

APPLIED NUTRITION

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 Faculty: Khalid Bibi, PhD, HFS; Rachel Darr, PhD, MS, RD, CSSD; Dennis Koch, PhD, HFS; Soghra Nayeed Ali-Sayeed, MS, RD, CNSC, CDN; Devorah Lucas, DBH, CDE; Garry Ladd, DHSc; Dan Smith, PhD, CRC, NCC, LMHC, BCC; Sheryl Warren, MS, RD; Elizabeth Tanner, MS, RD, CDN.

Degree: Master of Science

Introduction

The Master of Science in Applied Nutrition program is offered in a fully online format structured to fit the busy lifestyle of working professionals. It is designed for students, practitioners and professionals who are interested in expanding their knowledge in health-related fields. This program can be completed in as little as one year.

Graduates of the master's in applied nutrition program will be qualified to assume leadership, management or administrative roles. In addition, graduates will be able to:

- Conduct and comprehend dietetic research
- Apply current research to practice
- Evaluate nutritional programs
- Apply many other acquired skills

The program will provide students with the opportunity to build theoretical knowledge and specialize in two specialty areas:

- Obesity and Eating Disorders
- Fitness and Sports Nutrition

Admission

Applications are processed on a rolling basis and are considered as they are received for each of our terms. We recommend submitting all material 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 on-line 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 2.7.
- 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 sciences or possess current licensure as a Registered Dietitian. Students who do not meet prerequisites may be required to complete additional undergraduate/graduate coursework.
- Provide a statement of purpose of approximately 500 words explaining your motivation for pursuing the MS in Applied Nutrition 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.

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/applied-nutrition>).

Curriculum

Total credit hours = 33. Every student must complete seven courses (21 credits) of the core curriculum and four courses (12 credits) within a specialty track.

Pre-requisite

ALH 502 Nutrition (3 credits) - This may be required for non-RD students. Studies nutrition principles, behavior, and counseling, as well as clinical applications of nutrition as it relates to health, clinical exercise physiology, and cardiac rehabilitation. **This will be in addition to the required courses in the program.**

Code	Title	Credits
Core Courses		
ALH 503	Medical Nutrition Therapy	3
NTR 505	Advanced Nutrition	3
ALH 507	Clinical Health Behavior Change	3
NTR 603	Nutrition Seminar	3
ALH 631	Research Methods in Allied Health	3
ALH 632	Data Analysis and Statistics	3
ALH 689	Master's Project ¹	3
Specialty Track		
Select one of the specialty tracks below		12
Total Credits		33

¹ 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: Obesity and Eating Disorders

Code	Title	Credits
ALH 501	Health Promotion and Disease Prevention	3
NTR 510	Adult and Pediatric Obesity	3
NTR 512	Eating Disorders in Children and Adults	3
NTR 612	Sociology of Nutrition	3
Total Credits		12

Specialty Track 2: Fitness and Sports Nutrition

Code	Title	Credits
ALH 520	Exercise Prescription	3
ALH 522	Fitness Psychology	3
NTR 536	Exercise Physiology	3

ALH 622	Sports and Fitness Nutrition	3
Total Credits		12

Learning Goals & Objectives

Learning Goal 1 (KNOWLEDGE – OBSERVED IN WRITING)

Candidates in the Applied Nutrition program will demonstrate content, pedagogical, and professional knowledge necessary for successful performance in their field.

Students will have the opportunity to:

- Understand the dynamic nature of nutrition and the complex biochemical factors that influence health status.
- Understand and be able to apply behavior change principles as they apply to health settings.
- Demonstrate a working knowledge of the basic principles of nutrition and how they relate to overall health and exercise performance.
- Understand the factors influencing obesity and the metabolic consequences of obesity and its relationship to chronic disease.
- Understand the factors influencing the development of eating disorders and eating disorder sequelae.
- Demonstrate an understanding of the general principles of fitness psychology as they apply to exercise professionals.

Learning Goal 2 (KNOWLEDGE – OBSERVED SKILLS AND DISPOSITIONS)

Candidates in the Applied Nutrition program will demonstrate professional skills and dispositions necessary for successful performance in their field.

Students will have the opportunity to:

- Understand and evaluate educational programs and prevention and treatment interventions toward improving the health status of target population groups.
- Acquire the skills necessary to interpret, design and/or conduct applied nutrition and fitness research.
- Create and/or evaluate a comprehensive and coherent educational and/or instructional nutrition tool, care plan or program using appropriate technologies.
- Prescribe safe and effective exercise for a variety of populations, including healthy clients and special populations (e.g., pregnant women, elderly, children, etc.).
- Create an appropriate sports specific exercise prescription for an athlete.

