Health, Sport and Exercise Science

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Degree Offered:
Ph.D. in Health, Sport and Exercise Science (HSES)

The Ph.D. program in the Department of Health, Human Performance and Recreation is a research-focused degree that is designed to prepare scholars in advanced study to contribute to the field through teaching, research, and service.

The department is comprised of four divisions and offers the Ph.D. degree with a concentration in each corresponding program area:

1. Exercise Science
2. Health Behavior and Health Promotion
3. Kinesiology Pedagogy
4. Recreation and Sport Management

Ph.D. in Health, Sport and Exercise with Exercise Science Concentration
Admission to Ph.D. Degree Program:

The applicant must have 1) completed a master’s degree or its equivalent in a field related to their specialization area to which they are applying, 2) meet general admission requirements of the Graduate School, 3) a GPA of at least 3.00 on all graduate course work; and 4) an acceptable score on the Graduate Record Examinations (GRE). Admission will be based on the willingness and ability of a graduate faculty member to accept a new student. Additional prerequisites may be prescribed after review of application materials.

Applications must include the following:

1. Curriculum vitae.
2. Statement of purpose and research interest, including specification of the area of concentration to which you are applying.
3. Academic transcripts
4. Three letters of recommendation

Requirements for the Doctor of Philosophy Degree:

A minimum of 60 graduate semester hours, including 18 hours of dissertation, is required after admission into the Ph.D. program. In the event required courses for the Ph.D. program have been taken during a student’s master’s degree program, they will need to substitute another graduate course in lieu of the required course. A doctoral advisory committee will be established by the student in consultation with the Coordinator of Graduate Study during the first semester of enrollment subsequent to acceptance into the degree program. The student, in conjunction with the advisory committee, will define the program of study. The degree program requires successful completion of qualifying examinations, dissertation, and an oral defense of the dissertation. These last requirements are described elsewhere in this catalog.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHPR 5353</td>
<td>Research in Health, Human Performance and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>ESRM 5393</td>
<td>Statistics in Education and Health Professions</td>
<td>3</td>
</tr>
<tr>
<td>HHPR 700V</td>
<td>Doctoral Dissertation</td>
<td>18</td>
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</tbody>
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Research and Statistical Requirements
A minimum of 18 hours approved by doctoral advisory committee. 18
Total Hours 42

Requirements also include the area of concentration presented below.

Requirements for Exercise Science Concentration:

Exercise Science Core
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>EXSC 5323</td>
<td>Biomechanics I</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 5513</td>
<td>Physiology Exercise I</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 5593</td>
<td>Practicum in Laboratory Instrumentation</td>
<td>3</td>
</tr>
</tbody>
</table>

Cognate
The student, in consultation with the doctoral advisory committee, will identify hours of further course work comprising a field of study in an area of interest. Course work may be selected from several related disciplines or a single discipline.

Electives
Students must complete 36 hours of graduate electives as approved by the doctoral advisory committee.

Total Hours 54

Ph.D. in Health, Sport and Exercise Science with Health Behavior and Health Promotion Concentration
Admission to Ph.D. Degree Program:

The applicant must have 1) completed a master’s degree or its equivalent in a field related to their specialization area to which they are applying, 2) meet general admission requirements of the Graduate School, 3) a GPA of at least 3.00 on all graduate course work; and 4) an acceptable score on the Graduate Record Examinations (GRE). Admission will be based on the willingness and ability of a graduate faculty member to accept a new student. Additional prerequisites may be prescribed after review of application materials.

Applications must include the following:

1. Curriculum vitae.
2. Statement of purpose and research interest, including specification of the area of concentration to which you are applying.
3. Academic transcripts
4. Three letters of recommendation

Requirements for the Doctor of Philosophy Degree:

A minimum of 60 graduate semester hours, including 18 hours of dissertation, is required after admission into the Ph.D. program. In the event required courses for the Ph.D. program have been taken during a
student’s master’s degree program, they will need to substitute another graduate course in lieu of the required course. A doctoral advisory committee will be established by the student in consultation with the Coordinator of Graduate Study during the first semester of enrollment subsequent to acceptance into the degree program. The student, in conjunction with the advisory committee, will define the program of study. The degree program requires successful completion of qualifying examinations, dissertation, and an oral defense of the dissertation. These last requirements are described elsewhere in this catalog.

HHPR 5353  Research in Health, Human Performance and Recreation  3
ESRM 5393  Statistics in Education and Health Professions  3
HHPR 700V  Doctoral Dissertation  18

Research and Statistical Requirements
A minimum of 18 hours approved by doctoral advisory committee.  18

Total Hours  42

Requirements also include the area of concentration presented below.

Requirements for the Health Behavior and Health Promotion Concentration:
The Health Behavior and Health Promotion concentration trains health behavior researchers for academic positions in university settings, for positions in federal health agencies such as the Centers for Disease Control and Prevention and the National Institutes of Health, and for post-doctoral research fellowships.

