HEALTH, PHYSICAL EDUCATION AND EXERCISE SCIENCE, BACHELOR OF SCIENCE (B.S.) WITH A CONCENTRATION IN HEALTH SCIENCE

The health science concentration is designed for students who wish to enter a health care-related field (that does not require licensure, certification or registry status) such as corporate wellness, human services, nonprofit health promotion and medical and pharmaceutical sales. Graduates holding a degree with a concentration in health science can also be qualified to enter either graduate or professional health science programs, such as public health, health education and promotion, physical therapy, occupational therapy, pharmacy, nursing, speech-language pathology, audiology, radiation safety, clinical laboratory science and health care administration.

Student learning outcomes

- Analyzing data: Graduates will be able to analyze data from a variety of sources to assess individual community health topics.
- Solving health problems: Graduates will be able to solve complex health science issues and problems using interdisciplinary sciences.

Special requirements

A minimum grade of C is required in all HPEX core, health science core, clinical experiences and elective courses. Students cannot use more than one HPEX course (three credits) from the exercise science core as an elective.

Degree requirements for Health, Physical Education and Exercise Science, Bachelor of Science (B.S.) with a concentration in health science

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education (<a href="http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/">http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/</a>)</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Select 12-13 credits from general education foundations and 17-18 credits from areas of inquiry.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Major requirements

- Major core requirements
  - HPEX 300  Health Care Delivery in the U.S.  3
  - HPEX 310  Fitness and Health  3
  - HPEX 395  Clinical Experience I  3
  - HPEX 495  Clinical Experience II  6
- Concentration requirements
  - HPEX 250  Medical Terminology  1
  - HPEX 345  Nutrition for Health and Disease  3
  - HPEX 352  Substance Abuse  3
  - HPEX 353  Disease Trends, Prevention and Control  3
  - HPEX 354  Coping and Adaptation  3
  - HPEX 357  Personal Health and Behavior Change  3
  - HPEX 358  Introduction to Epidemiology  3
  - HPEX 435  Health Disparities in the U.S.  3
  - HPEX 445  Principles of Health Care Management  3

Ancillary requirements

- Ancillary core
  - BIOL 205  Basic Human Anatomy  4
  - CHEM 101  General Chemistry I (satisfies general education BOK for natural sciences and AOI for scientific and logical reasoning)  3
  - CHEZ 101  General Chemistry Laboratory I  1
  - HUMS 202  Choices in a Consumer Society  1
  - PHIS 206  Human Physiology  4
  & PHIZ 206  and Human Physiology Laboratory  |
  - PHYS 201  General Physics I (satisfies general education BOK for natural sciences and AOI for scientific and logical reasoning)  4
  - PSYC 101  Play course video for Introduction to Psychology  4
  - PSYC 304  Life Span Developmental Psychology  3
  - STAT 210  Basic Practice of Statistics  3
  - MATH 151  Precalculus Mathematics (either satisfies general education quantitative foundations)  4
  - or MATH 200  Calculus with Analytic Geometry I  |

Experiential fine arts 1 1-3

Select a biology sequence.  4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>Biological Concepts &amp; BIOZ 101</td>
<td></td>
</tr>
<tr>
<td>BIOL 151</td>
<td>Introduction to Biological Sciences I &amp; BIOZ 151</td>
<td></td>
</tr>
</tbody>
</table>

Foreign language through the 102 level (by course or placement)  0-6

Electives

Select additional courses from the list below.  21-29

Total Hours  120

Course offered by the School of the Arts

The minimum number of credit hours required for this degree is 120.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 301</td>
<td>Human Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 151 &amp; BIOZ 151</td>
<td>Introduction to Biological Sciences I and Introduction to Biological Science Laboratory I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 152 &amp; BIOZ 152</td>
<td>Introduction to Biological Sciences II and Introduction to Biological Science Laboratory II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 201</td>
<td>Human Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

