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# Exercise and Nutritional Sciences

In the College of Professional Studies and Fine Arts

**OFFICE: Exercise and Nutritional Sciences 351**  
**TELEPHONE: 619-594-5541**

Accredited by the Commission on Accreditation of Allied Health Education Programs for Athletic Training and Kinesiotherapy. Accredited by the California Commission on Teacher Credentialing for Physical Education.

## Faculty

Emeritus: Andrus, Barone, Benton, Broadbent, Carter, Cave, Cullen, Fox, Francis, P., Franz, Friedman, Grawunder, Gutowski, Kasch, King, Landis, McKenzie, T., Phillips, Quinn, Rushall, Schwob, Selder, Sleet, Smith, Sucec, Tollefsen, Wells, Wilhelm, Williamson, Ziegenfuss

Chair: Harris

Professors: Ainsworth, Aufmesser, Buono, Harris, Kolkhorst, LaMaster, Mechikoff, Moore, Nichols-Bernhard, Patterson, Simmons, Verity

Associate Professors: Kahan, Levy, Wiksten, Yaggie

Assistant Professors: Cipriani, Marshall

Lecturers: Barba, Fletcher, Thurman, Voigt

## Offered by the Department

Master of Arts degree in kinesiology.

Master of Science degree in exercise physiology.

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

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

Emphasis in athletic training.

Emphasis in fitness, nutrition, and health.

Emphasis in physical education.

Emphasis in prephysical therapy.

## The Major

Kinesiology is 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.

The degree name was changed to kinesiology to better reflect the diversity of subject matter and breadth of career opportunities available to today's students. Some of the typical fields open to kinesiology majors include:

**Athletic Training.** The athletic training emphasis is a CAAHEP accredited undergraduate athletic training program. The program leads students to a career in athletic training and eligibility to sit for the National Athletic Trainers' Association Board of Certification (BOC) certification examination. Certified athletic trainers are responsible for the prevention, management, and rehabilitation of athletic 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 phases of study, a preprofessional phase and a professional phase. The professional program requires application to the program and includes a clinical education component. Admission to the professional program is competitive and applicants must meet the technical standards for admission as outlined in the application packet. Students will not be able to declare major status in athletic training until they have been accepted into the professional program. Applications are accepted each spring for fall selection. Students interested in the athletic training program are encouraged to meet with the athletic training program director as soon as possible for timely progression in the program.

**Fitness, Nutrition, and Health.** Persons pursuing this 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 program exercises for apparently healthy persons in diverse fitness and health settings, and (2) pursue certifications that reflect knowledge of the scientific principles that govern leadership in exercise and health enhancement programs. Graduates work as fitness experts and managers in adult and corporate fitness programs of business, industry, public agencies, and schools. There are also career opportunities for employment in the business sector to include fitness clubs, cardiac rehabilitation, and human efficiency research.

**Physical Education.** The graduate in kinesiology may find employment in public and private schools, specializing at either the elementary or secondary level. Kinesiology majors teach activities and sports skills, health and fitness classes, and act as physical education resource specialists. Students may also prepare for careers in athletic coaching. Opportunities for both men and women exist at the interscholastic level as well as with community and commercial sports clubs.

**Prephysical Therapy.** Students in this emphasis may choose either (a) Rehabilitative Science or (b) Kinesiotherapy.

**Rehabilitative Science.** This specialization prepares students to meet the academic requirements necessary for entry to postgraduate education in 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.

**Kinesiotherapy.** This specialization is designed to prepare students to meet the academic requirements for national registration in kinesiotherapy. The kinesiotherapist is academically and clinically prepared to provide rehabilitative exercise and education, in an appropriate setting, under the prescription of a licensed physician. Kinesiotherapists are accountable to the referring physician for their actions and those of their subordinates. The academic and clinical basis of kinesiotherapy is founded on the modalities of exercise and education. Kinesiotherapists are qualified to implement exercise programs designed to reverse or minimize debilitation and to enhance the functional capacity of medically stable patients in wellness, sub-acute or extended care settings.