Health Behavior Core
PBHL 5533  Theories of Social and Behavioral Determinants of Health  3
PBHL 5563  Public Health: Practices and Planning  3
PBHL 5573  Principles of Health Education  3
PBHL 5613  Epidemiology  3

Cognate
The student, in consultation with the doctoral advisory committee, will identify hours of further course work comprising a field of study in an area of interest. Course work may be selected from several related disciplines or a single discipline.

Electives
Students must complete 36 hours of graduate electives as approved by the doctoral advisory committee.

Total Hours  54

Ph.D. in Health, Sport and Exercise Science with Kinesiology Pedagogy Concentration

Admission to Ph.D. Program:
The applicant must have 1) completed a master’s degree or its equivalent in a field related to their specialization area to which they are applying, 2) meet general admission requirements of the Graduate School, 3) a GPA of at least 3.00 on all graduate course work; and 4) an acceptable score on the Graduate Record Examinations (GRE). Admission will be based on the willingness and ability of a graduate faculty member to accept a new student. Additional prerequisites may be prescribed after review of application materials.

Applications must include the following:

1. Curriculum vitae.
2. Statement of purpose and research interest, including specification of the area of concentration to which you are applying.
3. Academic transcripts
4. Three letters of recommendation

Requirements for the Doctor of Philosophy Degree:
A minimum of 60 graduate semester hours, including 18 hours of dissertation, is required after admission into the Ph.D. program. In the event required courses for the Ph.D. program have been taken during a student’s master’s degree program, they will need to substitute another graduate course in lieu of the required course. A doctoral advisory committee will be established by the student in consultation with the Coordinator of Graduate Study during the first semester of enrollment subsequent to acceptance into the degree program. The student, in conjunction with the advisory committee, will define the program of study. The degree program requires successful completion of qualifying examinations, dissertation, and an oral defense of the dissertation. These last requirements are described elsewhere in this catalog.

HHPR 5353  Research in Health, Human Performance and Recreation  3
ESRM 5393  Statistics in Education and Health Professions  3
HHPR 700V  Doctoral Dissertation  18

Research and Statistical Requirements
A minimum of 18 hours approved by doctoral advisory committee.  18

Total Hours  42

Requirements also include the area of concentration presented below.

Requirements for the Kinesiology Pedagogy Concentration:

Pedagogy Core
PHED 6383  Supervision in Physical Education  3
PHED 5253  The Physical Education Curriculum  3
PHED 5273  Professional Issues in Physical Education and Sport  3

Cognate
A minimum of 6 hours approved by doctoral advisory committee.  6

Electives
The student, in consultation with the doctoral advisory committee, will identify further course work comprising a field of study in kinesiology and consistent with the goals and objectives of the student and institution. Course work may be selected from several related disciplines or a single discipline.

Total Hours  39

Total Hours  54

Ph.D. in Health, Sport and Exercise Science with Recreation and Sport Management Concentration

Admission to Ph.D. Program:
The applicant must have 1) completed a master’s degree or its equivalent in a field related to their specialization area to which they are applying, 2) meet general admission requirements of the Graduate School, 3) a GPA of at least 3.00 on all graduate course work; and 4) an acceptable score on the Graduate Record Examinations (GRE). Admission will be based on the willingness and ability of a graduate faculty member to accept a
new student. Additional prerequisites may be prescribed after review of application materials.

Applications must include the following:

1. Curriculum vitae.
2. Statement of purpose and research interest, including specification of the area of concentration to which you are applying.
3. Academic transcripts
4. Three letters of recommendation

Requirements for the Doctor of Philosophy Degree:

A minimum of 60 graduate semester hours, including 18 hours of dissertation, is required after admission into the Ph.D. program. In the event required courses for the Ph.D. program have been taken during a student’s master’s degree program, they will need to substitute another graduate course in lieu of the required course. A doctoral advisory committee will be established by the student in consultation with the Coordinator of Graduate Study during the first semester of enrollment subsequent to acceptance into the degree program. The student, in conjunction with the advisory committee, will define the program of study. The degree program requires successful completion of qualifying examinations, dissertation, and an oral defense of the dissertation. These last requirements are described elsewhere in this catalog.

Total Hours

HHPR 5353 Research in Health, Human Performance and Recreation 3
ESRM 5393 Statistics in Education and Health Professions 3
HHPR 700V Doctoral Dissertation 18

Research and Statistical Requirements

A minimum of 18 hours approved by doctoral advisory committee. 18

Electives

Students must complete 36 hours of graduate electives as approved by the doctoral advisory committee. 36

Total Hours 54

Requirements also include the area of concentration presented below.

Requirements for the Recreation and Sport Management Concentration:

The Recreation and Sport Management concentration prepares students to become teachers, researchers, and leaders in the area of recreation, sport management and leisure in university settings.

