

Kinesiology

Kinesiology is a term which implies broad and inclusive study of human movement: art, science, historical evolution, roles in society, and impact upon personal lives and well-being. The academic discipline of kinesiology includes exercise physiology, biomechanics, athletic training, pedagogy and teaching, motor learning and control, sports psychology, sport sociology, sports philosophy, dance education, fitness and wellness, and coaching. Within the Department of Kinesiology at California State University, Fresno, there are four areas of curricular focus: pedagogy and teaching, exercise science, athletic training, and general kinesiology.

The **Physical Education Option** has a curricular emphasis in pedagogy designed for students with professional goals in teaching and coaching. Completion of this option fulfills the requirements for the Single Subject Matter Competency Program, which provides access to teaching credential programs and teaching careers in grades K-12.

The **Exercise Science Option** is focused upon applications of exercise, fitness, and wellness in clinical, preventive, rehabilitative, athletic performance, industrial, and laboratory settings. The option provides a broad and comprehensive background in the physical, biological, and technical sciences, and prepares the student for professional applications or advanced degree work and research in exercise science. Marketability and advancement within these professions can be enhanced by additional certification through such organizations as the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA). Individual faculty and specific coursework can help students prepare for these certifications.

The **Athletic Training Education Program Option** is designed for students with professional goals in athletic training who are seeking certification by the NATA-JRC. This is an accredited program by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), which is a division of the American Medical Association (AMA). The program has high academic and performance standards, which include 1,200 to 1,500 hours of field experience in a two-year program. The clinical experience may be completed on campus where service is provided for all 19 intercollegiate sports, or in an affiliated off-campus setting. Students interested in this program must consult an athletic training adviser. The Athletic Training Educa-



tion Program Option is on impacted status (the number of applications received is greater than the number of vacancies). Therefore, admission to the option is very competitive; there is no waiting list. Only the most qualified applicants will be admitted. Applicants must reapply each time and compete with the entire applicant pool if not selected. All applicants must comply with the technical standards in athletic training for admission and retention in the program.

Note: California residents are given preference over out-of-state and international students as long as the option is on impacted status.

The **General Option** is designed for students interested in areas not served by the other three options in kinesiology. The General Option is not designed to prepare students for credential or certification programs. Rather, General Option students may find employment in a variety of health and business-related fields such as personal training, corporate fitness, medical equipment sales, or public safety.

A bachelor's degree in any of the four undergraduate options will effectively prepare students for graduate work within that specific area.

The **Master of Arts** degree program is designed to provide advanced study to extend competence in the areas of science, pedagogy, administration, and research techniques. The curriculum has the flexibility to promote professional applications, facilitate career advancement, or provide preparation for doctoral study. Class size and format

College of Health
and Human Services

Department of Kinesiology

Catherine G.R. Jackson, *Chair*

Rosa Rodriguez, *Department
Administrative Assistant*

South Gym, Room 111

(559) 278-2016

<http://www.csufresno.edu/kines/programs/>

B.S. in Kinesiology

Options:

- Athletic Training
- Exercise Science
- General Kinesiology
- Physical Education

M.A. in Kinesiology

Professional Studies

Option: Exercise Science

Coaching Minor

Single Subject Teaching Credential in Physical Education

promote experiential learning and quality interactions among students and faculty.

Activity Classes

A broad variety of activity classes is offered for students interested in physical activity and kinesthetic learning. The program objective is to develop knowledge, skills, and fitness through practical experience in movement and exercise. Activity courses are offered in aquatics, recreational dance, individual activities and team sports. Unique experiences are provided in areas such as bicycling, fencing, martial arts, yoga, and massage. These courses are open to students across the entire spectrum of physical abilities.

Facilities

The facilities for these programs include two gymnasiums, six racquetball/handball courts, a large matted area, two dance studios, a gymnastics apparatus area, a strength-training area, an all-weather track, multi-purpose fields for softball, flag football, soccer, ultimate frisbee, and golf, an archery range, a swimming pool, a human performance lab, and an athletic training room.

Faculty

Catherine G.R. Jackson, *Chair*

Undergraduate Adviser: Consult department chair.

Kenneth R. Aldrich,

Graduate Coordinator

Timothy R. Anderson, *Coordinator of Exercise Science Option*

Rebecca Cheema, *Coordinator and Curriculum Director of Athletic Training Option*

Thomas C. Minniear, *Coordinator of Physical Education Option and Credential Adviser*

Kenneth A. Aldrich

Wade Gilbert

Tim R. Anderson

Catherine

O. Duane Ballard Jr.

G.R. Jackson

Virginia F. Chadwick

Thomas C.

Rebecca Cheema

Minniear

Michael G. Coles

Jacobo O. Morales

Jenelle N. Gilbert

Bachelor of Science

Degree Requirements

Kinesiology Major

Units

Major requirements..... 68-76

(See option requirements.)

