

# Health, Nutrition and Exercise Science

---

## Department Information

- **Department Head:**  
Yeong Rhee, Ph.D.
- **Graduate Coordinator:**  
Kyle Hackney, Ph.D.
- **Department Location:**  
Bentson Bunker Fieldhouse
- **Department Phone:**  
(701) 231-7474
- **Department Web Site:**  
[www.ndsu.edu/hnes/](http://www.ndsu.edu/hnes/)
- **Application Deadline:**  
Exercise/Nutrition Science option: December 1 for spring, August 1 for fall. Physical Education and Sport option: rolling enrollment; enrollment is limited to 32 students.
- **Credential Offered:**  
M.S.
- **English Proficiency Requirements:**  
TOEFL iBT 79; IELTS 6.5

---

## Program Description

The Department of Health, Nutrition, and Exercise Sciences (HNES) offers graduate study leading to the Master of Science (M.S.) degree in HNES with options in Exercise/Nutrition Science and Leadership in Physical Education and Sport (online). The HNES department also offers a Master of Science (M.S.) in Dietetics (online through the Great Plains Interactive Distance Education Alliance), Master of Science (M.S.) in Advanced Athletic Training ([http://www.ndsu.edu/hnes/advanced\\_athletic\\_training\\_post\\_professional](http://www.ndsu.edu/hnes/advanced_athletic_training_post_professional)) and a Master of Athletic Training (MATrg) ([http://www.ndsu.edu/hnes/athletic\\_training\\_professional](http://www.ndsu.edu/hnes/athletic_training_professional)) degree. A Ph.D. degree in Exercise Science and Nutrition ([http://www.ndsu.edu/hnes/phd\\_in\\_exercise\\_science\\_and\\_nutrition](http://www.ndsu.edu/hnes/phd_in_exercise_science_and_nutrition)) is also available.

## M.S. in Health, Nutrition and Exercise Sciences

### Option in Exercise/Nutrition Science

The Exercise/Nutrition Science option prepares the graduate for advanced positions with an emphasis in the areas of physical activity, exercise science, nutrition, and health promotion. The department is devoted to researching and understanding the long-term effects of physical activity and nutrition, and translating this research into effective exercise science and wellness programs for children, adolescents, and adults of all ages. This option is appropriate for athletic trainers, nutrition, and exercise science graduates.

Admission requirements are as follows:

1. Cumulative baccalaureate GPA of 3.0 or better on a 4.0 scale.
2. Completion of a Bachelor's degree from an accredited university in field closely related to Nutrition, Dietetics, or Exercise Science.
3. A faculty has agreed to be the applicant's mentor.

### Accelerated BS/MS in Dietetics and Nutrition

This is a combined program for undergraduate dietetics students. Students apply for the dietetics program in the spring of their second (sophomore) year and then apply for the accelerated M.S. program in the fall of their third (junior) year. Students in this option will earn a B.S. in Dietetics, an M.S. in Exercise/Nutrition Science, and complete the required 1200 hours of supervised practice to sit for the national Registration Exam for Dietitians. The program is designed to be completed in 5 years. Students who are interested should contact the College of Human Development and Education Academic Advisor located in EML 270 for more information.

### Option in Leadership in Physical Education and Sport

The Leadership in Physical Education and Sport (LPES) option is an online program that prepares teachers, coaches, and sport leaders to become actively engaged in leadership roles within school systems or professional organizations. This degree prepares students to be master teachers, head coaches, department heads, and activities directors at the interscholastic level; assistant coaches, lecturers, and assistant or lead directors at the intercollegiate level; and to become actively engaged in leadership roles within professional organizations.

Admission requirements are as follows:

1. Cumulative baccalaureate GPA of 3.0 or better on a 4.0 scale.
2. Undergraduate degree in the field of Kinesiology (physical education, coaching, sports management, etc.)

A 3.0 is needed to be considered for full acceptance into the LPES program. Applicants with a undergraduate GPA below 3.0 will be considered for conditional acceptance and will have to complete 6 graduate credit hours with grades of at least B to be considered for full standing. Meeting these criteria does not guarantee acceptance.