1

1
### Bachelor of Science (B.S.) with a concentration in health science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 209</td>
<td>Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 217</td>
<td>Principles of Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 300</td>
<td>Cellular and Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 308</td>
<td>Vertebrate Histology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 102</td>
<td>General Chemistry II and General Chemistry Laboratory II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 301</td>
<td>Organic Chemistry and Organic Chemistry Laboratory I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 302</td>
<td>Organic Chemistry and Organic Chemistry Laboratory II</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 403</td>
<td>Biochemistry I</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 271</td>
<td>Safety, First Aid and CPR</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 300</td>
<td>Health Care Delivery in the U.S.</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 353</td>
<td>Disease Trends, Prevention and Control</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 354</td>
<td>Coping and Adaptation</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 355</td>
<td>Principles of Health Care Management</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 359</td>
<td>Health Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 445</td>
<td>Principles of Health Care Management</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 304</td>
<td>Life Span Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 308</td>
<td>Stress and its Management</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 309</td>
<td>Personality</td>
<td>3</td>
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<tr>
<td>PSYC 401</td>
<td>Physiological Psychology</td>
<td>3</td>
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<tr>
<td>PSYC 407</td>
<td>Psychology of the Abnormal</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 412</td>
<td>Health Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCY 344</td>
<td>Medical Sociology</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 101</td>
<td>Introduction to the University</td>
<td>1</td>
</tr>
</tbody>
</table>

**Other adviser-approved courses**

What follows is a sample plan that meets the prescribed requirements within a four-year course of study at VCU. Please contact your adviser before beginning course work toward a degree.

### Freshman year

#### Fall semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>Biological Concepts</td>
<td>4</td>
</tr>
<tr>
<td>&amp; BIOZ 101</td>
<td>and Biological Concepts Laboratory</td>
<td></td>
</tr>
<tr>
<td>HPEX 310</td>
<td>Fitness and Health</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 111</td>
<td>Play course video for Focused Inquiry I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term Hours:** 13

### Spring semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS 202</td>
<td>Choices in a Consumer Society</td>
<td>1</td>
</tr>
<tr>
<td>MATH 151</td>
<td>Precalculus Mathematics (either satisfies general education quantitative foundations)</td>
<td>4</td>
</tr>
<tr>
<td>or MATH 200</td>
<td>or Calculus with Analytic Geometry I</td>
<td></td>
</tr>
<tr>
<td>PSYC 101</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Term Hours:** 16

### Sophomore year

#### Fall semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPEX 300</td>
<td>Health Care Delivery in the U.S.</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 357</td>
<td>Personal Health and Behavior Change</td>
<td>3</td>
</tr>
<tr>
<td>PHIS 206</td>
<td>Human Physiology and Human Physiology Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>UNIV 200</td>
<td>Inquiry and the Craft of Argument</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term Hours:** 16

### Junior year

#### Fall semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPEX 353</td>
<td>Disease Trends, Prevention and Control</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 354</td>
<td>Coping and Adaptation</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 201</td>
<td>General Physics I (satisfies general education BOK for natural sciences and AOI for scientific and logical reasoning)</td>
<td>4</td>
</tr>
<tr>
<td>STAT 210</td>
<td>Basic Practice of Statistics</td>
<td>3</td>
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</tbody>
</table>

**Term Hours:** 14-16

### Spring semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I (satisfies general education AOI for social/behavioral sciences and AOI for diversities in the human experience)</td>
<td>3</td>
</tr>
<tr>
<td>CHEZ 101</td>
<td>General Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>HPEX 358</td>
<td>Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 445</td>
<td>Principles of Health Care Management</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 304</td>
<td>Life Span Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HPEX elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Term Hours:** 16

### Senior year

#### Fall semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPEX 345</td>
<td>Nutrition for Health and Disease</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 352</td>
<td>Substance Abuse</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 395</td>
<td>Clinical Experience I</td>
<td>3</td>
</tr>
<tr>
<td>HPEX electives</td>
<td></td>
<td>6</td>
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</tbody>
</table>

**Term Hours:** 15
Spring semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPEX 435</td>
<td>Health Disparities in the U.S.</td>
<td>3</td>
</tr>
<tr>
<td>HPEX 495</td>
<td>Clinical Experience II</td>
<td>6</td>
</tr>
<tr>
<td>HPEX electives</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Hours:** 15

The minimum number of credit hours required for this degree is 120.

