

Board of Trustees

Executive Committee

April 18, 2017

**RESOLUTION TO APPROVE A GRADUATE CERTIFICATE
IN NUTRITION FOR HEALTH CARE PROFESSIONALS**

WHEREAS, Article II, Section 1 of the By-Laws of the Board of Trustees (“By- Laws”) for Case Western Reserve University (the “University”) states, in relevant part, that the Board of Trustees shall oversee the educational programs of the University; and

WHEREAS, the charge for the Faculty Senate Committee on Graduate Studies (the “Committee”) states, in relevant part, that the committee shall review and make recommendation to the Faculty Senate with respect to graduate certificate programs at the University, and the Committee voted at its March 1, 2017 meeting to recommend the proposed Graduate Certificate in Nutrition for Health Care Professionals (the “Certificate”) to the Faculty Senate; and

WHEREAS, Article V, Section A, Par. 2 of the Constitution of the University Faculty states in relevant part that the Faculty Senate shall make recommendations to the President for consideration and transmittal to the Board of Trustees with respect to policies governing standards for curricula and content of all degree programs; and

WHEREAS, at its meeting on March 22, 2017, the Faculty Senate voted to recommend the Certificate to the President for consideration and transmittal to the Board of Trustees for approval.

NOW, THEREFORE, BE IT RESOLVED THAT:
the Executive Committee of the Board of Trustees of the University approves the establishment of the Certificate, and authorizes the University to take and oversee all necessary actions in order to create the Graduate Certificate in Nutrition for Health Care Professionals.

APPROVED by the
EXECUTIVE COMMITTEE
Case Western Reserve University
BOARD OF TRUSTEES
Elizabeth J. Keefer
SECRETARY OF THE CORPORATION

Pamela B. Davis, MD, PhD
Dean
Senior Vice President for Medical Affairs
Office of the Dean

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February 27, 2017

Peter Harte, PhD
Chair, Faculty Senate
c/o Rebecca Weiss, Secretary of the University Faculty
Adelbert Hall
7001

Dear Professor Harte:

As noted in the accompanying memo from Dr. Maureen McEnery, Chair of the School of Medicine's Faculty Council, the Faculty Council has recommended approval of a Graduate Certificate in Nutrition for Health Care Professionals.

This program is designed to provide advanced training in nutrition for physicians, nurses, dentists, and other health care professionals. It will allow professionals to study nutritional issues and incorporate counseling and education related to nutrition into their practice.

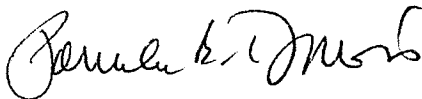
The proposal approval process is outlined in Dr. McEnery's memo. An ad hoc committee was convened to review this new program and after revisions, the program was approved by the Faculty Council.

I concur with the Faculty Council and recommend approval of this certificate program.

Please submit the proposed certificate program to the appropriate committees for their review at their earliest opportunity. I would be pleased to answer any questions that might arise during the review process.

Thank you.

Sincerely,



Pamela B. Davis, MD, PhD

c: Dr. Maureen McEnery, Chair, Faculty Council
Nicole Deming, Assistant Dean for Faculty Affairs and Human Resources, SOM

enclosures



SCHOOL OF MEDICINE

CASE WESTERN RESERVE
UNIVERSITY

Memorandum

To: Pamela B. Davis, MD, PhD
Dean, School of Medicine
Case Western Reserve University

From: Maureen W. McEnery, PhD, MAT
Chair of the Faculty Council

Re: "Graduate Certificate in Nutrition for Health Care Professionals"

Date: Jan. 30, 2017

At its regular January 23, 2016, meeting, the Faculty Council voted unanimously to recommend approval of the "Graduate Certificate in Nutrition for Health Care Professionals" to your office.

In accordance with our SOM practices, an ad hoc committee composed of members of the Faculty Council Steering Committee, Graduate Directors, the SOM members of the Faculty Senate's Committee on Graduate Programs, and the Associate Dean for Graduate Education was created to review the program proposal. The ad hoc committee was chaired by Nicholas Ziats. The ad hoc committee reviewed the document, discussed the proposal, and engaged with the program presenter. After discussion, the ad hoc committee approved the reviewed proposal and it was sent to the Faculty Council for a vote.

Hope Barkoukis, Ph.D., Interim Chair of the Dept. of Nutrition, presented the proposal to Faculty Council. After some discussion, a motion to recommend was accepted by a unanimous vote.

After your review, I hope you will join me in recommending the proposal for "Graduate Certificate in Nutrition for Health Care Professionals" for approval by the Faculty Senate, as required by the Faculty Handbook.

Please let me know if I can provide any additional information.

Thank you for your consideration.