## **M.S. in Dietetics (On-line)**

The Dietetics program prepares registered dietitians to practice at an advanced level or pursue doctoral study. The Great Plains Interactive Distance Education Alliance program in Dietetics provides opportunities for registered dietitians and registration-eligible dietetic graduates to integrate and apply principles from the biomedical sciences, human behavior, and management to design and lead effective food and nutrition programs in a variety of settings. This program is fully online ([http://www.ndsu.edu/hnes/dietetics\\_on\\_line](http://www.ndsu.edu/hnes/dietetics_on_line)).

In a multi-institution degree program, students (must be registered dietitians or registration-eligible dietetic graduates):

1. Apply and are admitted to one university;
2. Enroll in all courses at that university; and
3. Graduate or receive a certificate from that university.

## **Ph.D. in Exercise Science and Nutrition**

The Department of Health, Nutrition and Exercise Sciences (HNES) offers a doctoral program in Exercise Science and Nutrition. Exercise Science and Nutrition includes the study of energy systems, nutrient intake, behavior motivation, and the physiology and mechanics of movement. Faculty are scholars in community nutrition, nutrition across the lifespan, clinical nutrition, exercise science, biomechanics, and physical activity and health. Prevention and treatment of obesity, improving physical activity, and building community-based health enhancements across the lifespan are strengths of the HNES faculty. Graduates of this program will have a strong understanding of both Exercise Science and Nutrition that will enable them to assume positions of leadership in research and teaching in community, government, university or other professional agencies and organizations.

Admission requirements are as follows:

- 1) Cumulative baccalaureate GPA of 3.0 or better on a 4.0 scale.
- 2) Graduate Record Examination (GRE).
- 3) Completion of a Bachelor's or Master's degree from an accredited university in field closely related to Nutrition, Health, Dietetics, Kinesiology, or Exercise Science.
- 4) A faculty has agreed to be the applicant's mentor.

In addition to Graduate School admission requirements, the following criteria will be considered at the time of application for admission into graduate study. Admission to a master's degree program is considered ONLY after all required application materials have been received and reviewed. In order to be considered, the applicant must have a Bachelor of Science degree in an HNES related field from an accredited institution, an overall undergraduate GPA of 3.0 on a 4.0 scale, and have submitted all required materials as listed. The GRE is required for the Ph.D. and the M.S. option in Exercise/Nutrition Science.

During the application process, the applicant must submit an exhibit of his/her written competency through an essay discussing professional philosophy and professional goals.

The Department of Health, Nutrition, and Exercise Sciences reserves the right to obtain additional information about the applicant's professional competence from qualified professionals. Admission decisions are based upon the predicted success of the applicant as a student and professional in the chosen field and are made only after considering all available data.

## **Financial Assistance**

Both research and teaching assistantships may be available. Applications are considered on the basis of scholarship, potential to undertake advanced study and research, and financial need. To be considered for an assistantship, a completed Graduate School application, official transcripts, and three letters of reference must be received by the Graduate School by the program deadline. The department admits students for fall semester only in the Ph.D. program and the MS Exercise/Nutrition option. Graduate assistants receive a financial stipend for their work, and a full tuition waiver for fall, spring, and summer semesters. Assistantships are available contingent upon current funding and faculty need.

## **Exercise/Nutrition Science Option**

**Plan A- thesis**

The thesis typically includes a problem statement, a review of existing literature relevant to that problem, and the creation and presentation of new knowledge in providing a solution to the problem. Each student assembles a supervisory committee and pass a final oral examination in which the supervisory committee serves as the examining committee. Following a successful defense, the candidate will submit an electronic copy of their thesis to the Graduate School for review. This path is recommended for all students but specifically relevant for those interested in going on to further graduate work (PhD, DPT, MD). Total Credits 31.

#### Plan B- paper

The Plan B master's student will develop a thorough understanding of existing knowledge and the ability to apply that existing knowledge to a problem of interest. Note that under this degree, the new knowledge being created is limited, and this is the primary difference between the Plan A and Plan B degrees. The precise nature of the individual creative component is defined by the program. Examples of possible creative components include a comprehensive paper or an integrated field experience. Each student would assemble a supervisory committee and pass a final oral examination. Following a successful defense, the candidate will compose an executive summary or assemble other appropriate documentation as defined by the program to be submitted to the Graduate School. This submission to the Graduate School is to be approved by the student's supervisory committee. This path is recommended for all students but is specifically relevant for those who wish to obtain employment directly after completing their degree or who may still be interested in further graduate work but the scope of the next step is not yet defined. Total credits 31.