1 credit.

1 credit.

Semester course; 3 lecture/laboratory hours. 3 credits. Health, physical education and exercise science majors only. Prepares students to develop educational skills and methodology for instruction of individual sports in the classroom, gymnasium and outdoor field settings; students acquire skills needed to teach individual sports in middle and high school environments.

Semester course; 3 lecture/laboratory hours. 3 credits. Open only to general health and physical education majors. Health, physical education and exercise science majors only. Prepares students to develop educational skills and methodology for instruction of individual sports in the classroom, gymnasium and outdoor field settings. Students acquire skills needed to teach team sports and activities in middle and high school environments.

Semester course; 1 lecture hour. 1 credit. Designed to examine the principal philosophical foundations of adventure theory and wilderness leadership. Concepts of judgment, decision-making, leadership and environmentally correct practices are introduced.

Semester course; 2 laboratory hours. 1 credit. Prepares students to work with elementary children 4 to 12 years of age in rhythmic activities; includes elementary tumbling, activities and games designed to help a child's rhythmic ability.

Semester course; 1 lecture hour. 1 credit. Prepares students for participation in rescue and first aid in aquatic environments. In addition, includes CPR courses; credits determined by the number of contact hours in this writing intensive course; minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

Semester course; variable practicum hours. 3-6 credits. Health, physical education and exercise science majors only. Provides observational and small group experiences for the pre-professional student; includes planned observations, tutorials and small group involvement under the supervision of the faculty and field supervisor; summary papers, observational logs, resumes and updated five-year plans are completed in this writing intensive course; minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

Semester course; variable practicum hours. 3-6 credits. Health, physical education and exercise science majors only. Provides observational and small group experiences for the pre-professional student; includes planned observations, tutorials and small group involvement under the supervision of the faculty and field supervisor; minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

HPEX 201. Individual Sports and Lifelong Leisure Activities. 3 Hours.

HPEX 202. Team Sports and Activities. 3 Hours.

HPEX 203. Wilderness Education I. 1 Hour.

HPEX 211. Tumbling and Elementary Rhythms. 1 Hour.

HPEX 216. Lifeguard Training. 1,2 Hour.

HPEX 217. Water Safety Instruction. 1,2 Hour.

HPEX 218. Scuba. 1 Hour.

HPEX 220. Introduction to Athletic Training. 3 Hours.

HPEX 230. History and Philosophy of Health and Physical Education. 3 Hours.

HPEX 231. Principles of Accident Prevention. 3 Hours.

HPEX 232. Introduction to Driver Education. 3 Hours.

HPEX 233. Safety, First Aid and CPR. 3 Hours.

HPEX 271. Special Topic in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 292. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 293. Field Practicum I. 3-6 Hours.

HPEX 294. Field Practicum II. 3-6 Hours.

HPEX 295. Clinical Experience II. 6 credits. Provides observational and small group experiences for the pre-professional student; includes planned observations, tutorials and small group involvement under the supervision of the faculty and field supervisor; minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

HPEX 296. Field Experience. 1-3 credits. Restricted to health, physical education and exercise science majors only. Offers students the opportunity to participate in an approved professional experience related to the students' knowledge base of general education and professional introduction courses; may include partially and experimental formats dictated by the faculty supervisor; credits determined by the number of contact hours of the experience.

HPEX 297. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 298. Field Practicum II. 3-6 Hours.

HPEX 299. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 395. Professional Experience. 3 credits. This course is designed to provide information on the magnitude of the accident problem in the nation. Special attention is given to concepts and theories of accident prevention, particularly as they relate to use of highways.

