

ENS 305. Measurement and Evaluation in Kinesiology (3)

Prerequisites: One of the following: Biology 215, Economics 201, Psychology 280, Sociology 201, Statistics 119; or completion of Associate of Arts in Kinesiology for Transfer (AA-T) degree and Transfer Model Curriculum (TMC) for Kinesiology. Limited to kinesiology majors. Major Code: 08351.

Testing and measurement for assessment and understanding of physical performance and for planning and evaluation of instruction in physical activity settings. Planning, implementation, and evaluation of tests.

ENS 306. Biomechanics of Human Movement (3)

Prerequisites: Exercise and Nutritional Sciences 303. Limited to kinesiology majors. Major Code: 08351.

Mechanical principles as applied to movement; analysis and application to selected motor skills.

ENS 307. Motor Learning and Performance (3)

Prerequisites: Psychology 101 and one of the following: Biology 215, Economics 201, Psychology 280, Sociology 201, Statistics 119; or completion of Associate of Arts in Kinesiology for Transfer (AA-T) degree and Transfer Model Curriculum (TMC) for Kinesiology. Limited to kinesiology majors. Major Code: 08351.

Psychological parameters related to physical performance and the acquisition of motor skills.

ENS 330. Exercise and Wellness Across the Lifespan (3) [GE]

Prerequisite: Completion of the General Education requirement in Foundations of Learning II.B., Social and Behavioral Sciences.

Role of physical activity and exercise behavior in health and wellness. Personal applications plus gender and cultural implications of physical activity from childhood through adulthood.

ENS 331. Exercise and Nutrition for Health, Fitness, and Performance (3) [GE]

Prerequisite: Completion of the General Education requirement in Foundations of Learning II.A., Natural Sciences and Quantitative Reasoning.

Exercise, physical activity and nutrition information, guidelines, and misinformation. Effects of exercise and nutrition on disease prevention. Personal health, fitness, and performance goals.

ENS 332. Pathophysiology and Exercise Programming of Disease Populations I (3)

Prerequisites: Exercise and Nutritional Sciences 304 and concurrent registration in Exercise and Nutritional Sciences 333.

Pathophysiology of musculoskeletal, neuromuscular, and cognitive/psychosocial disorders. Develop exercise programs through recommended guidelines.

ENS 333. Pathophysiology and Exercise Programming of Disease Populations II (2)

Prerequisites: Exercise and Nutritional Sciences 304 and concurrent registration in Exercise and Nutritional Sciences 332.

Pathophysiology of pulmonary, cancer, and immune-related disorders. Develop exercise programs through recommended guidelines.

ENS 363. Corrective Physical Education (3)

Prerequisite: Exercise and Nutritional Sciences 303.

Etiology, characteristics, and programs for children with corrective and/or physically handicapping conditions. Includes evaluating and implementing prescribed activities for individuals with these types of conditions.

ENS 365. Scientific Management of Sports Injuries (3)

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 306.

Scientific basis of injury dysfunction and tissue healing. Application of these principles to the use of therapeutic modalities for injury management.

ENS 367. Clinical Evaluation of Sports Injuries Part I (2)

Prerequisites: Credit or concurrent registration in Exercise and Nutritional Sciences 303 and 389A.

Theory of clinical evaluation of sports injuries techniques and scientific basis of techniques. Principles of systematic differential evaluation of upper extremity, cervical spine.

ENS 367L. Clinical Evaluation of Sports Injuries Part I (1)

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 367.

Practical experience in clinical evaluation of sports injuries techniques and scientific basis of techniques. Principles of systematic differential evaluation of upper extremity, cervical spine.

ENS 368. Clinical Evaluation of Sports Injury Part II (2)

Prerequisites: Exercise and Nutritional Sciences 367 and 367L. Credit or concurrent registration in Exercise and Nutritional Sciences 368L.

Theory of clinical evaluation of sports injury techniques and scientific basis of techniques. Systematic differential evaluation process applied to lower extremities, thoracic, and lumbar spine and chest and abdominal injuries.

ENS 368L. Clinical Evaluation of Sports Injury Part II (1)

Prerequisites: Exercise and Nutritional Sciences 367 and 367L. Concurrent registration in Exercise and Nutritional Sciences 368.

Practical experience in clinical evaluation of sports injuries techniques and scientific basis of techniques. Principles of systematic differential evaluation process applied to lower extremities, thoracic and lumbar spine and chest and abdominal injuries.

ENS 388A. Rehabilitation Laboratory SDSU Fitness Clinic (1-4)

Three hours of laboratory per unit.

Prerequisites: Senior standing and consent of instructor.

Hands-on experience working with individuals with a variety of physical and neurological disabilities through prescribed fitness programming at San Diego State University. Maximum credit four units.

ENS 388B. Community Rehabilitation Laboratory (1)

Three hours of laboratory.

Prerequisite: Consent of instructor.