### Impacted Programs

The kinesiology major with emphases in athletic training; fitness, nutrition, and health; physical education; and prephysical therapy are impacted programs.

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

- Complete with a grade of C or higher: Exercise and Nutritional Sciences 210 and Biology 212. These courses cannot be taken for credit/no credit (Cr/NC);
- 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 210 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 2.50 or higher;
- For athletic training or kinesiotherapy majors, students must be accepted into the professional program.

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 Web site 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.

### 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 210 and Biology 212 must be completed with a grade of C or higher.

#### Emphasis in Athletic Training

**Preparation for the Major.** Exercise and Nutritional Sciences 104A or 104B, 210, 265, 265L, 289; Biology 201A, 212; Chemistry 200; Nutrition 202; Physics 180A; Psychology 101, 260; Sociology 101; and one of the following: Biology 215, Economics 201, Psychology 270, Sociology 201, Statistics 119. (37 units)

**Graduation Writing Assessment Requirement.** Passing the Writing Proficiency Assessment with a score of 10 or above or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See page 81 in "Graduation Requirements" section for a complete listing of requirements.

**Major.** Acceptance into the athletic training professional program is required for major status in the athletic training emphasis. Application to the program is competitive and limited in number. Applications are due April 1 each year. Those students interested in the athletic training program should contact the athletic training program director. A minimum of 55 upper division units to include Exercise and Nutritional Sciences 301, 302, 303, 304, 304L, 305, 306, 307, 365, 367, 367L, 368, 368L, 388 (1 unit), 389A, 389B, 389C, 389D, 401A, 401B, 461, 462, 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.

#### Emphasis in Fitness, Nutrition, and Health

**Preparation for the Major.** Exercise and Nutritional Sciences activities (2 units), Exercise and Nutritional Sciences 104A or 104B, 210, 265, 265L; Biology 100, 100L, 212; Chemistry 100; Nutrition 202; Psychology 101; Sociology 101; and three units selected from Biology 215, Economics 201, Psychology 270, Sociology 201, Statistics 119. (31 units)

**Graduation Writing Assessment Requirement.** Passing the Writing Proficiency Assessment with a score of 10 or above or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See page 81 in "Graduation Requirements" section for a complete listing of requirements.

**Major.** A minimum of 51 upper division units to include Exercise and Nutritional Sciences 301, 302, 303, 304, 304L, 305, 306, 307, 347A, 347B, 363, 388 (1 unit), 401A, 401B, 412, 431, 432, 432L, 433, 434; Biology 336; Nutrition 309, 311; Biology 336 will also satisfy three units of the General Education requirement (IV.A). Recommended: Students should take Sociology 355 to satisfy the General Education requirement (IV.B).

#### Emphasis in Physical Education

This program must be elected by students who wish to be a candidate for a single subject teaching credential at San Diego State University.

All requirements as outlined in this section and the sections titled Policy Studies in Language and Cross-Cultural Education or Teacher Education in this catalog must be completed.

This major may be used by students in policy studies or teacher education as an undergraduate major for the B.S. degree in applied arts and sciences.

**Preparation for the Major.** Exercise and Nutritional Sciences 210, 265, 265L; Biology 100; Biology 212; Psychology 101; Sociology 101; and one of the following: Biology 215, Economics 201, Psychology 270, Sociology 201, Statistics 119. (20 units)

**Graduation Writing Assessment Requirement.** Passing the Writing Proficiency Assessment with a score of 10 or above or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See page 81 in "Graduation Requirements" section for a complete listing of requirements.

**Major.** A minimum of 51 upper division units to include Exercise and Nutritional Sciences 301, 302, 303, 304, 304L, 305, 306, 307, 335, 341, 347A, 347B, 348, 351, 401A, 401B, 441A, 441B, 442A, 442B, 445, 446A, 446B; Biology 336. Biology 336 will also satisfy three units of the General Education requirement (IV.A.). Recommended: Students should take Sociology 355 to satisfy the General Education requirement (IV.B.).