HPEX 396. Medical Terminology. 1 Hour.

HPEX 397. Safety, First Aid and CPR. 3 Hours.

HPEX 398. Special Topic in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 399. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 491. Special Topic in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 492. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.

HPEX 493. Field Practicum I. 3-6 Hours.

HPEX 494. Field Practicum II. 3-6 Hours.

HPEX 495. Clinical Experience II. 6 credits.

HPEX electives | 1-2 credits. |

Total Hours: 120-123

The minimum number of credit hours required for this degree is 120.
learning and memory are related to the acquisition of motor skills.

HPEX 295. Clinical Practicum I. 3-6 Hours.
Semester course; variable practicum hours. 3-6 credits. Health, physical education and exercise science majors only. Provides observational and small group experiences for the pre-professional student; includes planned observations, tutorials and small group involvement under the supervision of the faculty and clinical supervisor; summary papers, observational logs, resumes and updated five-year plans are completed in this writing intensive course; a minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

HPEX 296. Clinical Practicum II. 3-6 Hours.
Semester course; variable practicum hours. 3-6 credits. Health, physical education and exercise science majors only. Provides observational and small group experiences for the pre-professional student; includes planned observations, tutorials and small group involvement under the supervision of the faculty and clinical supervisor; a minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

HPEX 300. Health Care Delivery in the U.S.. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Introduces students to the American health care system and provides an opportunity to analyze the diverse components comprising the system. Major components of the system are examined, including inpatient and outpatient services, financing, insurance and technology. Provides the student a perspective of the variety of career choices in health care.

HPEX 310. Fitness and Health. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Presents the knowledge and pedagogical principles of strength, flexibility, aerobic and anaerobic training programs, as well as the role that exercise and lifestyle play on overall health. Emphasis is on understanding, experiencing and applying conditioning principles for individuals and how they impact health.

HPEX 325. Pathology and Pharmacology in Athletic Training. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 220, HPEZ 220L, PHIS 206 and PHIZ/BIOZ 206L. Acquaints the student with the pathology of athletic injuries and the proper use of pharmacology in the treatment of athletic injuries. Includes the pathomechanics of sports injuries and the use of medication in the treatment of sports injuries.

HPEX 330. Elementary Health and Physical Education. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 230, and either HPEX 201 or HPEX 202. Open only to general health and physical education majors in the health, physical education and exercise science program. Emphasis is given to the role of movement and theory in the education program and its implications for curriculum development and learning. Major consideration is given to the development of movement competency through thematic instruction.

HPEX 331. Methods in Driver Education. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: HPEX 232. This course is designed to provide driver education instructional principles and methodology.

HPEX 332. Motor Learning and Performance. 3 Hours.
Semester course; 3 lecture hours. 3 credits. This course is designed to introduce the student to the major concepts of motor control and motor learning and the influencing conditions. It will provide a framework for understanding the structure and function of the nervous system in relation to perception and motor control. Other topics include the general nature of skill acquisition and how learners interact with the environment while performing motor tasks. The theoretical framework underlying learning and memory are related to the acquisition of motor skills.
HPEX 352. Substance Abuse. 3 Hours.
Semester course; 3 lecture hours. 3 credits. A survey of drugs that are used and abused in contemporary society. Multidisciplinary lectures and discussions include the historical and sociological perspectives of drugs in the school and community; the psychological and physiological effects of drug use; and the role of local and regional resources. Designed for students, teachers, counselors, administrators and other interested persons. Rehabilitation methods and prevention programs also will be discussed.

HPEX 353. Disease Trends, Prevention and Control. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Pre- or corequisite: HPEX 250. Provides students an opportunity to examine the major categories of diseases, infectious and noninfectious, including significant examples in each category. Students will also research major diseases affecting the U.S. population as well as global populations. Current modalities for the prevention, treatment and control of these diseases will be studied.