Learning Goal 3 (SERVICE)

Candidates in the Applied Nutrition program will demonstrate willingness to use their skills to benefit and serve society. Within 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 moral and ethical implications of media influences and policy decisions that affect the health and well-being of consumers: patients, clients, and the community at large.
- Understand and mobilize community resources by promoting an understanding, appreciation, and use of diverse cultural, social, and intellectual resources within the local community, and show utility of such resources in developing health promotion and disease prevention programs to benefit society.

Learning Goal 4 (PROFESSIONALISM)

Candidates in the Applied Nutrition program will demonstrate self-reflection as a habit of mind, continuously assessing and refining their professional practice as they construct a rich repertoire of sound evidence-based knowledge, skills, and attitudes for effective performance ensuring that all patients, clients and/or consumers have optimal opportunities to learn and grow.

Students will have the opportunity to:

- Write a research proposal that demonstrates an understanding 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.

Learning Goal 5 (LEADERSHIP)

Candidates in the Applied Nutrition 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 patients, clients, organizations, and the community at large.

Students will have the opportunity to:

- Understand and evaluate potential moral and legal consequences of decision-making relative to the health and welfare of patients and clients
- Understand, anticipate, and assess emerging trends and initiatives in order to promote best practices in health care and effective educational strategies with the goal of improving the health and well being of patients, clients, and the community at large.
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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>).

NTR 505 Advanced Nutrition 3 Credits

This course examines the metabolism, physiological actions and interrelationships of carbohydrates, protein, fats, vitamins, minerals and water. Topics discussed include the regulation of the biochemical pathways and the nutritional principles of macronutrient and micronutrient metabolism; absorption, excretion, transport and cellular metabolism; nutritional and toxicological standards for humans and animal models and bioavailability of minerals.

Prerequisite: ALH 502, unless student is a Registered Dietician (RD).

Offered: every fall, online only.

NTR 510 Adult and Pediatric Obesity 3 Credits

This course addresses the epidemiology, etiology, and risk factors associated with obesity across the lifespan. The medical management and complications of obesity will be discussed in depth. Students will review and critically assess current treatment strategies such as pharmacotherapy, bariatric surgery, and behavioral approaches. Review and discussion of current research and theory will allow students to gain a broad understanding of the causes, prevention, and treatment of obesity.

Prerequisite: ALH 502, unless student is a Registered Dietician (RD).

Offered: every spring, online only.

NTR 512 Eating Disorders in Children and Adults 3 Credits

This course is an in-depth examination of eating disorders in children and adults, including the definition and clinical presentation of eating disorders. Medical complications of eating disorders will be considered, as well as the relationship between eating disorders and obesity. Family issues, especially for children and adolescents, in the etiology and treatment of eating disorders will be examined. Existing approaches to treatment will be examined, as well as new and experimental treatments.

Prerequisite: ALH 502, unless student is a Registered Dietician (RD).

Offered: every spring, online only.

NTR 536 Exercise Physiology 3 Credits

Covers the advanced study of concepts, principles, and research in the field of exercise physiology. Discusses advanced concepts in the muscular/neuromuscular, cardiovascular, ventilatory, endocrine, and metabolic responses to exercise and exercise training. Specific study of the physiological control mechanisms regulating these systems are also addressed during periods of rest, acute exercise, and following chronic exercise training.

Offered: every summer, online only.

NTR 603 Nutrition Seminar 3 Credits

This course is to provide graduate students in nutrition with experience in formal presentation of research results, with emphasis on the components of quality research. The students will present a research seminar on a research topic (relating to their required project) in a clear, concise and logical manner. Students will write an abstract, with references, that summarizes the research seminar.

Prerequisite: permission of program director.

Offered: fall, spring, & summer; online only.

NTR 612 Sociology of Nutrition

3 Credits

This course addresses the effects of family and society on food availability and the development of eating habits, food rituals and norms, and body acceptance across the lifespan. The influence of family systems and cultural contexts on psychosocial development and the adoption of pathogenic eating behaviors will be explored. Theoretical perspectives related to the epidemiology, prevention and treatment of eating disorders and obesity will be examined in depth.

Offered: every fall, online only.