#### Plan C-Internship/Capstone

The Plan C is designed for programs in which a well-defined culminating experience is more important than is an individual creative component. Each program will define a culminating experience such as a capstone experience or some other approach to measure the candidate's understanding of the relevant material in the area (certification, internship experience/project). The student's supervisory committee would generally consist of faculty solely from within that discipline. The supervisory committee may specify that a certain level of performance (i.e., a minimum GPA) be obtained in specified courses or in the program itself. Upon completion of the appropriate course work and culminating experience, the candidate must submit the examination documentation (if required by program) and an Application for Graduate Degree to Graduate School. This path is recommended for all students but is specifically relevant for those who are currently employed full-time in the community and are wishing to advance their current employment status (i.e., no further graduate work). Total credits 34.

Code	Title	Credits
<b>Required Courses- Plan A, B, C</b>		
HNES 790	Graduate Seminar (Introduction to HNES )	1
HNES 726	Nutrition in Wellness	3
HNES 713	Graduate Exercise Physiology	3
<b>Additional Required Courses- Plan A &amp; B Only</b>		
HNES 710	Introduction to Research Design and Methods in HNES	3
HNES 727	Physical Activity Epidemiology	3
STAT 725	Applied Statistics	3
HNES 798	Master's Thesis	6
or		
HNES 797	Master's Paper	1-3
<b>Additional Required Plan C Only</b>		
HNES 793	Individual Study	1-5
and/or		
HNES 794	Practicum/Internship	1-15
and/or		
HNES 795	Field Experience	1-15
<b>Electives</b>		9
HNES 660	Leadership and Communication in Dietetics	3
HNES 703	Graduate Biomechanics of Sport and Exercise	3
HNES 704	Psychological Foundation of Sport & Physical Activity	3
HNES 724	Nutrition Education	3
HNES 735	Nutrition and Human Performance	
HNES 760	Skeletal Muscle Physiology	3
HNES 761	Physiological and Fitness Assessment in Exercise Science	3
HNES 762	Exercise Endocrinology	
HNES 770	Evidence Based Research and Practice	2
HNES 777	Scholarly Writing and Presenting in HNES	3

HNES 791	Temporary/Trial Topics	1-5
HNES 792	Graduate Teaching Experience	1-6

## Leadership in Physical Education and Sport Option

Code	Title	Credits
<b>Required</b>		
HNES 700	Research in Physical Education and Sport	3
HNES 701	Leadership and Supervision	3
HNES 712	Principles of Management	3
<b>Elective</b>		
HNES 704	Psychological Foundation of Sport & Physical Activity	3
HNES 705	Analysis of Sport Skill Instruction and Acquisition	3
HNES 707	Sport in American Society	3
HNES 708	Positive Youth Development through Sport	3
HNES 709	Leadership Influence in Physical Education and Sport	3
HNES 711	Physical Education Curriculum	3
HNES 714	Legal Liability in HPER	3
HNES 715	Teaching Concepts -Based Fitness	3
HNES 716	Financial Management in Sport	3
HNES 731	Governance in Sport	3
HNES 736	Ethical Leadership	3
HNES 790	Graduate Seminar	1-3
HNES 792	Graduate Teaching Experience	1-6
HNES 793	Individual Study	1-3
HNES 795	Field Experience	1-3

## Dietetics Option

A Dietetics graduate candidate must complete a minimum of 36 credit hours to earn a Master of Science degree, 30 of which are didactic. The remaining 6-credits required to complete the degree must follow one of 3 plans.

Plan A – Thesis [if planning on a terminal degree or only recommended if the student is able to travel to NDSU to meet with the major professor].

Plan B – Comprehensive Study - After consulting with the major advisor and selecting a topic, students will carry out planning and completion of this research-based project in frequent interactions with a supervisory committee. The culmination of this project would be a comprehensive report or a manuscript that could be submitted to a journal.

Plan C – This plan would require 36 credits of coursework. Elective graduate courses totaling six credits will be taken from the electives.