HPEX 354. Coping and Adaptation. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Focuses on common stress factors in life such as death, personal loss, life changes, divorce and emotional problems, such as anger, loneliness and frustration. Strategies for dealing with such stressors are discussed and applied to both personal and professional settings.

HPEX 355. School and Community Health Resources. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Acquaints the student with current available school and community resources and educational materials for health information. Available services in a community health program will be surveyed.

HPEX 356. Community Health Education and Promotion: Theory and Practice. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 300 and 353. Pre- or corequisite: HPEX 355. Introduces theories, roles and skills that are the foundation for the professional practice of community health education. Emphasizes the growing significance of health education in preventing and/or treating health problems, health promotion and improving quality of life. Presents the historical evolution and development of the profession and the various settings in which health educators practice. Assists in the preparation of students for certification as health education specialists.

HPEX 357. Personal Health and Behavior Change. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Designed to provide students with a basic understanding of various contemporary personal and community health issues. Special emphasis placed on increasing awareness of multiple factors that affect individual health-behavior change, and, subsequently, influence current and future health status.

HPEX 358. Introduction to Epidemiology. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: STAT 210. Enrollment restricted to HPEX majors. Introduction of students to the field of public health epidemiology, emphasizing methods for assessing factors associated with the distribution and etiology of health and disease. Skills include methods for identifying and evaluating sources of health information, calculation of key epidemiologic measures, epidemiologic investigation techniques, and evaluation of the strengths and weaknesses of different study designs.

HPEX 370. Coaching Seminar. 1 Hour.
Semester course; 1 lecture hour. 1 credit. A lecture/discussion course that identifies the practical administrative and organizational responsibilities coaches encounter. Realistic problem-solving is stressed.

HPEX 371. Psychology of Physical Activity. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Examines psychological issues related to physical activity, exercise and sport participation. Topics include individual and group motivation theory and techniques, leadership effectiveness, mental health, mental skills training, injury rehabilitation, eating disorders, exercise adherence, addiction, overtraining and use of ergogenic aids. Emphasizes examination of current research and application of psychological principles in a physical activity setting.

HPEX 372. Survey of Kinesiology and Physiology of Exercise. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Examines the basic concepts of human biomechanics and exercise physiology. Includes basic and applied kinesiology and metabolic, endocrinological, cardiovascular and respiratory responses and adaptations to exercise. Emphasizes the integration of kinesiological and physiological principles.

HPEX 373. Structural Kinesiology. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: BIOL 205. Corequisite: HPEX 373. Presents the anatomical aspects of human motion with particular attention given to application of anatomical structure and terminology in analysis of physical activities; emphasizes structure and function of the human musculoskeletal system and qualitative analysis of motor skills.

HPEX 374. Musculoskeletal Structure and Movement. 4 Hours.
Semester course; 3 lecture and 2 laboratory hours. 4 credits. Prerequisite: BIOL 205. Pre- or corequisite: PHYS 201. Enrollment restricted to HPEX majors. Provides an understanding of the mechanical aspects of human motion with particular attention given to application of anatomical structure, terminology and biomechanics in the analysis of physical activity. Laboratory learning allows students to acquire practical knowledge and skills in palpation, biomechanical analysis and instrumentation.

HPEX 375. Physiology of Exercise. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: PHYS 206. Corequisite: HPEX 375. Physiological changes in the human organism resulting from exercise, investigation of recent research in diet, drugs, fatigue, cardiovascular/respiratory fitness, conditioning programs for various age groups and the effects of exercise upon various components of physical fitness and health. Application of specific problems to physical education programs. Laboratory experience in the use of research instruments.