Recreation and Sport Management Core

RESM 612V Directed Reading in Recreation and Sport 3
RESM 6133 Issues in RESM 3
HHPR 6233 Management in HHPR 3

Cognate

The student, in consultation with the doctoral advisory committee, will identify hours of further course work comprising a field of study in an area of interest. Course work may be selected from several related disciplines or a single discipline.

Electives

Students must complete 36 hours of graduate electives as approved by the doctoral advisory committee.

Courses

EXSC 5023. Advanced Teaching in Exercise Science. 3 Hours.
Examination and practical exposure to the principles and practices of undergraduate teaching in exercise science. Includes course planning, teaching techniques, assessment strategies, and supervised practice. May be repeated for up to 6 hours of degree credit.

EXSC 5323. Biomechanics I. 3 Hours.
Intended to serve as an introduction to biomechanics and focuses on scientific principles involved in understanding and analyzing human motion.

EXSC 5333. Instrumentation in Biomechanics. 3 Hours.
The application of knowledge and skills necessary for data collection for sports analysis. Provides valuable information on instrumentation used specifically in biomechanics. Prerequisite: EXSC 5323.

EXSC 5353. Exercise Psychology. 3 Hours.
Exercise Psychology is a lecture and discussion format for students interested in learning about theoretical and research information related to exercise adherence.

EXSC 5443. Seminar in Brain Injury and Behavior. 3 Hours.
The Brain Injury and Behavior Seminar will immerse you in specific topics pertaining to the study of human brain-behavior relationships. Emphasis will be placed on traumatic brain injury (TBI), including moderate-to-severe injuries, as well as mild TBI or concussion. The first half of the course will focus on research related to how individuals sustain and recover from TBI. The second half of the course will focus on sports-related concussion in youth, collegiate, and professional athletes, with an emphasis on how athletes sustain concussions, how concussions are assessed, treated, and managed, and how return-to-play decisions are made. This course will introduce you to research in a variety of fields that include physiology, neurology, and neuropsychology through primary source material in the form of book chapters and journal articles.

EXSC 5513. Physiology Exercise I. 3 Hours.
A study of the foundation literature in exercise physiology. Emphasis is placed on the muscular, cardiovascular, and respiratory systems.

EXSC 5523. Muscle Metabolism in Exercise. 3 Hours.
A study of the metabolic changes that occur in muscle as a result of exercise, exercise training, and other stressors. Prerequisite: EXSC 5513 or equivalent.

EXSC 5533. Cardiac Rehabilitation Program. 3 Hours.
An examination of the concepts, design, and implementation of cardiac rehabilitation programs. Emphasis on exercise programs but reference to nutrition, psychology, and other lifestyle interventions.

EXSC 5543. Cardiovascular Function in Exercise. 3 Hours.
Study of the effects of exercise training and other stressors on the cardiovascular system. Detailed study of the components of the cardiovascular system and the responses and adaptations of those components to selected stimuli. Corequisite: EXSC 5513 or equivalent.

EXSC 5593. Practicum in Laboratory Instrumentation. 3 Hours.
Practical experience in testing physical fitness utilizing laboratory equipment. Objective is to quantify physiological parameters, leading to the individualized exercise prescription. Corequisite: Lab component.

EXSC 5613. Physical Dimensions of Aging. 3 Hours.
This course will focus on the physiological changes with healthy aging, pathophysiology of age-related diseases, testing issues, exercise interventions, and the psychosocial aspects of aging. Prerequisite: EXSC 5513.

EXSC 5643. Advanced Psychology of Sports Injury and Rehabilitation. 3 Hours.
The purpose of this course is to explore and discuss factors related to the psychological aspects of athletic injuries. These factors include the sociocultural, mental, emotional, and physical dimensions of injury rehabilitation. Prerequisite: Students must be accepted into the Masters of Athletic Training graduate program.
EXSC 5773. Performance and Drugs. 3 Hours.
The pharmacological and physiological effects of ergogenic aids upon the athlete and performance coupled with the ethical and moralistic viewpoints of drug taking. Practical laboratory experiences are provided with pertinent statistical surveys of athletes; their drug taking habits and relevant psychological impact on performance.

EXSC 6313. Muscle Physiology. 3 Hours.
To expand the student's knowledge of the skeletal muscle form and function. Specifically, how muscle is formed to how it can adapt as a post-mitotic tissue. This course will focus on the morphological, physiological, cellular, and molecular factors that affect skeletal muscle form and function.

EXSC 6323. Biomechanics II. 3 Hours.
Analysis of human movement with emphasis on sports skills by application of principles of anatomy, kinesiology, and cinematographical analysis. Prerequisite: EXSC 5323.

EXSC 6343. Physiology of Exercise II. 3 Hours.
Detailed study of the body systems affected by exercise, the functions of these systems during exercise, the effects of age, sex, body type, and nutrition on capacity for exercise, the techniques of assessing work capacity, and a critical analysis of research literature in this area.

EXSC 6443. Thermoregulation and Fluid Balance. 3 Hours.
Comprehensive overview of human thermoregulatory responses to exercise in heat and cold.