Kinesiology

Mission

We promote health and well-being by creating and disseminating knowledge about physical activity and active living. Through discovery, learning and engagement we improve the lives of citizens of Iowa, the United States and the world.

Goals

The department has identified the following goals to support this mission:

1. We seek to improve the lives of citizens of Iowa, the United States, and the world by the creation and dissemination of knowledge about physical activity and its relationship to health and well-being.
2. We prepare scholars and professionals in the study of physical activity at the undergraduate and graduate levels.
3. We educate the public and the University community in the scientific aspects of physical activity especially exercise, sport, and the role of movement throughout the lifespan.

Undergraduate Study

The Department of Kinesiology offers two Bachelor of Science degrees: Athletic Training and Kinesiology & Health. The undergraduate curriculum major/option is comprised of three components: general education, required departmental courses and the major/option courses. The intent of the general education component is to promote intellectual and personal growth and to prepare students for success in the basic, advanced and major/option components. Required courses provide an introduction to the field and fundamental principles of physical activity, fitness, health and disease.

B.S. degree in Athletic Training

Certified Athletic Trainers are allied medical health professionals who specialize in the prevention, assessment, treatment and rehabilitation of injuries to athletes and physically active individuals who are engaged in physical and athletic activities. To gain certification, candidates must graduate from a CAATE accredited athletic training education program and successfully pass the Board of Certification (BOC) examination. Many states also have licensure requirements to practice athletic training. The Athletic Training education program at Iowa State University, accredited since 2001, includes various athletic training clinical rotations including high school, physical therapy clinics, surgical observation experiences, and emergency room observation. The Athletic Training Program utilizes a competitive admission process for undergraduate students.

B.S. degree in Kinesiology & Health

The Kinesiology & Health major includes four specialization options. Options comprise a focused area of study within Kinesiology and Health. Coursework within each specialization option builds upon personal and scholarly learning by enabling students to master content and skills specific to career applications. Options available are:

1. Community and Public Health
2. Exercise Science
3. Pre-Health Professions
4. Physical Education/Teacher Education

Academic options within the Kinesiology & Health major

Students in the Community and Public Health option are prepared for professional employment at local, state or national health agencies, medical centers, and other public or private organizations that seek to promote health in the population.

Students in the Exercise Science option are prepared for professional roles as health and fitness leaders or program managers. Employment opportunities include work in corporate fitness programs, health clubs, cardiac rehabilitation programs or personal training. Graduates are able to plan, implement and supervise exercise programs which will improve fitness and health. Graduates also have a basic understanding of management issues related to business applications in the health and fitness field.

Students in the Pre-Health Professions option utilize an interdisciplinary approach to the study of human movement. In so doing, they become prepared for graduate study in Kinesiology or advanced study leading to careers in medicine, physical therapy, physician assistant or other healthcare profession.

Students in the Physical Education/Teacher Education option are prepared to teach physical education in grades K-12 and to meet the State of Iowa learning outcomes for teachers. Graduates can plan developmentally appropriate physical education, and individualize instruction and assessment for diverse audiences. Enrollment in the Physical Education/Teacher Education option is limited because of accreditation requirements and the provision of more individualized field experiences.

Learning outcomes for the undergraduate degree

Despite the diversity of options, the learning outcomes comprise a common framework for each student as they progress through Iowa State University.

The learning outcomes emphasized in academic coursework in the Department of Kinesiology are:

Communication

Uses clear and effective written, oral, visual, and electronic (WOVE) communication techniques to foster inquiry, collaboration, and engagement in physical activity and health related settings.

Lifelong learning, assessment, and self-reflection

Analyzes and evaluates one's own knowledge, abilities and actions relative to professional standards, seeks opportunities to grow professionally, and utilizes self-assessment and assessment of others to foster physical, cognitive, social, and emotional well-being.

Content knowledge, discovery, and critical thinking

Understands fundamental concepts of physical activity and health, conducts scientific inquiry, and applies critical thinking to solve problems from personal, scholarly, and professional perspectives.

Ethics, diversity, and social justice

Demonstrates leadership and social responsibility to improve quality of life for others and ensures equitable access for diverse groups by creating appropriate environments to initiate and maintain a physically active, healthy lifestyle.