HPEX 380. Resistance Training for Health and Performance. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 310 and HPEX 375. Enrollment restricted to HPEX majors. Provides students with the knowledge, skills and abilities to design and implement resistance training programs for a variety of populations. Covers the scientific and practical basis for resistance training to reduce injuries, improve health and optimize performance. Students actively participate in and demonstrate knowledge of a range of resistance exercise techniques, as well as preparticipation screening. Helps prepare those students wishing to attempt the National Strength and Conditioning Association's Certified Strength and Conditioning exam.
HPEX 391. Special Topic in Health, Physical Education and Exercise Science. 1-3 Hours.
Semester course; 1-3 credits. Health, physical education and exercise science majors only. May be repeated up to a maximum of three credits. Offers students the opportunity to participate in an approved professional experience related to the students’ knowledge base of general education, professional introduction and some core professional courses; may include participatory experiences in which the student plays an active role in the experience; credits determined by the number of contact hours of the experience.

HPEX 392. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.
Semester course; 1-3 credits. Health, physical education and exercise science majors only. May be repeated up to a maximum of 3 credits. Enables a student to create an individualized research project or professional experience based on specific professional needs and goals; must have adviser’s approval; experiences based on the student’s knowledge base of general education and professional introduction and some professional core courses; credits determined by the number of contact hours and extensiveness of the project.

HPEX 393. Field Experience I. 3-6 Hours.
Semester course; variable hours. 3-6 credits. Prerequisites: permission of instructor; acceptance into teacher preparation program; and CPR certification. Health, physical education and exercise science majors only. Precedes the in-depth student teaching experience or the in-depth exercise science field experience; includes planned observations, tutorials, small group involvement under the supervision of the faculty and field supervisor; practices routine, basic and advanced procedures; minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

HPEX 394. Field Experience II. 3-6 Hours.
Semester course; variable hours. 3-6 credits. Health, physical education and exercise science majors only. Designed to provide supervised practical experience in the teaching process or delivery of health education/health promotion programs; opportunities to further abilities in physical education and exercise science through practical application of skills in school or agency settings; a minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements.

HPEX 395. Clinical Experience I. 3 Hours.
Semester course: 3 clinical hours. 3 credits. Prerequisites for students in the exercise science concentration: HPEX 375, junior standing and permission of instructor. Prerequisites for students in the health sciences concentration: HPEX 250, HPEX 300, HPEX 353 and BIOL 205, junior standing, and permission of instructor. Enrollment restricted to HPEX majors. Students are also expected to maintain current CPR/AED/FA certification throughout the semester. Students should consult with an adviser or course instructor to obtain concentration-specific course prerequisites and course requirements. Addresses competencies in exercise science, health promotion and/or health science. Provides experiences at an approved affiliate site under the supervision of faculty and approved site supervisors. Students gain practical experience in routine and basic procedures associated with exercise science, health promotion and/or health science. A minimum of 40 contact hours per credit hour required.

HPEX 396. Clinical Experience II. 3-6 Hours.
Semester course; variable clinical hours. 3-6 credits. Health, physical education and exercise science majors only. Addresses required competencies in the athletic training, kinesiotherapy or community wellness education programs; provides experiences in an approved affiliate site under the supervision of faculty and approved clinical instructors; gains practical experience in routine, basic and advanced procedures associated with athletic training, kinesiotherapy or community wellness; a minimum of 50 contact hours per credit hour required; consult with adviser to obtain specific course requirements and clinical competencies addressed.

HPEX 402. Athletic Training Administration. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 395 and HPEX 396. Acquaints the student with the proper organization and management techniques used in health care administration of athletic training programs. Includes organization, management and administration of health care of the physically active in the athletic setting.

HPEX 403. The Organization, Administration and Supervision of the Intramural Sports Program. 3 Hours.
Semester course; 2 lecture and 2 laboratory hours. 3 credits. Experiences in the organization and administration of an intramural sports program. Lecture will be devoted to the theory, philosophy, history and plans for the conduct of an intramural sports program. Laboratory experience will be obtained by working in intramural programs.

HPEX 431. Adapted Physical Activity. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prepares future teachers and professionals to meet the needs of persons with disabilities in organized health, physical education and rehabilitation programs in the school, community or hospital setting. Provides an overview of those disabilities found most frequently in public school and rehabilitation settings.

