

# Health and Human Physiology, PhD

## Learning Outcomes

Graduates will:

- demonstrate understanding and critical evaluation of the scholarly literature in the area of specialization within human physiology and/or health promotion;
- formulate testable research questions and hypotheses resulting in proper experimental study design and analysis plans;
- conduct quantitative or qualitative research including data collection, analysis, and interpretation of results in the context of current scientific knowledge;
- present research results in oral, poster, and/or written format to the scientific community;
- prepare a research grant or fellowship for an extramural federal, state, or private funding agency; and
- prepare original research manuscript(s) as the first author for submission to a peer-reviewed scientific journal.

## Requirements

The Doctor of Philosophy program in health and human physiology requires a minimum of 72 s.h. of graduate credit.

Doctoral students should have a strong background in the natural sciences and/or health promotion, and a working knowledge of statistics and research methodology. Students may acquire additional knowledge of statistics and research methodology after entering the program.

All PhD students complete a common core of courses, elective courses, 10 s.h. of independent research in HHP:6000 Research, and a 12 s.h. dissertation requirement in HHP:7900 Thesis: PhD They must complete a dissertation in their specialization area.

Some courses in the program are offered by other departments. Faculty members from those departments frequently serve on comprehensive examination committees and on dissertation committees for the initial presentation of a candidate's prospectus. They also participate in the final examination.

The PhD with a major in health and human physiology requires the following coursework.

## Core Courses

Course #	Title	Hours
All of these:		
HHP:6000	Research	arr.
HHP:6020	Advanced Research Methods and Ethics	3
HHP:7000	Practicum in College Teaching (only for students without a teaching assistantship)	arr.
HHP:7900	Thesis: PhD	arr.

## Introductory Statistics Course

Course #	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
PSQF:6242	Selected Applications of Statistics	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Advanced Statistics Courses

Course #	Title	Hours
Two advanced statistics courses, such as the following (consult advisor):		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	3

## Seminar Courses

Course #	Title	Hours
Four enrollments (1 s.h. each) from the following:		
HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6500	Seminar in Health Promotion	1

## General Electives

Students are expected to obtain broad-based knowledge in their specialization area. This normally entails approximately 30 s.h. of coursework. Students choose specialization electives with guidance from their advisor/mentor. Electives may include any of the following.

Course #	Title	Hours
HHP:4020	Health Coaching	3
HHP:4320	Nutrition Interventions	3
HHP:4365	Internship in Health Coaching	3
HHP:4420	Planning and Evaluating Health Interventions	3
HHP:5200	Physical Activity Epidemiology	3
HHP:6030	Physical Activity and Dietary Behavior Change	3
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6150	Advanced Clinical Exercise Physiology	1,3
HHP:6200	Advanced Metabolic Exercise Testing and Prescription	1,4
HHP:6260	Advanced Respiratory Pathophysiology	1,3
HHP:6310	Advanced Sport and Exercise Nutrition	3
HHP:6410	Advanced Integrative Physiology of Exercise	1,3

HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6510	Advanced Energetics in Health and Disease	1,3
HHP:7300	Advanced Sensorimotor Neurophysiology	1,3
ACB:5203	Gross Human Anatomy for Graduate Students	5-6
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:6100	Writing a Grant Proposal	3
EPID:6350	Nutritional Epidemiology	2
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6600	Epidemiology of Chronic Diseases	3
FRRB:7000	Redox Biology and Medicine	4
MMED:6230	Pathogenesis of Metabolic and Cardiovascular Disorders	3
MPB:5153	Graduate Physiology	4
NSCI:7235/ NEUR:7235	Neurobiology of Disease	3
OEH:4310	Occupational Ergonomics: Principles	3
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3
PCOL:3102	Pharmacology II: Mechanisms of Drug Action	3
PCOL:4130	Drug Mechanisms and Actions	3
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3

## Independent Research

Students must enroll in the independent research course.

Course #	Title	Hours
This course:		
HHP:6000	Research	10

## Dissertation

Students working on a dissertation register for the following course.

Course #	Title	Hours
HHP:7900	Thesis: PhD	12

## Admission

Admission to the graduate program is based on grade-point average, and score on the Graduate Record Examination (GRE) General Test or International English Language Testing System (IELTS). International students also can submit acceptable scores on the Test of English as a Foreign Language (TOEFL) or the Duolingo English Test (DET).

Applicants to the PhD program must have a grade-point average of at least 3.00 on undergraduate work and previous graduate work. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application deadline is Feb. 1 for admission the following fall.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Health and Human Physiology, PhD

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

72 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>

<b>Hours</b>		<b>0</b>
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### First Year

#### Fall

HHP:6020	Advanced Research Methods and Ethics	3
Specialization Area elective <sup>b</sup>		4
Introductory Statistics course <sup>c</sup>		3
Seminar course <sup>d</sup>		1

<b>Hours</b>		<b>11</b>
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#### Spring

HHP:6000	Research	3
Advanced Statistics course <sup>e</sup>		3
Specialization Area elective <sup>b</sup>		4
Seminar course <sup>d</sup>		1

<b>Hours</b>		<b>11</b>
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### Second Year

#### Fall

HHP:6000	Research	3
Advanced Statistics course <sup>e</sup>		3
Specialization Area elective <sup>b</sup>		3

Seminar course <sup>d</sup>	1
<b>Hours</b>	<b>10</b>
<b>Spring</b>	
HHP:6000 Research	4
Specialization Area elective <sup>b</sup>	3
Specialization Area elective <sup>b</sup>	4
Comprehensive Exam <sup>f</sup>	
<b>Hours</b>	<b>11</b>
<b>Third Year</b>	
<b>Fall</b>	
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
HHP:7900 Thesis: PhD	3
Seminar course <sup>d</sup>	1
<b>Hours</b>	<b>10</b>
<b>Spring</b>	
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
Specialization Area elective or HHP:6000 Research <sup>b</sup>	4
HHP:7900 Thesis: PhD <sup>b</sup>	3
Comprehensive Exam <sup>g</sup>	
<b>Hours</b>	<b>10</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
HHP:7900 Thesis: PhD	3
<b>Hours</b>	<b>6</b>
<b>Spring</b>	
HHP:7900 Thesis: PhD	3
Final Exam: Dissertation Defense	
<b>Hours</b>	<b>3</b>
<b>Total Hours</b>	<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with faculty advisor to determine appropriate graduate coursework and sequence.

c Choose one course from BIOS:4120, PSQF:6242, STAT:3510/IGPI:3510, STAT:4143/PSQF:4143.

d Choose from HHP:6300, HHP:6400, HHP:6500; enroll four times for 1 s.h. each.

e Choose two courses from BIOS:5120/IGPI:5120/STAT:5610, STAT:6513/PSQF:6243.

f For students entering with an MA or MS degree.

g For students entering with a BA or BS degree.