

# HEALTH AND HUMAN PERFORMANCE (MS)

Program Director: Dennis Koch, PhD, HFS

Faculty: Khalid Bibi, PhD, HFS; Rachel Darr, MS, RD, CSSD, CDN; Patrick Gannon, PharmD; Garry Ladd, DHS; Daniel Smith, PhD, CRC, NCC, LMHC, BCC; Melva Visher, MA, RHIA; Mark Warner, MS; Sheryl Warren, MS, RD; Devorah Lucas, DBH, RDN, CDE; Rachel Darr, PhD, MS, RD, CSSD, CDN.

Degree: Master of Science

## Introduction

The Master of Science degree program in Health and Human Performance at Canisius College trains students in the areas of rehabilitative and preventive health, and gives students options to specialize in cardiac rehabilitation, health promotion, or strength and conditioning.

Offered in a **hybrid format** that includes some online and some face-to-face classes, the 34 to 35 credit hour MS program offers students the choice between an internship and a research (thesis) experience, the latter a preparation for doctoral programs. The program prepares students to practice in clinical settings as part of a health care team, or to work in exercise and health-promotion programs with apparently healthy or high-risk populations. For out-of-town students, **all face-to-face courses required for graduation can be completed in 1 semester** in Buffalo, and the rest of the curriculum can be completed from anywhere.

The curriculum will provide students with appropriate course work and field experiences to prepare for the American College of Sports Medicine (ACSM) Certified Personal Trainer (CPT), Health Fitness Specialist (HFS), Exercise Specialist (ES) and Registered Clinical Exercise Physiologist (RCEP) certification exams. There will also be course work geared towards preparing students for the Certified Strength and Conditioning Specialist (CSCS) exam offered by the National Strength and Conditioning Association (NSCA).

## Admission

Applications are processed on a rolling basis and are considered as they are received for each term. We recommend submitting all materials required for admission at least 30 days prior to the start of the term you wish to begin. Earlier application will ensure the best scheduling options, as some course sections may become unavailable. Terms are eight weeks in length, and students may start in the fall, spring, or summer semesters. The online application can be submitted with no application fee.

To qualify for admission, all students must:

- Complete the graduate admissions application.
- Complete a baccalaureate degree from an accredited institution of higher learning with a minimum GPA of 2.70.
- Submit one (1) official undergraduate transcript from each institution attended with the degree posted from the degree-granting institution.
- Submit two (2) letters of recommendation.
- Provide evidence of sufficient college-level coursework in the areas of anatomy and physiology and exercise physiology. Students who do not meet prerequisites may be required to complete additional coursework.
- Provide a statement of purpose of approximately 500 words explaining your motivation for pursuing the MS in Health and Human Performance

at Canisius College. The statement may be submitted in the essay section of the graduate application.

- Complete a phone or face-to-face interview with the program director or a department representative.

**Transfer credit:** Previous graduate level transfer credits will be assessed on a case-by-case basis.

## Program Details

### Academic Standing

Students must maintain a GPA of 3.00 to graduate from the program. If the GPA drops below 3.00, the student will be placed on academic probation. If the student does not bring his/her cumulative GPA above 3.00 by the end of the next term, the student may be dismissed from the program. A student may also be academically dismissed from the program by receiving more than 2 grades below B-. More information can be found at the program website (<https://www.canisius.edu/academics/programs/health-human-performance>).

## Curriculum

Total credit hours = 34 or 35, depending on specialty track chosen. Every student must complete 19 credit hours of core courses, each of the courses in one (1) of the specialty tracks, and 6 credit hours of internship or thesis.

Code	Title	Credits
<b>Core Courses</b>		
ALH 502	Nutrition	3
HHP 506	Epidemiology	1
ALH 520	Exercise Prescription	3
HHP 521	Exercise Testing	3
ALH 582	Functional Conditioning	3
ALH 631	Research Methods in Allied Health	3
ALH 632	Data Analysis and Statistics	3
<b>Specialty Track</b>		
Select one of the specialty tracks listed below		9-10
<b>Additional Requirements</b>		
Select one of the following:		6
ALH 689 & ALH 699	Master's Project and Masters Project II <sup>1</sup>	
HHP 603 & HHP 604	Internship I and Internship II	
<b>Total Credits</b>		<b>34-35</b>

<sup>1</sup> Students will receive a grace period of 1 term to complete the thesis without having to register for ALH 700. However, any student who has not completed their final thesis/project by the end of the grace period will be registered for the 1-credit hour course, ALH 700 for that semester, and then for each subsequent semester until the project/thesis is complete.