Core Program (13)

(required of all options)

KINES 20, 30, 104, 109, 113

Options (select one) (56-63)

Athletic Training

Option (62)

KINES 38, 43, 118, 136, 137, 138, 139, 140, 141, 142 (4 units), 143 (8 units), 165; HS 48, 90, 110; NUTR 147; PHYAN 64, 65; PHTH 105, 119

Exercise Science

Option (61-63)

KINES 38, 159 (or HS 92 or MATH 11), 116, 118, 163, 165, 167; BIOSC 1A; CHEM 1A or 3A, 3B or 8; NUTR 147; PHYAN 64, 65; PHYS 2A

Select two from:

KAC 21, 24, 31, 39, 40, 42, 103

Select 12 units from:

KINES 137, 138, 139, 140, 148, 199; NUTR 162T, HS 48, 110, 111; PSYCH 177; ACCT 3, MGT 104, 106; BIOSC 1B, 140A, 140B; MICRO

20; PHYAN 130, 140, 151, 158, 163, 165, 172; CHEM 1B, 125, 128A, 128B, 150; PHYS 2B; CSCI 1, 10, 101; MATH 70; PHTH 119; IE 95; any one of COMM 3, 103, 116, or 170

General Kinesiology

Option (56-63)

HS 48 (or equivalent); NUTR 53 or 147 or KINES 180T (Exercise Nutrition and Body Composition); PHYAN 33 or 64/65; KINES 116 or 137; KINES 118; KINES 144 or 190 or 199

Select no less than 6 or more than 9 units from each of the following:

•KINES 38, 134, 138, 139, 148, 157, 163, 165
•KINES 32, 100, 124, 125A, 125B, 125C, 125D, 126, 128, 130, 132

•KINES 111, 120, 122, 136, 140, 141, 152, 153, 159, 167

Select three KAC courses*
Complete approved elective units. (See general option adviser.)

Physical Education

Option (55-58)

KAC 31; KINES 100, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 144, 152, 153, 157, 159; PHYAN 33; NUTR 53 or 54 or 147; HS 48 (or equivalent)

Select one from:

KAC 40, 41, 51

Select one from:

KAC 24, 60, approved 80T; DANCE 117A, 155A, 158A; CLS 107

Select one from:

KAC 17, 19, 20, 22, 27, 30, 46, 54

General Education requirements..... 51

Electives 1-15**

Total 124-128***

* KINES 32 requires concurrent enrollment in one of the following: KAC 6, 21, 24, 31, 33, 39, or 103. If KAC 6, 21, 24, 31, 33, 39, or 103 is selected with KINES 32, KINES 32 may not be used for KAC requirement.

** This total indicates that a maximum of 12 units in General Education also may be applied to the kinesiology major as follows: COMM 3 in GE A1; CSCI 1 in G.E. Foundation A3; 3 units of CHEM 1A or 3A or PHYS 2A in G.E. Breadth B1; 3 units of BIOSC 1A in G.E. Breadth B2; and HS 90 or IE 95 or NUTR 53 in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details.

*** The General Kinesiology and Physical Education options require 124 units; the Athletic Training and Exercise Science options require 128 units.

Advising Notes

1. With the assistance of the department adviser, students may choose a sequence of courses that will prepare them for working with specific age groups or special populations, coaching, athletic training, teaching physical education, and professional applications in the exercise sciences and fitness-related industries.
2. Students majoring in kinesiology may count a maximum of 12 units of activity courses (ATHL, KAC, DANCE) toward the 128 units required for a bachelor's degree. Repeat credit towards the kinesiology major is not allowed in any of these activity courses.
3. *CR/NC* grading is not permitted in courses for the kinesiology major, except in those courses which are designated *CR/NC* grading only.
4. General Education and elective units may be used toward a minor (see *departmental minors*) or supplemental credential. Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Completion of the Bachelor of Science degree with the physical education option meets the requirements of the Single Subject Matter Competency Program.
6. Students interested in the athletic training option should consult the department regarding criteria for selection into this program.
7. A grade of *C* or higher in all required coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of *C* or better before registration in the subsequent course.
8. Lower-division courses taken at other institutions may be accepted as being equivalent to lower-division requirements in the department. Petitions to have courses accepted should be completed during the first semester in the major.

9. No General Education Multicultural/International course offered by the Kinesiology Department may be used to satisfy the General Education requirements for majors in the department.

Physical Education Teaching Credential Requirements

Single Subject Credential in Physical Education

B.S. degree with option in physical education	128
Professional preparation courses	37
Total	165

Advising Notes

1. Students interested in obtaining a teaching credential are strongly advised to confer with the department's credential adviser at the beginning of their junior year.
2. Students must apply and be admitted to the School of Education and Human Development to begin education requirements. For prerequisites and other admission requirements, see the *Single Subject Credential Program* as listed under the Curriculum, Teaching, and Educational Technology Department.
3. The required courses, or their approved equivalents, in the B.S. degree and credential programs must be completed by all single subject credential candidates.
4. Verification that the subject matter competency process has been completed and a recommendation for admission into the professional preparation program are the responsibility of the department credential adviser. These may be granted only after the prescribed B.S. degree waiver program has been completed.

Coaching Minor Requirements

	<i>Units</i>
KINES 20 and 134; KINES 38, 116 or 118, and 162; NUTR 147 or KINES 180T (Exercise Nutrition and Body Composition)	15
KINES 125A, or 125B, or 125C, or 125D	3
KAC 31 and KINES 124; or KINES 126, or 130, or 132	3
Coaching Internship (KINES 199) approved by dept. chair	2
Total	23

Note: The Coaching Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Supplementary Authorization in Physical Education

(Formerly Physical Education Minor) — see Kinesiology Department's credential adviser.