#### Emphasis in Prephysical Therapy

Students interested in applying to postgraduate allied health programs are advised to follow (a) Rehabilitative Science, while those interested in kinesiotherapy should follow (b) Kinesiotherapy.

**Preparation for the Major.** Exercise and Nutritional Sciences 104A or 104B, 210, 265, 265L; Biology 201A, 212; Chemistry 200; Physics 180A, 182A; Psychology 101; Sociology 101; and one of the following: Biology 215, Economics 201, Psychology 270, Sociology 201, Statistics 119. (31 units)

**Graduation Writing Assessment Requirement.** Passing the Writing Proficiency Assessment with a score of 10 or above or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See page 81 in "Graduation Requirements" section for a complete listing of requirements.

**Major.** A minimum of 40 upper division units to include Exercise and Nutritional Sciences 301, 302, 303, 304, 304L, 305, 306, 307, 363, 365, 388 (1 unit), 401A, 401B, 460; Biology 336, 436, Psychology 350. Biology 336 will also satisfy three units of the General Education requirement (IV.A.). Recommended: Students should take Sociology 355 to satisfy the General Education requirement (IV.B.).

**(a) Rehabilitative Science**

**Additional Preparation for the Major.** Biology 210; Chemistry 201; Physics 180B, 182B. (13 units)

**Major.** No additional major upper division units required.

**(b) Kinesiotherapy**

**Additional Preparation for the Major.** Exercise and Nutritional Sciences 211, 288; Nutrition 202; Psychology 260. (8 units)

**Additional Major Courses.** Application to the kinesiotherapy professional program is required for major status in the kinesiotherapy specialization. Those interested in entering the kinesiotherapy specialization must apply to the kinesiotherapy professional program prior to achieving major status. Application to the program is competitive and limited in number. Applications are accepted every fall and spring semester. Those students interested in the kinesiotherapy professional program should contact the program director. Students in the kinesiotherapy professional program must complete these additional courses: Exercise and Nutritional Sciences 463, 463L, 477, 478, 487A, 487B, 487C, 487D, 487E, 487F.

**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.

"A" signifies a beginning class, "B" intermediate.

Dance activity courses: Ballroom Dance, Ethnic Dance, Ballet, Jazz Dance, Modern Dance. Refer to "Dance" in this section of the catalog.

**ENS 102. Conditioning (1) I, II**

**ENS 104A-104B. Weight Training (1-1) I, II**

**ENS 105. Individual Adaptives (1) I, II**

Prerequisite: Consent of instructor.

A health history record is required of each student.

Individual exercise programs for those who are handicapped in some respect, or who have functional defects or deficiencies amenable to improvement through exercise. May be repeated for credit.

**ENS 108A-108B. Basketball (1-1) I, II**

**ENS 109A-109B. Soccer (1-1) I, II**

**ENS 110A-110B. Volleyball (1-1) I, II**

**ENS 111A-111B. Softball (1-1) I, II**

**ENS 116A-116B. Golf (1-1) I, II**

**ENS 118A-118B. Tennis (1-1) I, II**

**ENS 119A-119B. Bowling (1-1) I, II**

**ENS 120A-120B. Badminton (1-1) I, II**

**ENS 123A-123B. Racquetball (1-1) I, II**

**ENS 124. Sailing (1)**

**ENS 130. Step Training (1) I, II**

**ENS 137A. Aerobic Dance (1) I, II**

**ENS 138. Selected Activities (1) I, II**

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

**ENS 139A. Beginning Rock Climbing (1) I, II**

Two hours of activity.

Rock climbing concepts and theories. Active participation using beginning techniques and training concepts.

**ENS 139B. Intermediate Rock Climbing (1) I, II**

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 141A-141B. Martial Arts (1-1) I, II**

Exercise and Nutritional Sciences 141A is prerequisite to 141B.