Other Program Offerings:

B.S./M.S. degree in Diet and Exercise

A combined Bachelor of Science and Master of Science (B.S./M.S.) degree in Diet and Exercise is available. The program is jointly administered by the Department of Food Science and Human Nutrition (FSHN), within the College of Agriculture and Life Sciences and the College of Human Sciences, and the Department of Kinesiology, within the College of Human Sciences. Students interested in this program must enroll as freshmen in the Pre-Diet and Exercise program. In the fall of the junior year, students will apply for admission to the B.S./M.S. program. Students not accepted into the program will continue toward completion of a B.S. degree in Dietetics or Kinesiology & Health. Coursework has been designed to facilitate a 4-year graduation date for those students not accepted into the program and electing to complete a single undergraduate degree. Students accepted into the program will progress toward completion of a B.S./M.S. degrees in Diet and Exercise.

Endorsement to coach interscholastic athletics

The State Department of Education has provided for the endorsement of licensed teachers for the coaching of athletic teams in schools. The endorsement does not lead to licensure to teach physical education. For requirements of the program, leading to the coaching endorsement, see Teacher Education, Requirements for Areas of Specialization.

Endorsement to teach health education

Those interested in teaching health education in the public schools may get a primary licensure or an additional endorsement. The State Department of Education has approved the Health Teaching Licensure for grades 5-12.

Basic Activity Instruction Program

The department offers a wide selection of beginning, intermediate, and advanced courses in the areas of aquatics, dance, and sports. These courses are designed to serve general education purposes for all students.

Dance

Coursework in dance provides opportunities for students to develop an understanding and appreciation of dance as part of a liberal education. Those interested in teaching dance and Physical Education in the public schools may major in Kinesiology and Health (Teacher Licensure option) and minor in Dance.
An interdisciplinary Performing Arts major with a Dance emphasis is available through the College of Liberal Arts and Sciences. For further information see Index, Theatre and Performing Arts.

Graduate Study
The Department of Kinesiology graduate seeks to integrate discovery and learning by preparing graduate students to understand and create basic and applied knowledge in the study of physical activity, exercise and sport. The normal prerequisite to major graduate work is the satisfactory completion of a curriculum essentially equivalent to that required of undergraduate students in kinesiology at this university. However, it is possible for students to qualify for graduate study if undergraduate preparation has been in a related area.

Students in the M.S. and Ph.D. degrees are required to complete original research and write a thesis or dissertation. There is a non-thesis degree option for M.S. students requiring more coursework and an internship experience or other creative component. Specific information about the requirements for these degree options is available from the department office or from the department web site (http://www.kin.hs.iastate.edu/graduate).

The department participates in the interdepartmental minor in gerontology (see Index).

Curriculum in Athletic Training
The athletic training major prepares students for a career as an athletic trainer in high school, college or professional settings or for work in other settings (such as sports medicine clinics, the military, industry, and fitness centers). See program details for course requirements. Admission procedures and technical standards can be found at www.cycloneathletictraining.com (http://www.cycloneathletictraining.com).

Curriculum in Kinesiology and Health
The curriculum in Kinesiology and Health is designed for students preparing to enter professional areas related to the health, physical activity, exercise or sport science fields. Students majoring in Kinesiology & Health may select one of four options:

1. Community and Public Health
2. Exercise Science
3. Pre-Health Professions
4. Physical Education Teacher Education

Minors in athletic coaching, dance, exercise science, health promotion, kinesiology, and sport and recreation are available; see requirements under Kinesiology, Undergraduate Programs.

A major in Performing Arts with a dance emphasis is available; see requirements under Curriculum in Performing Arts in Theatre.

Communication Proficiency
In order to meet graduation requirements, all students must earn an average of C (2.0) or better in ENGL 150 and ENGL 250, with neither grade being lower than a C-. Students not meeting this condition must earn a C or better in an advanced writing course:

- ENGL 220 Descriptive English Grammar 3
- ENGL 302 Business Communication 3
- ENGL 309 Report and Proposal Writing 3
- ENGL 314 Technical Communication 3

U.S. Diversity and International Perspectives
In order to meet graduation requirements, all students must complete 3 cr. of course work in U.S. Diversity and 3 cr. in International Perspectives. See university approved list.