Advising Notes

1. Students must consult with an adviser.
2. Advanced First Aid and CPR must be current at the time of graduation.

Master of Arts Degree Requirements

The Department of Kinesiology offers advanced study designed to enhance professional competencies in pedagogy (professional studies), administration in sport and physical education (emphasis in Sport Administration), and exercise science (Exercise Science Option). Students may also plan a curricular specialization in sport psychology. These offerings prepare students for more advanced degrees, applied research, and/or careers in clinical settings, teaching, administration, coaching, or school or professional sport management.

Specific requirements. The Master of Arts degree requires 30 units of advanced coursework, of which there is a common core of 9 units. Dependent on the option, 9-18 units are selected from specified courses, and 3-12 units of electives are chosen. The culminating experience may be a thesis, a project, or a comprehensive exam in professional studies; for the Exercise Science Option, the thesis or comprehensive exam plus internship may be selected.

Students who wish to pursue an emphasis in sport administration or a specialization in sport psychology should see the graduate coordinator in the Department of Kinesiology.

Under the direction of a graduate adviser, each student designs a coherent program within the following framework:

M.A. in Kinesiology (Professional Studies)	<i>Units</i>
Core	9
KINES 230, 231, and 261	
Required coursework	9
Select three from: KINES 223, 240, 241, 242, 244, 260, 262, 263, and 285	
Electives	12
Any additional KINES 200-level courses or approved outside area courses	

Culminating experience	0-6
KINES 299, 298, or comprehensive exam	
Total	30

Exercise Science Option *Units*

Core	9
KINES 230, 231, and 261	

Required coursework

With advisement, select from: KINES 222, 223, 233, 234, 236, 237, 238, and 285

Electives

Any KINES 200-level course or approved outside area course

Culminating experience	0-6
KINES 299 or comprehensive exam plus internship	
Total	30

Advising Notes

1. The Master of Arts degree program in Kinesiology assumes undergraduate preparation equivalent to a California State University, Fresno major in kinesiology. Students may be required to take 12-15 prerequisite units.
2. All students must pass a written qualifying exam before advancement to candidacy. The university graduate-level writing skills requirement is met by successful completion of this step.
3. See also the general graduate requirements listed under the *Division of Graduate Studies*.

COURSES

Note: Activity courses may be repeated for credit. Students may apply a maximum of eight units for the total degree requirements.

Aquatics (KAC)

4. Swimming for Beginners (1)
An introduction to aquatic safety, swim lore, self rescue, and the following strokes: freestyle, back crawl, breast stroke, butterfly, and side stroke. (Formerly PE AC 4)

6. Water Aerobics (1)
Water exercises which will be the vehicle to develop improved physical fitness or a therapeutic role with pool activities ranging from walking and jogging to resistance activities and hydrotherapy. (Formerly PE AC 6)

101. Advanced Lifesaving (2)
Prerequisite: 500-yard swim in 10 minutes or less. (Formerly PE AC 101)

103. Swim for Fitness (1)

Prerequisite: intermediate swim ability. Development of aerobic, cardiovascular fitness through swimming. Exposure to various swim programs and practice of a variety of swimming strokes. (Formerly PE AC 103)

Recreational Dance (KAC)

12. Elementary Social Dance (1)

An introduction to a variety of dances. Includes the basic step and variations for the cha-cha, waltz, fox trot, swing, tango, and rumba. (Formerly PE AC 12)

14. Country Western (1)

Introduction to a variety of country western line, contra, circle, and partner dances. (Formerly PE AC 14)

112. Intermediate Social Dance (1)

Prerequisite: KAC 12 or equivalent. Refinement and added variations of dances learned in Elementary Social Dance as well as additional dances. (Formerly PE AC 112)

Individual Activities (KAC)

15. Basic Massage (1)

Fundamental massage techniques; types of massage and their usage; physiological and psychological effects of massage, classical Swedish massage strokes and their sequence. (Formerly PE AC 15)

16. Adapted Physical Activity (1)

Individually designed activity for disabled students. (Formerly PE AC 16)

17. Elementary Archery (1)

Instruction in archery skills, including care and construction of tackle. Emphasis on fundamental skills and shooting form. (Formerly PE AC 17)

18. Backpacking (2)

Limited to novice backpackers. (Estimated cost to student approximately \$50 for supplies, transportation.) (Formerly PE AC 18)

19. Elementary Badminton (1)

Instruction in basic skills and techniques of badminton for singles, doubles, and mixed doubles play. Emphasis on basic skill development, rules, and strategy. (Formerly PE AC 19)

20. Elementary Bicycling (2)

Introduction to bicycling as a lifetime sport. Bicycle selection, care, and maintenance. Traffic laws and bicycle safety. Student must provide own 10-speed bicycle. Two all-day rides on Saturday. Medical clearance required. (Approximate course fee, \$16) (Formerly PE AC 20)

21. Elementary Strength Training (1)

Basic knowledge and concepts of use of resistive exercises to increase muscular strength and endurance. The course stresses the physiological considerations of weight training, selecting exercises for basic programs, charting workouts, nutritional considerations, and the safety of weight training. (Formerly PE AC 21)