## Specialty Track 1: Cardiac Rehabilitation

Code	Title	Credits
HHP 601	Electrocardiography and Clinical Stress Testing	4
ALH 602	Cardiopulmonary Pathophysiology	3

ALH 621	Cardiopulmonary Pharmacodynamics	3
Total Credits		10

## Specialty Track 2: Health Promotion

Code	Title	Credits
ALH 501	Health Promotion and Disease Prevention	3
ALH 507	Clinical Health Behavior Change	3
ALH 540	Program Planning in Healthcare	3
Total Credits		9

## Specialty Track 3: Strength and Conditions

Code	Title	Credits
ALH 522	Fitness Psychology	3
HHP 583	Advanced Movement Analysis	3
ALH 622	Sports and Fitness Nutrition	3
Total Credits		9

## Learning Goals & Objectives

### Learning Goal #1: (KNOWLEDGE – OBSERVED IN WRITING)

Degree candidates in the M.S. program in Health and Human Performance program will demonstrate content knowledge, pedagogical, and professional knowledge necessary for successful performance in their field.

Students will have the opportunity to:

- Have a thorough understanding of how to obtain and evaluate a potential client's health status through a medical history, risk stratification, and other pre-exercise evaluations.
- Demonstrate a working knowledge of basic principles of nutrition and how they relate to exercise performance and health.
- Demonstrate an understanding of the pathophysiology of common cardiovascular and pulmonary diseases.
- Understand the mechanisms through which commonly used medications used to treat cardiovascular and pulmonary diseases work to ameliorate symptoms.
- Understand and be able to apply behavior change principles as they apply to health settings.
- Understand and promote continual and sustainable programs surrounding health education, physical education, health services, nutrition services, counseling, psychological and social services, health promotion, and family and community involvement.
- Demonstrate an understanding of the general principles of fitness psychology as they apply to exercise professionals.

### Learning Goal #2: (KNOWLEDGE – OBSERVED SKILLS AND DISPOSITIONS)

Degree candidates in the M.S. program in Health and Human Performance program will demonstrate professional skills and dispositions necessary for successful performance in their field.

Students will have the opportunity to:

- Prescribe safe and effective exercise for a variety of populations, including healthy clients, and special populations (i.e. pregnant, elderly, child, disease populations, etc.).
- Create an appropriate sport-specific exercise prescription for an athlete.
- Use standardized exercise protocols to measure body composition, aerobic fitness, muscular strength, muscular endurance, flexibility, muscular power, agility, and speed.
- Understand 12-lead electrocardiography to be able to identify heart rate, rhythm, electrical axis, and any signs of hypertrophy, injury, ischemia or infarction.
- Understand and be able to apply behavior change principles as they apply to health settings.
- Critique an individual's fundamental movement patterns during physical activity, and prescribe appropriate corrective steps for correcting deficiencies, if necessary.

### Learning Goal #3: (SERVICE)

Degree candidates in the M.S. program in Health and Human Performance program will demonstrate willingness to use their skills to benefit and serve society. Within the contexts of their work, candidates promote authentic learning, social and emotional development, and a commitment to social justice in environments that foster respect for diversity and the dignity of all.

Students will have the opportunity to:

- Describe the ethical principles of respect for persons, beneficence, and justice, both within the context of research and within the larger context of professional practice.
- Understand and mobilize community resources by promoting an understanding, appreciation, and use of diverse cultural, social, and intellectual resources within the local community.
- Understand moral and ethical implications of policy options and political strategies.
- Model *cura personalis*, (care for the person) in a professional setting by treating colleagues and clients with dignity, compassion, and respect.

**Learning Goal #4: (PROFESSIONALISM)**

Degree candidates in the M.S. program in Health and Human Performance program will demonstrate self-reflection as a habit of mind, continuously assessing and refining their professional practice as they construct a rich repertoire of research-based knowledge, skills, and attitudes for effective performance ensuring that all students and/or clients have optimal opportunities to learn and grow.