General Education: Minimum of 38.5 credits required

Physical and Life Sciences: 8 cr. min required

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Cr.</th>
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</thead>
<tbody>
<tr>
<td>BIOL 255</td>
<td>Fundamentals of Human Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 255L</td>
<td>Fundamentals of Human Anatomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 256</td>
<td>Fundamentals of Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 256L</td>
<td>Fundamentals of Human Physiology Laboratory</td>
<td>1</td>
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Additional option-specific requirements are:

Community and Public Health

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<tr>
<th>Course</th>
<th>Title</th>
<th>Cr.</th>
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<tbody>
<tr>
<td>BIOL 211L</td>
<td>Principles of Biology Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 163</td>
<td>College Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 163L</td>
<td>Laboratory in College Chemistry</td>
<td>1</td>
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<tr>
<td>MICRO 201</td>
<td>Introduction to Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MICRO 201L</td>
<td>Introductory Microbiology Laboratory</td>
<td>1</td>
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<tr>
<td>FS HN 167</td>
<td>Introduction to Human Nutrition</td>
<td>3</td>
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Exercise Science

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<tr>
<th>Course</th>
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<th>Cr.</th>
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<tr>
<td>PHYS 115</td>
<td>Physics for the Life Sciences</td>
<td>4</td>
</tr>
<tr>
<td>FS HN 167</td>
<td>Introduction to Human Nutrition</td>
<td>3</td>
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Physical Education Teacher Education

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<tr>
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<th>Cr.</th>
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<tr>
<td>PHYS 115</td>
<td>Physics for the Life Sciences</td>
<td>4</td>
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Pre-Health Professions

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<th>Course</th>
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<tr>
<td>PHYS 111</td>
<td>General Physics</td>
<td>4-5</td>
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<tr>
<td>or PHYS 115</td>
<td>Physics for the Life Sciences</td>
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</tr>
</tbody>
</table>

Mathematics and Statistics: 3 cr. min required

Option-specific requirements are:

Community and Public Health

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Cr.</th>
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<tbody>
<tr>
<td>STAT 101</td>
<td>Principles of Statistics</td>
<td>3-4</td>
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<tr>
<td>or STAT 104</td>
<td>Introduction to Statistics</td>
<td></td>
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<tr>
<td>or STAT 226</td>
<td>Introduction to Business Statistics I</td>
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</tbody>
</table>

Exercise Science

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<tr>
<th>Course</th>
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<th>Cr.</th>
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<tr>
<td>MATH 140</td>
<td>College Algebra</td>
<td>2-3</td>
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<tr>
<td>or MATH 143</td>
<td>Preparation for Calculus</td>
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<tr>
<td>or MATH 145</td>
<td>Applied Trigonometry</td>
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<tr>
<td>or MATH 165</td>
<td>Calculus I</td>
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Pre-Health Professions

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<td>College Algebra</td>
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<td>or MATH 143</td>
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<tr>
<td>or MATH 145</td>
<td>Applied Trigonometry</td>
<td></td>
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<tr>
<td>or MATH 150</td>
<td>Discrete Mathematics for Business and Social Sciences</td>
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<tr>
<td>or MATH 165</td>
<td>Calculus I</td>
<td></td>
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<tr>
<td>or STAT 101</td>
<td>Principles of Statistics</td>
<td></td>
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<tr>
<td>or STAT 104</td>
<td>Introduction to Statistics</td>
<td></td>
</tr>
<tr>
<td>or STAT 226</td>
<td>Introduction to Business Statistics I</td>
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Social Sciences: 9 cr. min required

Option-specific requirements are:

Community and Public Health

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<tr>
<th>Course</th>
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<th>Cr.</th>
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<tr>
<td>PSYCH 230</td>
<td>Developmental Psychology</td>
<td>3</td>
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Exercise Science

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<th>Title</th>
<th>Cr.</th>
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<tr>
<td>PSYCH 101</td>
<td>Introduction to Psychology</td>
<td>3</td>
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</table>
or PSYCH 230 Developmental Psychology
SOC 134 Introduction to Sociology 3

**Physical Education Teacher Education**

PSYCH 230 Developmental Psychology 3
SOC 134 Introduction to Sociology 3

**Pre-Health Professions**

PSYCH 101 Introduction to Psychology 3
or PSYCH 230 Developmental Psychology 3
SOC 134 Introduction to Sociology 3

**Humanities: 6 cr. min required**
Choose from department approved list.

**Communications: 13 cr. min required**

ENGL 150 Critical Thinking and Communication 3
ENGL 250 Written, Oral, Visual, and Electronic Composition 3
SP CM 212 Fundamentals of Public Speaking 3
LIB 160 Information Literacy 1
One of the following 3
   - ENGL 302 Business Communication
   - ENGL 314 Technical Communication
   - SP CM 312 Business and Professional Speaking

**Program requirements:**
The following courses are required in all majors and options:

H S 110 Personal and Consumer Health 3
KIN 252 Disciplines and Professions in Kinesiology and Health 1
KIN 253 Orientation in Kinesiology and Health 1
KIN 258 Physical Fitness and Conditioning 2
KIN 358 Physiology of Exercise (*) 3
H S 350 Human Diseases (*) 3

* A grade of C- or better is required.