22. Elementary Bowling (1)

An introductory course which stresses fundamentals of the stance, approach and delivery, scoring, bowling terminology, etiquette, and league play. (Approximate course fee, \$25) (Formerly PE AC 22)

24. Elementary Conditioning Exercises and Aerobics (1)

A variety of floor and step activities to develop and improve strength, flexibility, and cardiovascular endurance. (Formerly PE AC 24)

27. Elementary Fencing (1)

Instruction in the on-guard position, footwork, basic defensive and offensive skills, and judging a foil fencing bout. Emphasis on foil fencing. (Formerly PE AC 27)

30. Elementary Golf (1)

Beginning instruction on the techniques for putting, chipping, pitching, iron, and wood shots. Also includes rules and etiquette for golf. (Formerly PE AC 30)

31. Elementary Gymnastics (1)

Basic skills for balancing, stunts, tumbling, trampolining and apparatus work. (Formerly PE AC 31)

33. Fitness Walking (1)

Designed to improve physical and emotional health through walking for pre-set duration and intensity. Includes benefits, walking technique, weight loss plan, and pre- and post-fitness levels. (Formerly PE AC 33)

39. Jogging (1)

Instruction in the basic principles of fitness as they apply to a jogging program. Emphasis on learning how to train/workout, cardiorespiratory endurance, and proper walking/jogging techniques and flexibility. (Formerly PE AC 39)

40. Elementary Karate (1)

Japanese style of Shotokan Karate. (Formerly PE AC 40)

41. Judo (1)

Basic instruction in techniques for throwing, grappling skills, and limited self-defense. Students should achieve technical level of yellow belt. (Formerly PE AC 41)

42. Physical Training (2)

Unique overall fitness program emphasizing strength and endurance training. Designed to tone muscles, promote weight loss and increase stamina. Course is tailored to individual student needs. Program includes running, weight lifting, aerobics, stadium stair runs, sprints, push ups, and sit ups. (Formerly PE AC 42)

43. Taekwondo (1)

Korean martial art and Olympic event; emphasizes self-control, balance and coordination, flexibility, speed, self-defense, and Olympic-style sparring. (Formerly KAC 80T)

44. Kendo (1)

The art of Japanese fencing; emphasizes self-discipline, physical training, competition, and swordsmanship. (Formerly KAC 80T)

46. Elementary Racquetball (1)

Introduction to rules, etiquette, basic strategy, and a variety of shots, including the forehand and backhand drive, lob, pinch, kill, and back-wall. Also includes a variety of serves. (Formerly PE AC 46)

51. Self-defense for Women (1)

Instruction in the basics of personal defense and safety. Emphasis will be on awareness and prevention as well as techniques for dealing with an assailant. (Formerly PE AC 51)

54. Elementary Tennis (1)

Designed for players with little or no experience or for players with experience who want to review the basics. Topics to be covered include: tennis terminology, stroke fundamentals, game rules, basic positioning for singles and doubles play, footwork, and tennis etiquette. (Formerly PE AC 54)

60. Yoga (1)

Instruction and practice in the basics of Hatha Yoga. Includes beginning breathing patterns, relaxation techniques, physical postures, and concentration exercises. (Formerly PE AC 60)

117. Intermediate Archery (1)

Prerequisite: KAC 17 or equivalent. Refinements of basic shooting skills and shooting events at intermediate skill level. (Formerly PE AC 117)

119. Intermediate Badminton (1)

Prerequisite: KAC 19 or equivalent. Review of beginning level skills and introduction of intermediate level skills and strategies. Emphasis on technique and execution of skills. (Formerly PE AC 119A)

120. Cycling for Fitness (2)

Prerequisite: KAC 20 or equivalent. (Approximate course fee, \$16) (Formerly PE AC 120)

121. Intermediate Strength Training (2)

Prerequisite: KAC 21 or equivalent. Information and experience in intermediate strength training techniques for strength, power, muscular endurance, symmetry, and muscular hypertrophy (increase in size). (Formerly PE AC 121)

122. Intermediate Bowling (1)

Prerequisite: KAC 22 or equivalent, an average score of 130 or more, or permission of instructor. Refinement of bowling skills. Group and individualized instruction along with concentrated practice. (Formerly PE AC 122)

124. Intermediate Conditioning Exercises and Aerobics (1)

Prerequisite: KAC 24 or equivalent. Vigorous exercises for weight control, physical fitness, and total well-being. Designed for students with intermediate levels of fitness. (Formerly PE AC 124)

127. Intermediate Fencing (1)

Prerequisite: KAC 27 or equivalent. (Formerly PE AC 127)

130. Intermediate Golf (2)

Prerequisite: KAC 30 or equivalent. (Approximate course fee, \$50) (Formerly PE AC 130)

140. Intermediate Karate (1)

Prerequisite: KAC 40 or equivalent. Japanese style of Shotokan Karate. (Formerly PE AC 140)

146. Intermediate Racquetball (1)

Prerequisite: KAC 46 or equivalent. Review of beginning racquetball skills and knowledge; practice at intermediate skill level leading to club or tournament play. (Formerly PE AC 146)