**ENS 145. Wakeboarding and Waterskiing (1) I, II**

**ENS 146. Surfing (1) I, II**

**ENS 147. Windsurfing and Kiteboarding (1) I, II**

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

**ENS 210. Introduction to Kinesiology (2) I, II**

(Selected sections offered as distance education.)

Overview of discipline of kinesiology. Development of a basic philosophy and background for entering profession.

**ENS 211. Introduction to Kinesiotherapy (1) I, II**

Prerequisites: Exercise and Nutritional Sciences 210 and Biology 212.

Introduction to kinesiotherapy including history, educational requirements, standards of practice, scope of practice and basic skills needed to enter kinesiotherapy.

**ENS 241A. Physical Education of Children—Theory (1) I, II**

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) I, II**

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. Techniques in Athletic Training (1) I, II**

Prerequisite: Credit or concurrent registration in Biology 212.

Athletic training techniques and emergency field care of athletic injuries. Theory and techniques of basic athletic first aid, emergency procedures including CPR, bandaging and taping.

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### ENS 265L. Techniques in Athletic Training Laboratory (1) I, II

Three hours of laboratory.  
Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 265.

### ENS 288. Preprofessional Practicum in Kinesiotherapy (1) I, II

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 211.

Basic kinesiotherapy principles and techniques in a variety of clinical settings.

### ENS 289. Pre-Professional Practicum in Athletic Training (1)

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 265 and 265L.

Basic athletic training principles and techniques; athletic training event coverage under direct supervision of a certified athletic trainer.

### 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) I, II

Prerequisite: Exercise and Nutritional Sciences 210.  
Principles of human growth; performance as affected by developmental levels and individual differences in structure and function.

### ENS 302. History and Philosophy: Physical Activity and Sport (3) I, II

Prerequisite: Exercise and Nutritional Sciences 210.  
Integrated approach to understanding of historical, philosophical, and sociological forces shaping development of physical activity and sport.

### ENS 303. Applied Kinesiology (3) I, II

Prerequisites: Grade of C or better in Biology 212 and Exercise and Nutritional Sciences 210 or Dance 181. **Proof of completion of prerequisites required:** Copy of transcript. Limited to kinesiology, exercise physiology, nutritional science and exercise physiology, foods and nutrition and dance majors. 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) I, II

Prerequisites: Grade of C or better in Exercise and Nutritional Sciences 210 or Nutrition 101, and Biology 336. **Proof of completion of prerequisites required:** Copy of transcript. Limited to kinesiology, exercise physiology, nutritional sciences and exercise physiology, and foods and nutrition majors. Major Codes: 08351, 08355, 08356, 13061.

Effects of physical activities on physiological functions of the body.

### ENS 304L. Exercise Physiology Laboratory (1) I, II

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. (Formerly numbered Exercise and Nutritional Sciences 314.)

### ENS 305. Measurement and Evaluation in Kinesiology (3) I, II

Prerequisites: Exercise and Nutritional Sciences 210 and one of the following: Biology 215, Economics 201, Psychology 270, Sociology 201, or Statistics 119. 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) I, II

(Selected sections offered as distance education.)

Prerequisite: Exercise and Nutritional Sciences 303. Limited to kinesiology majors (Major Code: 08351) and biology (emphasis in bioengineering) majors (Major Code: 04011).

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

### ENS 307. Motor Learning and Performance (3) I, II

Prerequisites: Exercise and Nutritional Sciences 210, Psychology 101, and one of the following: Biology 215, Economics 201, Psychology 270, Sociology 201, or Statistics 119. Limited to kinesiology majors (Major Code: 08351).

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

### ENS 320. Skin and Scuba Diving (2)

Prerequisites: Medical examination, waiver for hazardous procedures, pass swimming competency test. Concurrent registration in Exercise and Nutritional Sciences 320L.

Function and knowledge of underwater diving to include diving physiology, hyperbaric conditions, medical hazards, safety procedures associated with scuba diving, proper care and operation of equipment. Not open to students with credit in Exercise and Nutritional Sciences 323, 324, Biology 461, Oceanography 305, 306.