HPEX 432. Methods and Curriculum in Physical Education. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prepares students to become independent problem-solvers and decision-makers by applying previously acquired knowledge to curriculum design and instruction in multiple settings; students acquire pedagogical skills and gain insight into the development of a physical education curriculum for elementary, middle and high school levels.

HPEX 433. Methods and Curriculum in Health Education. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prepares students to become independent problem-solvers and decision-makers by applying previously acquired knowledge to curriculum design and instruction in a classroom setting; students acquire pedagogical skills and gain insight into the development of a health education curriculum for elementary, middle and high school levels.

HPEX 434. Health Disparities in the U.S.. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Studies the development of cultural competence. Focuses on factors impacting health and health care delivery as it relates to the patient/consumer as well as the health care practitioner. Targets the values, beliefs, attitudes and customs of multiple segments of the population in relationship to age, gender, disability status, sexual orientation, area of residence, etc. Emphasizes and provides learning experiences to assist in the development of cultural competence.
HPEX 440. Chronic Disease and Exercise Management. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: HPEX 375 and HPEX 375L. Presents in-depth information of various concepts specifically related to exercise management of persons with chronic disease and/or disability. Provides scientific knowledge of various chronic diseases and disabilities that are commonplace and can be managed with physical activity. General topics include cardiovascular and pulmonary diseases, metabolic diseases, immunological and hematological diseases, orthopaedic diseases and disabilities, neuromuscular disorders, and cognitive, emotional and sensory disorders. Focuses on the understanding of specific physical and physiological characteristics associated with the various diseases and disabilities.

HPEX 441. Assessment and Exercise Intervention in Health and Disease. 3 Hours.
Semester course; 2 lecture and 1 laboratory hours. 3 credits. Prerequisite: HPEX and HPEX 375. Provides in-depth information of various concepts specifically related to exercise assessment and prescription for healthy persons and those with chronic disease and/or disability. Examines the various concepts specifically related to measurement of cardiorespiratory fitness, pulmonary function, body composition, flexibility and muscular strength and endurance. Focuses on the development of exercise and physical activity prescriptions for healthy and diseased populations.

HPEX 445. Principles of Health Care Management. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: HPEX 240 or 300. Exposes the student to basic aspects of administration and management in various health care settings. The traditional areas of administration and management, such as planning, organizing, staffing, directing and controlling will be addressed. Contemporary issues such as cultural competence, quality of care, ethics, and fraud and abuse will be examined. The course will provide a theoretical base that will enhance and facilitate the student’s application of sound management principles in various practice settings.

HPEX 450. Program Planning and Evaluation. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: HPEX 356. Corequisite: HPEX 450. Presents the foundations of planning, implementation and evaluation of community health education programs. Exposes students to programming and evaluation in a variety of community health settings, including schools, work sites, hospitals, state and local health departments and nonprofit agencies.

HPEX 451. Professional Conference in Community Health Education. 1 Hour.
Semester course; 1 lecture hour. 1 credit. Offers the student an opportunity to participate in a professional conference focusing on community health education. This experience includes observing, summarizing and critically evaluating presentations, as well as preparing and delivering presentations and networking.

HPEX 470. Exercise Programming and Leadership. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 310, HPEX 380 and HPEX 441. Provides knowledge and skills necessary for assessing, interpreting and designing health and activity programs for apparently healthy populations. Students develop leadership skills through presentation of ACSM exercise testing procedures and implementation of exercise prescriptions.

HPEX 475. Cardiovascular Pathophysiology and Pharmacology. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: HPEX 375 and HPEX 440 or equivalents. Enrollment restricted to HPEX majors. Presents theoretical principles of electrocardiography and the effects of pharmacological intervention in the treatment of cardiovascular disease. Specific emphasis placed on myocardial ischemia, myocardial infarction and their treatment through exercise rehabilitation protocols. The impact of pharmacological agents on the ECG and on exercise is explored.