154. Intermediate Tennis (1)

Prerequisite: KAC 54 or equivalent. Review of beginning level skills and introduction of intermediate level tennis strokes and strategy. (Formerly PE AC 154A)

156. Triathlon (2)

Prerequisite: permission of instructor. Practice and development of swimming, cycling, and running skills to enhance performance in triathlon events. (Formerly PE AC 156)

Team Activities (KAC)**65. Basketball (1)**

Participation-based course emphasizing basketball fundamentals such as passing, dribbling, and shooting, as well as basic fast

break and offensive and defensive principles. (Formerly PE AC 65)

68. Soccer (1)

Instruction and practice in the basic fundamentals of soccer. Includes game rules, terminology, participation and competition drills, fundamental soccer skills, conditioning, principles of play, and appropriate sportsmanship. (Formerly PE AC 68)

71. Elementary Volleyball (1)

Instruction and practice in basic fundamentals of volleyball. Includes setting, serving, passing, blocking, rules and strategies, and practical applications of knowledge in game situations. (Formerly PE AC 71)

73. Softball (1)

Instruction and practice in playing skills, strategies, and rules of softball. Includes individual skill, offensive and defensive skills and concepts, modified game activities, and competitive opportunities. (Formerly PE AC 73)

80T. Topics in Kinesiology (1-2; max total 8 if no topic repeated)

Participation in and investigation of selected physical activities not in current curriculum. (Formerly PE AC 80T)

171. Intermediate Volleyball (1)

Prerequisite: KAC 71 or equivalent. Review of basic skills and introduction of intermediate level skills and strategies. (Formerly PE AC 171A)

Kinesiology (KINES)**20. Fitness Development (1)**

Fundamental and basic principles of development of physical fitness; integration of theory and practice. Physical performance and written requirements included. Prerequisite for many other kinesiology courses. (2 lab hours)

30. Introduction to Kinesiology: Historical and Professional Foundations (3)

Introduction to the professional foundations of kinesiology: physical education, exercise science, and sports medicine. Includes history, philosophy, concepts, programs, qualifications, careers, issues, and future of the discipline. (Formerly PE 30)

31. Concepts of Human Movement (3)

Experiencing and studying concepts in selected aspects of human motor performance. Topics include fundamental movements, mechanical principles, perceptual theory, cultural effects, physiological factors, and learning theory as they affect human movement. (2 lecture, 2 lab hours) (Formerly PE 31)

32. Lifetime Fitness and Wellness (2)

Healthy lifestyle patterns, exercise, nutrition, and physiological hygiene. Prevention of chronic diseases. Long-term behavior modification. Includes physiological measurements, nutritional analysis, and principle of exercise. Requires concurrent enrollment in one of the following: KAC 6, 21, 24, 31, 33, 39, or 103. G.E. Breadth E1.

38. Introduction to Athletic Training (3)

Designed for prospective coaches, athletic trainers, and health and physical educators. Aids in the recognition, evaluation, and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries. (2 lecture, 2 lab hours) (Formerly PE 106A)

43. Preliminary Athletic Training Laboratory (1; max total 2)

Prerequisite: HS 48, KINES 20, KINES 38. Designed for prospective student athletic trainers. Practical clinical experience (200 hours per semester verified by on-site supervisor) at high schools sports medicine clinics and junior colleges, under supervision of an N.A.T.A. certified athletic trainer. *CR/NC* grading only. (Formerly KINES 75T section)

75T. Topics in Kinesiology (1-3; max total 8)

Introductory topics in kinesiology not available through current curricula offerings.

100. Fundamental Skills and Concepts (2)

Prerequisites: KINES 20 (may be taken concurrently). Study and analysis of fundamental skills and movement patterns with applications in selected activities. Skills required for physical education major classes will be analyzed, evaluated, and practiced to improve performance level. (1 lecture, 2 lab hours)

104. Information Systems and Technology in Kinesiology (3)

Prerequisite: KINES 20. Introduction to computers with an emphasis on document production, choosing and using appropriate software, and accessing CD-ROM-based and on-line kinesiology databases. Contemporary computer hardware and software applications for the kinesiologist. (2 lecture, 2 lab hours)

109. Motor Learning (3)

Prerequisite: KINES 20. Principles of motor learning. The study of various theories. Application of theories and findings in presentations and planning of movement activities. (2 lecture, 2 lab hours)

111. The Olympic Games (3)

Prerequisites: G.E. Foundation and Breadth Area D. History, development, and significance of the Olympic Games; Olympism as a microcosm of cross-cultural, political, economic, and gender relationships. G.E. Integration ID. (Formerly PE 111)

112C. Officiating Track and Field (1)

Analysis and interpretation of rules for track; procedures, mechanics, and practice in officiating. (1-2 hour lecture/lab) (Spring only) (Formerly PE 112C)

113. Physical Growth and Development (3)

Prerequisite: KINES 20 (may be taken concurrently); PHYAN 33 (or PHYAN 64 and 65) (or PHYAN 64 and PHTH 119). Physical growth and development from prenatal period through old age with emphasis on motor development. (Formerly PE 147)