### ENS 320L. Skin and Scuba Diving Laboratory (1)

Three hours of laboratory.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 320.

### ENS 323. Advanced Scuba Diving (2)

Prerequisites: Exercise and Nutritional Sciences 320 or Openwater Scuba Certification, medical examination, and acceptable openwater diving equipment. Concurrent registration in Exercise and Nutritional Sciences 323L.

Theory, skills, and technique including underwater navigation, diving physics, diving physiology, diving medicine, diving safety. Qualifies for Advanced Diving Certificate from the National Association of Underwater Instructors. Not open to students with credit in Exercise and Nutritional Sciences 324, Biology 461, Oceanography 306.

### ENS 323L. Advanced Scuba Diving Laboratory (1)

Three hours of laboratory.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 323.

### ENS 324. Assistant Scuba Instructor (2)

Prerequisites: Exercise and Nutritional Sciences 323 or Oceanography 306, Master Diver Certification, medical examination, and acceptable openwater diving equipment. Concurrent registration in Exercise and Nutritional Sciences 324L.

Qualifies for Assistant Scuba Instructor Certificate from the National Association of Underwater Instructors.

### ENS 324L. Assistant Scuba Instructor Laboratory (1)

Three hours of laboratory.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 324.

### ENS 330. Exercise and Wellness Across the Lifespan (3) [GE] I, II

Prerequisite: Completion of the General Education requirement in Foundations 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 335. Basic Movement Skills (2) I, II**

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 303. Limited to kinesiology and liberal studies majors. Major Codes: 08351 and 49015.

Terminology, performance, and analysis of elementary-level movement skill themes and concepts, educational gymnastics, rhythms, and dance.

**ENS 341. Skill Competency in Physical Education (2) Cr/NC I, II**

Four hours of activity.

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 303.

Demonstrated skill and knowledge competencies in badminton, basketball, outdoor experience, physical fitness, self-defense, soccer, softball, swimming, tennis, volleyball, and one of the following: archery, dance, golf, gymnastics, football, racquetball and wrestling.

**ENS 347A. Leadership for Kinesiology (2) I, II**

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 347B. Limited to kinesiology and liberal studies majors. Major Codes: 08351 and 49015.

Theory and development of leadership behavior of physical educators, emphasizing leadership qualities unique to diverse physical activity settings.

**ENS 347B. Leadership for Kinesiology Activity (1) I, II**

Two hours of activity.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 347A.

**ENS 348. Special Physical Education (3) I, II**

Prerequisite: Kinesiology or liberal studies upper division major status required.

Etiologies, characteristics, education programs, and activities for individuals with non-physical disabilities (e.g. mentally retarded, learning disabled, etc.).

**ENS 350. Sport in Antiquity (3) I, II**

Prerequisite: Upper division standing.

Athletics in ancient Greece and Rome. Role and scope of sporting competitions in ancient Greek and Roman cultures, and their influence on modern athletics.

**ENS 351. Basic Coaching Theory (2) I**

(Selected sections offered as distance education.)

Prerequisites: Exercise and Nutritional Sciences 210, 265 and 265L.

Basic principles of coaching and conditioning for various sports. Defining actual physical and mental demands of a competitive activity. Coaching decisions concerning design of physical training programs for high school and club programs.

**ENS 363. Corrective Physical Education (3) I, II**

Prerequisites: Exercise and Nutritional Sciences 303 and 304.

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) I, II**

Prerequisites: Biology 201A; Exercise and Nutritional Sciences 265, 265L, 303, credit or concurrent registration in Exercise and Nutritional Sciences 306.

Pathomechanics and pathophysiology of soft tissue and bone injury as it relates to the identification and management of sport related injuries.

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

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. (Not open to students with credit in Exercise and Nutritional Sciences 366.)

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

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. (Not open to students with credit in Exercise and Nutritional Sciences 366L.)