Hands-on experience working with individuals with a variety of physical and neurological disabilities in the San Diego community.

ENS 389A-389B-389C-389D. Practicum in Athletic Training (1-1-1-1)

389A, 389B, 389C, 389D: Two hours of activity.

Prerequisites: 389A: Grade of B (3.0) or better in Biology 212, Exercise and Nutritional Sciences 265, 265L, application, letters of recommendation, and interview.

389B: Grade of B (3.0) or better in Exercise and Nutritional Sciences 389A.

389C: Grade of B (3.0) or better in Exercise and Nutritional Sciences 389B.

389D: Grade of B (3.0) or better in Exercise and Nutritional Sciences 389C.

Practical training and clinical applications of basic and advanced techniques of athletic training. Emergency, preventative procedures treatment, and rehabilitation techniques to be performed in actual athletic training settings. Practicum experience offered in conjunction with clinical internship.

ENS 397. Contemporary Topics in Kinesiology

(Credit to be arranged) Cr/NC

(Offered only in the College of Extended Studies)

Prerequisites: Consent of instructor; bachelor's degree.

Study of specially selected problems in physical education and sport. Does not apply to undergraduate degrees or credentials.

ENS 401A. Musculo-Skeletal Fitness (1)

Prerequisites: Exercise and Nutritional Sciences 304, 304L, 306.

Training techniques in areas of strength and flexibility. Examination of facilities and equipment, mechanics of strength and flexibility techniques, development of training program, basic physiology and review of current research in areas of strength and flexibility.

ENS 401B. Musculo-Skeletal Fitness Activity (1)

Two hours of activity.

Prerequisites: Exercise and Nutritional Sciences 304, 304L, 306.

Circulorespiratory endurance, muscular strength and endurance, selection and care of equipment and facilities, and programs in the areas of flexibility, weight training and aerobics.

ENS 432. Exercise, Fitness, and Health (2)

Prerequisites: Exercise and Nutritional Sciences 303, 304, 304L, 305. Concurrent registration in Exercise and Nutritional Sciences 432L.

Exercise testing, programming and leadership for healthy persons of different ages, capacities, and needs.

ENS 432L. Exercise, Fitness, and Health (1)

Three hours of laboratory.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 432.

Practicum in exercise testing, programming and leadership for healthy persons of different capacities, and needs.

ENS 433. Exercise, Sport, and Aging (3)

Prerequisite: Exercise and Nutritional Sciences 304.

Relationships between exercise, sport and human aging including physiological, psychological, sociological, health and program considerations. Aging is viewed developmentally with emphasis on the middle and later years.

ENS 434. Promoting Physical Activity and Healthy Eating (3)

Prerequisite: Upper division standing.

Theoretical frameworks for integrating physical activity and nutrition in developing, implementing, and evaluating multicomponent interventions to increase these behaviors in a variety of population subgroups.

ENS 438. Psychosocial Aspects of Disease and Injury Rehabilitation (3)

Prerequisite: Exercise and Nutritional Sciences 388A, 388B, or 389A.

Psychosocial factors related to disease and injury and effects on treatment and rehabilitation processes. Theoretical mechanisms through which psychosocial factors are affected by and influence disease, injury, and treatment and rehabilitation outcomes.

ENS 439. Instructional Leadership in Clinical Settings (2)

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 440.

Androgogical and pedagogical theories, concepts, and techniques for enhancing instructional effectiveness and learning in exercise, physical activity, and rehabilitation settings.

ENS 440. Fitness Practitioner Internship (3)

Six hours of activity.

Prerequisites: Credit or concurrent registration in Exercise and Nutritional Sciences 432, 432L, 433. Concurrent registration in Exercise and Nutritional Sciences 439.

Supervised practical experience in developing and applying exercise programs and/or physical activity for apparently healthy persons and persons with clinical conditions in community, corporate, commercial, or medically supervised exercise settings.

ENS 463. Principles and Techniques in Therapeutic Exercise (2)

Prerequisites: Exercise and Nutritional Sciences 365 and 389A.

Design and application of therapeutic exercise programs for athletic injuries.

ENS 463L. Principles and Techniques in Therapeutic Exercise Laboratory (1)

Three hours of laboratory.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 463.

ENS 465. Seminar in Organization and Administration in Athletic Training (3)

Prerequisite: Exercise and Nutritional Sciences 389A.

Professional issues in athletic training discipline, including topics in organization and administration.

ENS 466. Clinical Pathology of General Medical Conditions (3)

Clinical pathology associated with body systems, clinical recognition, management, and referral of non-orthopedic pathologies associated with physically active persons.

ENS 496. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See *Class Schedule* for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

ENS 499. Special Study (1-3)

Prerequisites: Consent of department chair. Limited to kinesiology majors. Major Code: 08351.

Individual study. Maximum credit six units.

**UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)**

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.

**GRADUATE COURSES
Refer to the *Graduate Bulletin*.**