116. Fundamentals of Biomechanics (3)

Prerequisites: KINES 20 (may be taken concurrently); PHYAN 33 (or PHYAN 64 and 65) (or PHYAN 64 and PHTH 119). Study of structural and mechanical properties of musculoskeletal system, associated movement function of human body, and applied physics. (2 lecture, 2 lab hours)

118. Fundamentals of Exercise Physiology (3)

Prerequisites/concurrent: KINES 20; PHYAN 33 (or PHYAN 64 and 65) (or PHYAN 64 and PHTH 119). The study and application of physiological bases of movement, work, response, and adaptation to exercise. Environmental conditions, gender, and age considered. (Formerly PE 156B)

120. Planning Strategies for Physical Education (3)

Prerequisites: KINES 20, 30. Must be taken concurrently with KINES 100. Corequisite: KINES 124, 126, 128, 130, or 132. Organization, presentation, and evaluation of in-class demonstrations. Philosophy of teacher preparation covered and developed through practice, observation, planning and presentations. (2 lecture, 2 lab hours)

122. Nontraditional Games and Outdoor Education (3)

Prerequisites: KINES 20 (may be taken concurrently). Study of a variety of recreational, multicultural, and nontraditional games, as well as outdoor education for lifelong participation. (2 lecture, 2 lab hours) (Formerly PE 108)

124. Analysis and Application: Tumbling and Gymnastics (2)

Prerequisites: KINES 20; KINES 100 and 120 concurrently; KAC 31. Study of biomechanical, physiological, and psychological principles underlying acquisition of skill in, and performance of, tumbling and gymnastics. Practical experience in learning, refinement, and analysis of skills, with focus upon appropriate teaching models and strategies. (4 lab hours) (Formerly PE 115D)

125A. Coaching Football (3)

Principles underlying participation in competitive football. (Spring only) (Formerly PE 125A)

125B. Coaching Basketball (3)

Principles underlying participation in competitive basketball. (Fall only) (Formerly PE 125B)

125C. Coaching Track and Field (3)

Principles underlying participation in competitive track and field. (Formerly PE 125C)

125D. Coaching Baseball (3)

Principles underlying participation in competitive baseball. (Fall only) (Formerly PE 125D)

126. Analysis and Application: Aquatics (3)

Prerequisites: KINES 20; KINES 100 and 120 concurrently; swimming skill test. Overview of aquatics: elementary through advanced skills (infant through adult). Emphasis on sequencing skills and water safety certification. Required to teach physical education in California public schools. (2 lecture, 2 lab hours) (Formerly PE 145A)

128. Analysis and Application:

Dance Heritage Survey (3)

Prerequisites: KINES 20; KINES 100 and 120 concurrently; dance skill test. Observation, practice, and analysis of basic skills in ethnic and social dance forms. Understanding and appreciation of dance in diverse cultures. Study and practice of leadership skills in dance. (2 lecture, 2 lab hours) (Formerly PE 145D)

130. Analysis and Application:

Individual/Dual Lifetime Activities (3)

Prerequisites: KINES 20; KINES 100 and 120 concurrently. Study, analysis, and practical experience in: teaching skills, concepts, strategies, and rules; presentation of techniques; skill evaluation; and organization of the instructional environment for archery, badminton, golf, racquetball, and tennis. (1 lecture, 4 lab hours)

132. Analysis and Application: Team Sports (3)

Prerequisites: KINES 20; KINES 100 and 120 concurrently. Analysis and performance of basic skills. Strategies in a variety of team sports commonly taught in public schools. Skill progressions, class organization to maximize participation, planning for activities, micro-teaching, and self-analysis of skills. (1 lecture, 4 lab hours)

134. Analysis and Application: Fitness (2)

Prerequisites: KINES 20; KINES 100 and 120 concurrently; KINES 116, 118. Basic principles, theory and practice of development, and maintenance of fitness for health and physical performance. Emphasis upon application for teachers and coaches. (4 lab hours) (Formerly PE 115K)

136. Psychology in Athletic Training and Rehabilitation (3)

An examination of selected concepts in psychology as they relate to athletic training. Psychological applications are studied in the following domains of athletic training: prevention, recognition, immediate care, and rehabilitation.

137. Structural Biomechanics (3)

Prerequisites: KINES 20 (may be taken concurrently); PHYAN 64 or PHTH 119. Human movement: biological and mechanical bases, application of musculoskeletal considerations, and principles of mechanics to human movements. (Offered fall semester only.) (Formerly PE 156A)

138. Evaluation in Athletic Training (3)

Prerequisites: KINES 20, 38, 137. Advanced study in athletic training including injury recognition and evaluation procedures. (2 lecture, 2 lab hours) (Formerly PE 106B)

139. Therapeutic Modalities in Athletic Training (3)

Prerequisites: KINES 20, 38; PHYAN 64 or PHTH 119. The theory and application of various therapeutic modalities used in the treatment of athletic injuries. (2 lecture, 2 lab hours) (Formerly PE 106C)

140. Rehabilitation in Athletic Training (3)

Prerequisites: KINES 137, 138, 139. The development and application of rehabilitation and therapeutic exercise programs for the injured athlete. (2 lecture, 2 lab hours) (Formerly PE 106E)

141. Organization and Administration in Athletic Training (3)

Prerequisites: KINES 20, 38, and senior status. Current issues in athletic training, organization, administration, and professional preparation. (Formerly PE 106F)

142. Seminar in Athletic Training (1; max total 4)

Taken concurrently with KINES 143. A seminar course designed to focus on and review the N.A.T.A. competencies in athletic training. *CR/NC* grading only.