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

Prerequisites: Exercise and Nutritional Sciences 367 and 367L.

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. (Not open to students with credit in Exercise and Nutritional Sciences 366.)

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

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. (Not open to students with credit in Exercise and Nutritional Sciences 366L.)

**ENS 388. Adapted Physical Education Laboratory (1-4) I, II**

Three hours of laboratory per unit.

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 348 or 363 or 367 and 367L; consent of instructor.

Supervised clinical experience working in the adapted physical education laboratory setting on campus with individuals with disabilities. Maximum credit four units.

**ENS 389A-389B-389C-389D-389E-389F. Practicum in Athletic Training (1-1-1-1-1) I (389A, 389C, 389E), II (389B, 389D, 389F)**

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

389E, 389F: Three hours of laboratory.

Prerequisites: 389A: Grade of B or better in Biology 212, Exercise and Nutritional Sciences 265, 265L, 289, application, letters of recommendation, and interview.

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

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

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

389E: Grade of B or better in Exercise and Nutritional Sciences 389D.

389F: Grade of B or better in Exercise and Nutritional Sciences 389E.

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) (Offered only in Extension)**

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 398. Supervised Field Experience (1-3) Cr/NC I, II**

Prerequisite: Consent of department chair. Limited to kinesiology and liberal studies majors. Major Codes: 08351 and 49015.

Supervised practical experience in the area of kinesiology. Maximum credit six units.

### **ENS 401A. Musculo-Skeletal Fitness (1) I, II**

Prerequisites: Exercise and Nutritional Sciences 104A or 104B or 341; Exercise and Nutritional Sciences 304, 304L, 306. Concurrent registration in Exercise and Nutritional Sciences 401B.

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) I, II**

Two hours of activity.

Prerequisites: Concurrent registration in Exercise and Nutritional Sciences 401A.

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

### **ENS 412. Leading Group Aerobic Exercise (1) I, II**

Two hours of activity.

Prerequisites: Exercise and Nutritional Sciences 303, 304, 304L.

Teaching group aerobic exercise including aerobic dance, step training, circuit training, and interval training. Students design and lead aerobic, strength, and flexibility segments of a group of aerobic exercise class.

### **ENS 431. Administration of Exercise and Fitness Program (2) I, II**

Prerequisites: Exercise and Nutritional Sciences 303, 304, 304L.

Administration and management of corporate, private, university-based, and hospital-based exercise programs.

### **ENS 432. Exercise, Fitness, and Health (2) I, II**

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) I, II**

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) I, II**

Prerequisites: Exercise and Nutritional Sciences 301 and 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 Health Behavior (3)**

Prerequisites: Exercise and Nutritional Sciences 347A and 347B.

Theoretical approaches and personal, client, and population strategies for developing and maintaining health-related physical activity and associated behaviors.

### **ENS 441. Practicum: Physical Education Activities (2) I, II**

Four hours of activity.

Prerequisites: Exercise and Nutritional Sciences 306, 347A, 347B.

Selection and care of equipment and facilities; analysis of skill; progression for skills, drills and the game; lead-up activities; safety; performance cues; terminologies; skill evaluations; tactics and strategies.

A. Sport Applications I

B. Sport Applications II

### **ENS 442A. Physical Education for Elementary Schools (2) I, II**

Prerequisites: Exercise and Nutritional Sciences 335, 347A and 347B.

Objectives, curricula, activities, and application of basic scientific principles for the conduct of physical education in elementary schools.

### **ENS 442B. Physical Education for Elementary Schools Activity (1) I, II**

Two hours of activity.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 442A.

### **ENS 445. Current Issues in Physical Education (2) I, II**

Prerequisite: Exercise and Nutritional Sciences 441A.

Current issues relevant to physical education. Includes assessment, liability, curriculum standards, appropriate physical activity levels, and safety.

### **ENS 446A. Physical Education with Adolescents (2)**

Prerequisites: Exercise and Nutritional Sciences 441A, 441B, 442A, 442B.