Total cr. required: A minimum of 124 credits is required, with a minimum of 46 credits in courses numbered 300 or above.

**Courses for Kinesiology and Health Major**

**Option 1. Community and Public Health**

This option prepares students for careers in health promotion and disease prevention. Students are prepared for work in state and local health agencies, community and government programs, hospitals, worksite health programs, and not-for-profit organizations. Graduates are eligible to take the Certified Health Education Specialist (CHES) exam.

Option Requirements:
P R 220 Principles of Public Relations 3
or P R 305 Publicity Methods
H S 105 First Aid and Emergency Care 2
H S 215 Drug Education 3
H S 310 Community and Public Health (*) 3
H S 380 Worksite Health Promotion 3
H S 385 Strategies for Professional School and Field Experience Opportunities 8-16
H S 430 Community Health Program Development 3
H S 464 Physical Activity Epidemiology 3
H S 485 Directed Field Experience in Health Promotion (take 10 to 16 credits) 8-16
HD FS 449 Program Evaluation and Proposal Writing 3
or ENGL 309 Report and Proposal Writing
P R 220 Principles of Public Relations 3
or P R 305 Publicity Methods
KIN 366 Exercise Psychology (*) 3
One of the following
   - ENGL 313 Rhetorical Website Design
   - or HD FS 395 Children, Families, and Public Policy

Electives: 11-18 credits
* A grade of C- or better is required.

**Option 2. Exercise Science**

This option prepares students for careers in exercise/fitness promotion. Students are prepared as health/fitness specialists, personal trainers, strength and conditioning specialists, and health coaches. Students find work in fitness centers, worksite health programs, medical facilities, cardiac rehabilitation centers, and other agencies that provide fitness services. Students are eligible to sit for certification exams offered by the American College of Sports Medicine and the National Strength & Conditioning Association.

Option Requirements:
KIN 259 Leadership Techniques for Fitness Programs 2
KIN 266 Advanced Strength Training and Conditioning 2
KIN 345 Management of Health-Fitness Programs and Facilities 3
KIN 355 Biomechanics (*) 3
KIN 360 Sociology of Sport and Exercise (*) 3
KIN 366 Exercise Psychology (*) 3
KIN 372 Motor Control and Learning Across the Lifespan (*) 3
KIN 385 Strategies for Professional School and Field Experience Opportunities 8-16
KIN 458 Principles of Fitness Assessment and Exercise Prescription (*) 4
KIN 459 Internship in Exercise Leadership 1
KIN 462 Medical Aspects of Exercise 3
KIN 485A Internship in Exercise Leadership: Health/Fitness Management. (take 8 to 16 crs) 8-16
H S 380 Worksite Health Promotion 3
A TR 220 Basic Athletic Training 2
or H S 305 Instructor's First Aid and Cardio-pulmonary Resuscitation 3
Electives: 15-25 credits
* A grade of C- or better is required.

**Option 3. Physical Education Teacher Education**

This option is for students seeking a license to teach K-12 physical education. All courses required for licensure have a minimum grade requirement of a C or C-.

Students interested in a coaching and/or a health endorsement must complete additional coursework.

Option Requirements:
KIN 231 Fundamentals of Tumbling and Gymnastics (*) 1
KIN 232 Fundamentals of Team Sports (*) 1
KIN 236 Fundamentals of Individual Sports and Fitness (*) 1
KIN 238 Fundamentals of Outdoor and Adventure Activities (*) 1
KIN 280 Directed Field Experience in Elementary Physical Education 1
KIN 281 Directed Field Experience in Secondary Physical Education 1
KIN 282 Field Experience with Educational Outreach 1
KIN 312 Movement Education in Elementary School Physical Education 3
KIN 313 Teaching Secondary Physical Education 3
KIN 355 Biomechanics (*) 3
KIN 360 Sociology of Sport and Exercise (*) 3
KIN 365 Sport Psychology (*) 3
or KIN 366 Exercise Psychology 3
KIN 372 Motor Control and Learning Across the Lifespan (*) 3
KIN 395 Adapted Physical Education 3
KIN 417 Supervised Teaching in Physical Education in the Secondary School 1
KIN 418 Supervised Teaching in Physical Education in the Elementary School 8
KIN 471 Measurement in Physical Education 3
KIN 475 Physical Education Curriculum Design and Program Organization 3
DANCE 211 Fundamentals and Methods of Social and World Dance (*)
The minor requires a minimum of 17 credits and may be earned by completing the