143 A-D. Practicum in Athletic Training (2; max total 8)

Prerequisites: KINES 20, 43; PHYAN 64 or PHTH 119; admission into Athletic Training Option. Practical experience in athletic training, involving all domains of athletic training: prevention, recognition, rehabilitation, administration, and professional development. 300 hours required. *CR/NC* grading only. (Formerly PE 107)

144. Field Experience in Teaching (2)

Prerequisites: KINES 100, 120. Open only to kinesiology majors with options in physical education. Supervised placement in physical education instructional settings at the elementary, middle, and high school levels. Includes a variety of practical learning experiences and seminar discussions. *CR/NC* grading only. (4 hours education workshop) (Formerly PE 144)

148. Biophysical Aspects of Aging (3)

(Same as GERON 148.) Theories of aging, biological mechanisms of the aging process, and the role of physical activity in those physiological functions influenced by age. (Spring only) (Formerly PE 148)

152. Physical Education for Children (3)

Prerequisite: minimum of junior standing. Theory, analysis, and study of movement experiences, skills and materials, appropriate for elementary level school children. (2 lecture, 2 lab hours) (Formerly PE 152)

153. Principles of Physical Education: Philosophical, Psychological, and Sociological (3)

Prerequisites: KINES 20, 30, senior status. Investigates philosophy, ethics, and psychosocial aspects in physical education. Reflects on the implications for today's society, the profession, curriculum development, and the individual. (Formerly PE 153)

157. Adapted and Inclusive Physical Education (3)

Prerequisites: KINES 134, Standard First Aid Certification, and CPR. The design, implementation, and evaluation of indi-

vidually prescribed adapted physical education programs for the handicapped in school and special settings for students with disabling conditions. The philosophy and techniques of successful inclusion of individuals with disabilities in regular class settings. (2 lecture, 2 lab hours) (Formerly PE 157A)

159. Measurement and Evaluation (3)

Prerequisite: KINES 104 (may be taken concurrently). Selection, construction, evaluation, and administration of norm referenced/criterion referenced tests used in assessing performance and knowledge. Application of computer technology, basic statistical methodology, and interpretation of statistics. (2 lecture, 2 lab hours) (Formerly PE 159A)

162. Coaching Concepts (3)

Current problems of coaches in the school setting; techniques of motivation, organization, and public relations. (Fall only) (Formerly PE 162)

163. Fitness and Wellness (3)

Prerequisite: KINES 118 or 161. Study, analysis, development, and practice of health related fitness and weight control programs for various populations. (2 lecture, 2 lab hours)

165. Performance Related Fitness (3)

Prerequisites: KINES 116, or 137; KINES 118. Physiological and biomechanical principles related to implementation of conditioning programs for athletic performance. Practical applications. Discussion of skill and performance-related components of physical fitness. (2 lecture, 2 lab hours)

167. Humanistic and Integrative Aspects of Exercise Science (3)

Prerequisites: ENGL 1; KINES 104. Integration of humanistic, physiological, and biomechanical aspects of exercise science through lectures, readings, discussions, and writing assignments.

180T. Topics in Kinesiology (1-3; max total 12)

Topics relating to analysis, performance, theory, current trends, and research in kinesiology not available through current curricula offerings. (Formerly PE 180T)

190. Independent Study (1-3; max total 6)

See *Academic Placement — Independent Study*. Approved for *SP* grading. (Formerly PE 190)

199. Supervised Work Experience (1-2; max total 4)

Prerequisites: upper-division status, GPA 2.5 last 30 units, permission of department chair and instructor. *CR/NC* grading only. (Formerly PE 199)

GRADUATE COURSES

(See *Course Numbering System*.)

Kinesiology (KINES)**222. Biomechanics (3)**

Prerequisites: KINES 116 or 137. Study of physical and mechanical bases of human movement. Mechanical properties of structural and active tissues, relation of these properties to tissue function. Application of principles of physics and mechanics to human movement and sport. Kinematic analysis of sport performances. (Formerly PE 222)

223. Scientific Bases of Motor Learning (3)

The psychophysiological study of motor learning and movement behavior. Evolution of theories and approaches utilized in the study of skill learning, and the examination of factors which facilitate or deter acquisition. Application of concepts through extensive laboratory experiences. (2 lecture, 3 lab hours) (Formerly PE 223)

230. Statistical Inference in Kinesiology (3)

Theory and nature of statistical inference; study of statistical methodology relating to the selection of the most appropriate statistical technique, and the interpretation of findings. Required of all M.A. candidates. (Approximate course fee, \$15) (Formerly PE 230)

231. Research Methods in Kinesiology (3)

Seminar in research methods appropriate for physical education, exercise science, and related professions: use of information retrieval technology; critiquing, conducting and reporting research. Required of all M.A. candidates. (Formerly PE 231)