Basic requirements, principles, and concepts for conducting physical education with adolescents.

### **ENS 446B. Physical Education with Adolescents (1)**

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 446A.

Application of basic requirements, principles, and concepts for conducting physical education with adolescents.

### **ENS 460. Professional Issues (1) Cr/NC I, II**

Prerequisite: Senior standing in prephysical therapy specialization.

Current issues relevant for one preparing to enter an allied health profession.

### **ENS 461. Sport and Exercise Psychology (3)**

Prerequisite: Exercise and Nutritional Sciences 307.

Psychological factors underlying behavior in sport and physical activity. Emphasis on personality and motivational factors.

### **ENS 462. Therapeutic Modalities for Sports Injuries (3) I**

Prerequisites: Grade of B or better in Exercise and Nutritional Sciences 365 and 389A.

Theories and techniques for the design, implementation, evaluation, and application of rehabilitation modalities.

### **ENS 463. Principles and Techniques in Therapeutic Exercise (2) I, II**

Prerequisites: Grade of B or better in Exercise and Nutritional Sciences 365. For athletic training students, a grade of B or better in Exercise and Nutritional Sciences 389A. For kinesiotherapy students, credit or concurrent registration in Exercise and Nutritional Sciences 487A.

Design and application of therapeutic exercise programs for athletic injuries.

### **ENS 463L. Principles and Techniques in Therapeutic Exercise Laboratory (1) I, II**

Three hours of laboratory.

Prerequisite: Concurrent registration in Exercise and Nutritional Sciences 463.

### **ENS 465. Seminar in Athletic Training (2)**

Prerequisites: Grade of B or better in Exercise and Nutritional Sciences 365 and 389C.

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

### **ENS 466. Clinical Pathology for Athletic Trainers (3) II**

Prerequisites: Grade of B or better in Exercise and Nutritional Sciences 365 and 389C.

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

### **ENS 477. Therapeutic Practices of Kinesiotherapy (3)**

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 487A.

Foundations of physical disability and description of pathological processes often treated in kinesiotherapy.

**ENS 478. Organization and Administration of Kinesiotherapy (2)**

Prerequisite: Credit or concurrent registration in Exercise and Nutritional Sciences 487A.

Principles and practices of administration in kinesiotherapy.

**ENS 487A. Kinesiotherapy Internship — Neurological (1) I, II**

Prerequisites: Acceptance in the kinesiotherapy professional program and completion of competency checklist.

Clinical experience in medically supervised exercise programs for individuals with neuromuscular disorders.

**ENS 487B. Kinesiotherapy Internship — Geriatric/Extended Care (1)**

Prerequisites: Acceptance in the kinesiotherapy professional program and completion of competency checklist.

Clinical experience in extended care facilities, for geriatric population of severely physically disabled populations.

**ENS 487C. Kinesiotherapy Internship — Fitness and Wellness (1)**

Prerequisites: Acceptance in the kinesiotherapy professional program and completion of competency checklist.

Clinical experience in physical fitness facilities.

**ENS 487D. Kinesiotherapy Internship — Psychiatric (1)**

Prerequisites: Psychology 350; acceptance in the kinesiotherapy professional program and completion of competency checklist.

Clinical experience in psychiatric care facilities.

**ENS 487E. Kinesiotherapy Internship — Cardiac Rehabilitation (1)**

Prerequisites: Acceptance in the kinesiotherapy professional program and completion of competency checklist.

Clinical experience in medically supervised exercise programs for the rehabilitation of cardiopulmonary diseases.

**ENS 487F. Kinesiotherapy Internship — Orthopedic (1)**

Prerequisites: Exercise and Nutritional Sciences 487A and credit or concurrent registration in Exercise and Nutritional Sciences 477, 478.

Clinical experience in medically supervised exercise programs for individuals with orthopedic disorders.

**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) I, II**

Prerequisite: 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) I, II**

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 or master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

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

