

February 24, 2021

TO: Members of the Board of Trustees
FROM: Carl W. Lejuez, Ph.D. 
Provost and Executive Vice President for Academic Affairs
RE: Master of Science in Personalized Nutrition

RECOMMENDATION:

That the Board of Trustees approve a new Master of Science in Personalized Nutrition.

BACKGROUND:

The Department of Nutritional Sciences currently offers an in-person Master of Science in Nutritional Science. The proposed program is an online Master of Science in Personalized Nutrition. The proposed MS in Personalized Nutrition is designed to attract a different mostly part-time student audience to a fast growing and emerging nutritional specialization. The new program differs from the current in-person Master's program in that it uniquely combines courses in nutrigenomics, clinical nutrition, and nutritional biochemistry to provide a foundation of knowledge and skills for Personalized Nutrition professionals. Personalized Nutrition professionals are experts in assessing and addressing the unique nutritional needs of individuals. This allows for diet recommendations based on genetic variations, biochemical traits, microbiome, physical activity and behavior information to promote health and prevention of chronic diseases. The Academy of Nutrition and Dietetics will require a MS degree for Registered Dietary Nutrition (RDN) certification by 2024. The Department of Nutritional Science proposes to launch a new fully online MS degree in Personalized Nutrition to meet this growing demand. There are 10 job postings for every degree conferral nationally in the area of human nutrition. A further review of Burning Glass data reveals that enrollment growth increased by an average of 60% over the last five years in the five largest online programs.

The program will be administered by the Graduate School and the Department of Nutritional Sciences. No additional funding or financial resources is requested at this time. This program is designed to be entrepreneurial and net revenue positive.

Request for New UConn Academic Degree Program

General Information

Name of degree program:	Personalized Nutrition
Type of Program:	MS (Master of Science)
Name of sponsoring Department:	Nutritional Sciences
Name of sponsoring College:	College of Agriculture, Health and Natural Resources
Campuses:	Storrs, Program Entirely Online
Type of Proposal:	New
Entrepreneurial program:	Yes
Program payment type:	Fee-based
CIP Code:	19.0504

Justification for the New Program

The Department of Nutritional Sciences currently offers an in-person Master of Science in Nutritional Science. The proposed program is an online Master of Science in Personalized Nutrition. The proposed MS in Personalized Nutrition is designed to attract a different mostly part-time student audience to a fast growing and emerging nutritional specialization. The new program differs from the current in-person Master's program in that it uniquely combines courses in nutrigenomics, clinical nutrition, and nutritional biochemistry to provide a foundation of knowledge and skills for Personalized Nutrition professionals. Personalized Nutrition professionals are experts in assessing and addressing the unique nutritional needs of individuals. This allows for diet recommendations based on genetic variations, biochemical traits, microbiome, physical activity and behavior information to promote health and prevention of chronic diseases. The Academy of Nutrition and Dietetics will require a MS degree for Registered Dietary Nutrition (RDN) certification by 2024. The Department of Nutritional Science proposes to launch a new fully online MS degree in Personalized Nutrition to meet this growing demand. There are 10 job postings for every degree conferral nationally in the area of human nutrition. A further review of Burning Glass data reveals that enrollment growth increased by an average of 60% over the last five years in the five largest online programs. The two largest programs in Nutritional Science in the country are on-ground programs with Tufts graduating 97 students and Columbia 87 students in 2018. The third largest program in the country is online and at Northeastern University (71 conferrals in 2018). The largest program in Human Nutrition in the country is the online program at the University of Bridgeport (81 conferrals in 2018). Additionally, Department of Nutritional Sciences has partnered with the American Nutrition Association (ANA) Board of Certification of Nutrition Specialists (BCNS) to meet the current academic requirements for the Certified Nutrition Specialist (CNS) credential, which requires a MS degree.

Are there similar programs in CT or elsewhere?

The University of Saint Joseph has a Master's program in Nutritional Science and the University of Bridgeport has a Master's program in Human Nutrition. The new program differs from these MS programs and the current in-person MS program in Nutritional Sciences in that it emphasizes personalized nutrition. This emerging field in human nutrition requires a strong understanding of nutrigenomics and nutrigenetics, particularly their link to clinical nutrition. This allows for the development of personalized precision diet recommendations based on an individual's genetic makeup, biochemical traits, gut microbiome, physical activity, and behavior for health promotion and chronic disease prevention.

What are the desired learning outcomes of the program?