233. Advanced Exercise Physiology I: Metabolic and Neuromuscular Physiology (3)

Prerequisites: KINES 118; CHEM 3A, 3B. Detailed study of the biochemistry of energy metabolism, biophysical and functional concepts related to interaction of nerve and muscle, and response to training. Theoretical concepts supported by extensive practical experience in the human performance lab. (2 lecture, 3 lab hours) (Formerly PE 233)

234. Advanced Exercise Physiology II: Cardiovascular and Respiratory Physiology (3)

Prerequisites: KINES 118. In-depth study of cardiovascular and respiratory concepts related to exercise, training, health, disease, and aging. Theoretical concepts are supported by extensive practical experience in the human performance lab. (2 lecture, 3 lab hours) (Formerly PE 234)

237. Design and Implementation of Resistance Training Programs (3)

Study of research findings and established scientific principles of resistance training for development of muscular strength, power, and endurance. Practical applications to technique, program development, and competition. (Formerly PE 237)

238. Exercise Testing, ECG, and Prescription (3)

Prerequisite: KINES 118. Detailed study of the American College of Sports Medicine Guidelines for Exercise Testing and Prescription. Theoretical concepts of screening, exercise testing, and prescribing exercise for apparently healthy populations and populations with special needs supported by extensive practical laboratory testing experiences. (2 lecture, 3 lab hours) (Formerly PE 238)

240. Facilities and Equipment in Kinesiology (3)

Functional planning of indoor and outdoor facilities for schools and recreation centers. Design and layout of school physical education-athletic facilities. Evaluation of school plants in the Fresno and Valley area. Budget considerations in planning for the purchase of equipment. (Formerly PE 240)

241. Administration in Physical Education and Sport (3)

Study of environmental factors which influence management of human resources of sport organizations in public and private sectors. Analysis and application of administrative/leadership theory to strategic planning, organizing, implementing and controlling programs in sport and physical education contexts. (Formerly PE 241)

242. Program Development in Physical Education (3)

Study of the current education scene to provide students with an understanding of the role that school physical education plays in today's education. Identification of sound procedure and practice in organizing and conducting relevant programs of physical education. (Formerly PE 242)

243. Administrative Issues in Sport and Physical Education Promotion (3)

Prerequisites: KINES 230, 231, 241, and MBA 214. The effective promotion of sport organizations, athletic and physical education programs. Emphasis is on the integration of promotional elements into the total marketing strategy of the organization, and the administration of fund-raising and corporate sponsorship plans. (Formerly PE 243)

244. Legal Aspects in Sport and Physical Education (3)

The study of legal principles and their implications for physical education and sport. Emphasis is on safety procedures, preventative measures, and legal responsibilities of teachers, coaches, and sport administrators. (Formerly PE 244)

250T. Topics in Kinesiology (3; max total 6 if no topic repeated)

Advanced studies in theoretical research in selected topics. (Formerly PE 250T)

260. Historical Concepts in Kinesiology (3)

Interpretation of exercise and sport in western thought and practice, from 3000 B.C. to the present. (Formerly PE 260)

261. Philosophical and Ethical Inquiry in Kinesiology (3)

Philosophic/critical examination of current and classical literature in physical education, sport, and exercise science. Understanding systems of thought, their application; analysis of, as well as support for, points of view in verbal and written communication. Required of all M.A. candidates. (Formerly PE 261)

262. Social Implications of Sport (3)

Cultural and social factors related to play, games, and athletic contests; social parameters in the conduct and management of school athletic programs; emphasis on research studies. (Formerly PE 262)

263. Psychology of Sport: Mental Training (3)

An examination of the concepts in sport psychology including mental states, cognitive behavioral techniques and strategies; and issues in sports psychology. (Formerly PE 263)

264. Psychology of Coaching (3)

Examination of psychological components of the coaching profession. Explores coaching development, organization, training, and competition, as well as strategies for dealing with athletes and different coaching contexts. (Formerly KINES 250T)

285. Internship in Kinesiology (3-6; max total 6)

Prerequisite: completion of core courses curriculum (KINES 230, 231, 261) and three required courses. Work experience within the physical education, health-fitness industry, or sport administration setting, directed and evaluated by a qualified faculty member with appropriate supervision by an on-site professional. *CR/NC* grading only. (Formerly PE 285)

290. Independent Study (1-3; max total 6)

See *Academic Placement — Independent Study*. Approved for *SP* grading. (Formerly PE 290)

298. Project (3-6; max total 6)

Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, submission, and/or demonstration of an original project. Creativity shall be a prime factor. Abstract required, e.g., choreograph gymnastic performance, organize square/folk dance program, compose audiovisual representation of sport forms. Approved for *SP* grading. (Formerly PE 298)

299. Thesis (2-6; max total 6)

Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for *SP* grading. (Formerly PE 299)

IN-SERVICE COURSES

(See *Course Numbering System*.)

Physical Education (PE)

310. Analysis of Team Activities (1-3; max total 12 if no area repeated)

Prerequisite: teaching or coaching experience or by permission of instructor. An analysis of the techniques, methods, procedures, and theory of team sports.

320. Analysis of Individual Activities (1-3; max total 12 if no area repeated)

Prerequisite: teaching or coaching experience, or permission of instructor. An analysis of the techniques, methods, procedures, and theories of individual activities.