Code	Title	Credits
<b>Required Core Courses</b>		<b>9</b>
HNES 710	Introduction to Research Design and Methods in HNES	
HNES 728	Current Issues in Dietetics	
STAT 725	Applied Statistics	
<b>Electives</b>		<b>21</b>
ADHM 635	Cost Controls in Hospitality and Food Service Systems	
ADHM 736	Entrepreneurship in Dietetics	
HNES 642	Community Health and Nutrition Education	
HNES 652	Nutrition, Health and Aging	
HNES 655	Sports Nutrition	
HNES 724	Nutrition Education	
HNES 726	Nutrition in Wellness	
HNES 729	Grant Writing for the Health Professional	
HNES 730	Fundamentals of Leadership	

HNES 732	Foodservice Operation Management	
HNES 733	Food Writing for Professionals	
HNES 734	Foodservice Systems within Healthcare	
HNES 740	Maternal and Child Nutrition	
HNES 741	International Nutrition	
HNES 742	Nutrition: A Focus on Life Stages	
HNES 743	Obesity Across the Lifespan	
HNES 745	Community Health Leadership	
HNES 746	Nutrition and Health Disparities	
HNES 747	Understanding Food Culture	
HNES 750	Advanced Human Nutrition: Macronutrients	
HNES 751	Metabolism of Micronutrients	
HNES 752	Phytochemicals	
HNES 755	Advanced Clinical Nutrition	
HNES 756	Pediatric Clinical Nutrition	
HNES 757	Nutritional Aspects of Oncology	
HNES 758	Clinical Aspects of Nutrition Support	
HNES 759	Nutrition and Immunology	
HNES 798	Master's Thesis	6
or HNES 797	Master's Paper	
Total Credits		36

#### **Bryan Christensen, Ph.D.**

University of Kansas, 2000

Research Interests: Biomechanics, Sports Psychology, Strength and Conditioning

#### **Shannon David, Ph.D.**

Ohio University, 2013

Research Interests: Patient-Clinician Relationship, Patient Oriented Outcomes

#### **Joe Deutsch, Ph.D.**

North Dakota State University, 2007

Research Interests: Physical Education Teacher Education, Youth Sport Coaching

#### **Marty Douglas, Ph.D.**

Michigan State University, 2009

Research Interests: Adapted Physical Activity

#### **Kara Gange, Ph.D.**

North Dakota State University, 2010

Research Interests: Therapeutic Modalities, Diagnostic Ultrasound

#### **Julie Garden-Robinson, Ph.D.**

North Dakota State University, 1994

Research Interests: Nutrition Education, Chronic Disease Prevention, Food Safety/Science

#### **Kyle Hackney, Ph.D.**

Syracuse University, 2013

Research Interests: Skeletal Muscle, Sarcopenia, Muscle Inactivity, Ergogenic Aids

#### **Elizabeth Hilliard, Ph.D.**

North Dakota State University, 2018

Research Interests: Breastfeeding Support and Promotion in the Workplace, and Infant and Child Feeding Practices

#### **Jenny Linker, Ph.D.**

University of Illinois Urbana-Champaign, 2011

Research Interests: Comprehensive School Physical Activity Programs, Physical Education Teacher Preparation

#### **Katie Lyman, Ph.D.**

University of South Florida, 2014

Research interests: Kinesio Tape®, Emergency Medicine, Electromyography

**Ryan McGrath, Ph.D.**

University of Idaho, 2015

Research Interests: Frailty and Health, Epidemiology of Aging, Physical Activity and Health for Aging Adults and Persons with Disabilities, Disability Prevention

**Yeong Rhee, Ph.D.**

Oklahoma State University, 1999

Research Interests: Chronic Disease Prevention, Functional Foods

**Sherri Nordstrom Stastny, Ph.D.**

North Dakota State University, 2007

Research Interests: Nutrition for Healthy Aging

**Bradford N. Strand, Ph.D.**

University of New Mexico, 1988

Research Interests: Physical Education Curriculum and Instruction, Fitness Education, Sport Sociology

**Donna J. Terbizan, Ph.D.**

The Ohio State University, 1982

Research Interests: Exercise Physiology, Fitness, Wellness, Exercise Science, Chronic Disease Change