**Athletic Coaching**

The minor requires a minimum of 17 credits and may be earned by completing the following:

- A TR 220 Basic Athletic Training 2
- KIN 315 Coaching Theory and Administrative Issues 3
- KIN 365 Sport Psychology 3
- BIOL 155 Human Biology 3
- or BIOL 255 Fundamentals of Human Anatomy
- PSYCH 230 Developmental Psychology 3
- 3 cr. from the following
  - KIN 355 Biomechanics
  - or KIN 358 Physiology of Exercise

**Dance**

The minor requires a minimum of 21 credits and may be earned by completing the following:

- DANCE 220 Modern Dance Composition 2
- DANCE 222 Modern Dance II 1
- DANCE 270 Dance Appreciation 3
- DANCE 320 Sound and Movement 3
- DANCE 360 History and Philosophy of Dance 3
- DANCE 384 Teaching Children's Dance 2
- DANCE 385 Methods of Teaching Dance 2
- DANCE 386 Teaching Dance Technique and Composition 2
- 3 additional credits selected from dance courses numbered 200 or above.*

*Participation in Orchesis I or II is recommended.

**Exercise Science**

The minor requires a minimum of 17 credits and may be earned by completing the following:

- KIN 258 Physical Fitness and Conditioning 2
- KIN 358 Physiology of Exercise 3
- KIN 366 Exercise Psychology 3
- 3-6 cr. from the following
  - A TR 220 Basic Athletic Training
  - KIN 259 Leadership Techniques for Fitness Programs
  - KIN 266 Advanced Strength Training and Conditioning
  - KIN 345 Management of Health-Fitness Programs and Facilities
  - KIN 360 Sociology of Sport and Exercise
- 3-6 cr. from the following
  - KIN 458 Principles of Fitness Assessment and Exercise Prescription
  - KIN 462 Medical Aspects of Exercise
  - KIN 467 Exercise and Health: Behavior Change

**Health Promotion**

The minor requires a minimum of 18 credits and may be earned by completing the following:

- H S 110 Personal and Consumer Health 3
- H S 350 Human Diseases 3
- H S 380 Worksite Health Promotion 3
- 3-6 cr. from the following
  - H S 215 Drug Education
  - H S 305 Instructor's First Aid and Cardio-pulmonary Resuscitation
  - H S 310 Community and Public Health
- 3-6 cr. from the following
  - H S 430 Community Health Program Development
  - KIN 467 Exercise and Health: Behavior Change

**Kinesiology**

The minor requires a minimum of 15 credits and may be earned by completing the following: (For non-majors only.)

- KIN 355 Biomechanics 3
- KIN 358 Physiology of Exercise 3
- KIN 360 Sociology of Sport and Exercise 3
- KIN 372 Motor Control and Learning Across the Lifespan 3
- KIN 365 Sport Psychology 3
- or KIN 366 Exercise Psychology

**Sport and Recreation**

The minor requires a minimum of 18 credits and may be earned by completing the following:

- KIN 315 Coaching Theory and Administrative Issues 3
- KIN 365 Sport Psychology 3
- KIN 360 Sociology of Sport and Exercise 3
- KIN 399 Recreational Sport Management 3
- MGMT 370 Management of Organizations 3
- 3 cr. from the following
<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ADVRT 230</td>
<td>Advertising Principles</td>
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<tr>
<td>P R 220</td>
<td>Principles of Public Relations</td>
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<tr>
<td>P R 305</td>
<td>Publicity Methods</td>
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<tr>
<td>MGMT 310</td>
<td>Entrepreneurship and Innovation</td>
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<tr>
<td>MGMT 313</td>
<td>Feasibility Analysis and Business Planning</td>
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<tr>
<td>MGMT 371</td>
<td>Organizational Behavior</td>
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<tr>
<td>MGMT 471</td>
<td>Personnel and Human Resource Management</td>
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