Students will have the opportunity to:

- Write a research proposal that demonstrates an understanding of principles of research design by incorporating appropriate consideration of ethical issues and controlling threats to internal and external validity.
- Use statistics as a tool for evaluating data and drawing inferences, and for judging the strength and quality of data used in research in health professions.
- Demonstrate dependability, preparedness, confidence, and responsibility in a professional setting.

**Learning Goal #5: (LEADERSHIP)**

Degree candidates in the M.S. program in Health and Human Performance program will become adept at applying their acquired knowledge in the process of evaluating their own professional performance and decision-making with respect to its impact on students and/or clients, organizations, and the wider community.

Students will have the opportunity to:

- Apply concepts of epidemiology to evaluate the potential impact of health and lifestyle decisions on health status improve individual and community health.
- Understand and anticipate the potential impact of their professional performance on individual clients or research subjects.

**Courses**

In addition to the courses listed below, courses for this program with the Allied Health (ALH) prefix can be found on the Professional Studies page (<http://catalog.canisius.edu/graduate/school-education-human-services/professional-studies/#coursestext>).

**HHP 506 Epidemiology 1-2 Credits**

The study of the distribution and determinants of health related states or events in a population and applications to control specific health problems. Emphasis will be placed on discussing evidence for the role of lifestyle choices in determining long-term health and chronic disease risk.  
**Offered:** every fall, online only.

**HHP 521 Exercise Testing 3 Credits**

Didactic instruction and practical training will be used to educate students in the various methodologies used to assess adult health and fitness. Practical experiences include the assessment of cardiovascular risk, coronary artery disease risk stratification, body composition assessment, functional capacity assessment and muscular fitness assessment.  
**Offered:** every spring.

**HHP 565 Electrocardiography and Clinical Stress Testing 4 Credits**

This course is designed to present the theoretical principles of electrocardiography. Topics include a review of cardiac physiology including the normal sequence of cardiac muscle depolarization and repolarization, determination of heart rate and rhythm, electrical axis and the diagnosis of cardiac rhythm in 12-lead ECG. Special emphasis will be placed on myocardial ischemia, myocardial infarction, treatment and clinical evaluation. Pharmacological interventions and the impact of the ECG, as well as exercise will be discussed. There will also be a laboratory component in which students will gain hands-on practical experience in ECG electrode placement and clinical stress testing, culminating in a practical exam in which students are expected to run an ECG stress test.  
**Offered:** every spring.

**HHP 583 Advanced Movement Analysis 3 Credits**

In this course, students will learn how to perform functional movement screens to evaluate movement patterns. Students will also learn how to interpret and analyze movement patterns to identify muscular weaknesses/ imbalances as well as areas where flexibility limits proper execution of a movement. Finally, students will learn to customize an exercise/stretching routine to address the limitations of the athlete to both improve their athletic performance and reduce the risk of injury.  
**Prerequisite:** ALH 582.  
**Offered:** every spring.

**HHP 601 Electrocardiography and Clinical Stress Testing 3-4 Credits**

This course is designed to present the theoretical principles of electrocardiography. Topics include a review of cardiac physiology including the normal sequence of cardiac muscle depolarization and repolarization, determination of heart rate and rhythm, electrical axis and the diagnosis of cardiac rhythm in 12-lead ECG. Special emphasis will be placed on myocardial ischemia, myocardial infarction, treatment and clinical evaluation. Pharmacological interventions and the impact of the ECG, as well as exercise will be discussed. There will also be a laboratory component in which students will gain hands-on practical experience in ECG electrode placement and clinical stress testing, culminating in a practical exam in which students are expected to run an ECG stress test.  
**Offered:** every spring.

**HHP 603 Internship I 3 Credits**

A supervised part-time internship in clinical and non-clinical exercise programs or in clinical exercise testing laboratories. Includes clinical exercise testing, exercise prescription and/or exercise leadership experiences. Requires students to complete a minimum of 120 hours.  
**Prerequisite:** permission of program director & associate dean.  
**Offered:** fall, spring & summer.

**HHP 604 Internship II 3 Credits**

Continues HHP 603.  
**Prerequisite:** HHP 603 & permission of program director.  
**Offered:** fall, spring & summer.