At the end of this program, students will:

- Demonstrate knowledge of nutrients on the levels of biochemical and physiological functions, metabolic pathways, interactions, and deficiencies/toxicities.
- Demonstrate knowledge on the roles of genetic variants in diverse nutrient metabolisms.
- Define biochemical, physiological and molecular aspects of energy metabolism and inflammatory pathways that play a crucial role in the pathogenesis of metabolic diseases; roles of diets and dietary components in the pathogenesis.
- Appreciate the significance of nutritional assessment to the nutrition care process.
- Be able to provide a rationale for appropriate clinical nutrition therapies and care plans for disease management.
- Become familiar with the process for developing new nutrition products; the regulations applicable to foods, medical foods, dietary supplements and ingredients.
- Practice precision nutrition, focusing on the interaction between nutrients and human/microbial genes and identifies genetic backgrounds contributing to individual differences in macro- and micronutrient metabolism.

Program Description

The Masters in Personalized Nutrition prepares students for careers in healthcare, academia, and industry. Personalized nutrition aims to take advantage of molecular understandings of nutrient-gene interactions by identifying genetic backgrounds that contribute to metabolic heterogeneities of various nutrients in the context of nutrition-relevant diseases. This program will build fundamental knowledge of this rapidly advancing field of nutrition. Students will gain genetic, biochemical, physiological, pathophysiological, and clinical understandings of nutrient metabolism to assess the unique nutritional needs of individuals to develop personalized diet recommendations for the promotion of health and prevention of chronic diseases.

Proposed Graduate Catalogue Copy

The Department of Nutritional Sciences offers an online Master of Science in Personalized Nutrition (MSPN). The MSPN program is a professional degree that uniquely combines courses

in nutrigenomics, clinical nutrition, and nutritional biochemistry to provide a foundation of knowledge and skills for Personalized Nutrition professionals.

Master of Science Requirements

At least 30 credits are required and must come from MSPN core courses.

Required Core Courses: NUSC 5200, 5280, 5300, 5314, 5410, 5600, 5700, 6311, 6313, and 6410.

The program is offered by the College of Agriculture, Health and Natural Resources.

Faculty Involvement

- o Ji-Young Lee, Professor and Department Head
- o Christopher Blesso, Associate Professor, Graduate Program Coordinator
- o Sangyong Choi, Assistant Professor
- o Nancy Rodriguez, Professor
- o New faculty (search is ongoing to hire an assistant/associate professor in clinical nutrition with a start date on August 23, 2021)

Enrollment and graduate projections

The average degrees conferred for human nutrition are 15 students per year. We anticipate graduating 20-25 students per year when the program matures in 3-5 years.

Program Evaluation

The program will be evaluated through the following indicators: 1) Course evaluations: we will examine course evaluations for all of the courses that are part of the degree program. 2) We will conduct an annual anonymous survey of enrolled students to gauge their level of satisfaction and engagement and seek feedback about possible areas of improvement and change, (3) Degree completion: we will monitor the percentage of participants who complete the degree in a timely fashion, Exit interviews will be conducted with any student withdrawing from the program to identify the reasons for the withdrawal. 4) Destination and Alumni surveys: online surveys for graduates to gather data regarding their employment, satisfaction with the program.

Program Administration

The program will be administered by the Graduate School and the Department of Nutritional Sciences. The Graduate Program Committee led by the graduate program coordinator (Chris Blesso) will be responsible for admissions and advising and program oversight.

Funding and Financial Resources Needed

No additional funding or financial resources is requested at this time. This program is designed to be entrepreneurial and net revenue positive.

Other Resource Needs

This is a fully online program. If approved, CETL has committed to providing instructional design, marketing strategy and web page design, and assistance with setting up the enrollment management funnel and processes.

Consultation with other potentially affected units

None.

Who can apply to this program?

Internal applicants (current UConn students enrolled in another UConn degree or certificate program)

External applicants (individuals who are not currently UConn students)

Anticipated term and year of first enrollment

Fall 2021

Admission Requirements

- Baccalaureate degree with a minimum 3.0 GPA.
- Requirement: College-level biochemistry or equivalent
- Recommended Course Preparation: College-level physiology and nutrition

Required for application:

- Personal statement
- Letter of recommendation
- Other

Term(s) to which students will be admitted

- Fall
- Spring

Application deadline: February 15

Initiator & Program Director: Christopher Blesso, christopher.blesso@uconn.edu

Administrative Contact: Camilla Crossgrove, camilla.crossgrove@uconn.edu