HPEX 480. Professional Certification Seminar. 1 Hour.
Semester course; 1 lecture hour. 1 credit. Prerequisites: HPEX 380, HPEX 441 and HPEX 470. Enrollment restricted to seniors in HPEX major. Provides structured experiences in the classroom, laboratory and exercise arenas to improve knowledge, skills and abilities in health-related physical fitness assessment and exercise programming. Supplements existing course work by correcting any deficiencies in learning competencies toward being a successful exercise professional. A review of certification materials is also an important component of the course.

HPEX 491. Special Topic in Health, Physical Education and Exercise Science. 1-3 Hours.
Semester course; 1-3 credits. Health, physical education and exercise science majors only. May be repeated up to a maximum of 3 credits. Offers students the opportunity to participate in an approved professional experience related to the students’ knowledge base of general education, professional introduction and extensive core professional courses; may include research-based projects or more academically rigorous experiences; credits determined by the number of contact hours of the experience.

HPEX 492. Independent Study in Health, Physical Education and Exercise Science. 1-3 Hours.
Semester course; 1-3 credits. Health, physical education and exercise science majors only. May be repeated up to a maximum of 3 credits. Enables a student to create an individualized research project or professional experience based on specific professional needs and goals; must have adviser’s approval; experiences based on the student’s knowledge base of general education, professional introduction and extensive core courses; credits determined by the number of contact hours and extensiveness of the project.

HPEX 493. Field Experience III. 3-12 Hours.
Semester course; variable hours. 3-12 credits. Prerequisites: pass Praxis II; HPEX 393 with a minimum grade of C. Health, physical education and exercise science majors only. An in-depth field experience in a public school, health education/health promotion agency or other approved setting; designed to provide the pre-professional student with greater practical application of skills culminating in full responsibility for planning, implementing and evaluating the classroom, agency or facility activities; a minimum of 50 contact hours per credit hour required; consult with adviser to obtain a course syllabus regarding prerequisites and specific course requirements.

HPEX 494. Field Experience IV. 3-6 Hours.
Semester course; variable hours. 3-6 credits. Prerequisites: pass Praxis II; HPEX 393 with a minimum grade of C. Health, physical education and exercise science majors only. An in-depth field experience in a public school, health education/health promotion agency or other approved setting; designed to provide the pre-professional student with greater practical application of skills culminating in full responsibility for planning, implementing and evaluating the classroom, agency or facility activities; a minimum of 50 contact hours per credit hour required; consult with adviser to obtain a course syllabus regarding prerequisites and specific course requirements.
HPEX 495. Clinical Experience II. 6 Hours.
Semester course; 6 clinical hours. 6 credits. Prerequisites: HPEX 358, HPEX 395 and HPEX 435, each with minimum grade of C; or HPEX 395 and HPEX 441, each with minimum grade of C. Enrollment is restricted to students with senior standing in the health, physical education and exercise science major with permission of the instructor. Students are also expected to maintain current CPR/AED/FA certification throughout the semester. Students should consult with the course instructor to obtain course requirements. Fulfills capstone requirement. Addresses competencies in exercise science, health promotion and/or health science. Provides experiences at an approved affiliate site under the supervision of faculty and approved site supervisors. Students gain practical experience in routine, intermediate and advanced procedures associated with exercise science, health promotion and/or health science. A minimum of 40 contact hours per credit hour required.

HPEX 496. Clinical Experience III. 3-6 Hours.
Semester course; 6 clinical hours. 6 credits. Prerequisites: HPEX 395, senior standing, permission of instructor and minimum grade of C in all HPEX prerequisite courses. Enrollment restricted to HPEX majors. Students are also expected to maintain current CPR/AED/FA certification throughout the semester. Students should consult with an adviser or course instructor to obtain concentration-specific course prerequisites and course requirements. Addresses competencies in exercise science, health promotion and/or health science. Provides experiences at an approved affiliate site under the supervision of faculty and approved site supervisors. Students gain practical experience in routine, basic and advanced procedures associated with exercise science, health promotion and/or health science. A minimum of 40 contact hours per credit hour required.