Sincerely,



Maureen W. McEnery, Ph.D, MAT
Chair of the Faculty Council
Associate Professor of Neurology
Associate Professor of Neuroscience
University Hospitals of Cleveland Medical Center
Case Western Reserve University School of Medicine

cc: Nicole Deming, JD, MA, Dan Anker, JD, PhD

College/School: School of Medicine
Department: Department of Nutrition

PROPOSED: major
 minor
 program
 sequence
 degree

TITLE: Graduate Certificate in Nutrition for Health Care Professionals

EFFECTIVE: Summer (semester) 2017 (year)

DESCRIPTION:

This program is designed to provide advanced training in nutrition for physicians, physician assistants, nurses, nurse practitioners, dentists, etc. It requires 15 credits and a minimum GPA through completion of a 3.0 on a 4.0 scale.

Is this major/minor/program/sequence/degree: new
 modification
 replacement

If modification or replacement please elaborate: _____

Does this change in major/minor/program/sequence/degree involve other departments? Yes No

If yes, which departments? _____

Contact person/committee: Hope BARKOWKIS, Interim Chair, Nutr. Dept

SIGNATURES:

DATE

Department Curriculum Chair(s)/Program Directors: _____
Department Chair: Hope Barkowkis
College/School Curriculum Committee Chair: _____
College/School Dean(s): _____
FSCUE Curriculum Subcommittee Chair: _____

File copy sent to: Registrar Office of Undergraduate Studies/Graduate Studies
 Other: _____



SCHOOL OF MEDICINE

CASE WESTERN RESERVE
UNIVERSITY

Department of Nutrition
School of Medicine – Room WG 48
2109 Adelbert Road
Cleveland, Ohio 44106-4954
216.368.2440

January 23, 2017

To: Nick Ziats, Nicole Deming, & the SOM Committee

I am very supportive of this proposal to create a Certificate in Nutrition for Community and Health Care Professionals. Creating this type of Certificate for this intended audience is a strategic component of our educational programming within the Department of Nutrition.

The initial course, NTRN 401, that is required for this Certificate will be offered both in the traditional classroom setting format and also in an online format. That course is the only one that has been especially created for this Certificate. It has been recently approved through the graduate studies office. The remaining selections of graduate nutrition course options to fulfill the total 15 hours of credits required are our own departmental courses that are currently in existence.

We anticipate strong interest in this Certificate in light of the role that nutrition plays in chronic disease risk, development of healthy eating patterns and foundational well-being. We believe that one of the strengths of this Certificate is the broad array of graduate nutrition courses offered that will allow the individual health care provider to tailor their course inclusions to the areas of nutrition that will be most impactful on their professional practices. I should also mention that many of our graduate nutrition courses are also being offered late in the day or early evening to accommodate working professionals. Ultimately, our goal is to achieve a fully online version of enough graduate nutrition courses that this Certificate can be taken via an exclusively online format.

Please do not hesitate to contact me for any further information. I will look forward to the successful development and approval of this Certificate.

Sincerely,

A handwritten signature in blue ink that reads "Hope Barkoukis".

Hope Barkoukis, PhD, RDN, LD

Jack, Joseph, Morton Mandel Professorship in Wellness & Preventative Care

<http://case.edu/medicine/wellness-pathway/>

Interim Chair- Nutrition Dept.

Associate Professor

School of Medicine, CWRU

Proposal
Graduate Certificate in Nutrition for Health Care Professionals
December 2016
Edited secondary to the Committee’s comments January, 2017

The Department of Nutrition in the School of Medicine presents this proposal for a Graduate Certificate in Nutrition for Health Care Professionals and is committed to sponsoring this new certificate program.

Justification for a Graduate Certificate in Nutrition for Health Care Professionals

Two of the goals set forth in *Healthy People 2020* were to “increase the proportion of physician office visits that include counseling or education related to nutrition or weight” and to “increase the proportion of physician office visits made by patients with a diagnosis of cardiovascular disease, diabetes, or hyperlipidemia that include counseling or education related to diet or nutrition.” The 2020 target of 22.9% of visits for the second goal is a 10% improvement over the 20.8% baseline data. (1) This reflects a very low level of engagement in nutrition education of patients by health care professionals even though nutrition is a recognized factor in 3 of the top four causes of death in the United States – cardiovascular disease, cancer, and cerebrovascular disease.

Several studies have confirmed this low level of engagement in nutrition education in several areas of medical practice. A 2013 survey of gynecologic oncologists and other allied health professionals found that although providers believed that obesity was important to address with gynecologic cancer survivors, most thought they would benefit from additional obesity management training. (2)

A comparison of weight management assessment and counseling practices among Pediatric Primary Care Providers in Georgia (where childhood obesity rates exceed the national rate) was published in 2015. Participants included family practice physicians, pediatricians, nurse practitioners, and physician assistants. While most practitioners assessed fruit and vegetable intake and physical activity, there were significant differences between the professions in assessment of beverage intake and screen time and providing counseling on lifestyle changes. (3)

Penny Kris-Etherton et al reviewed the present status of nutrition and physical activity education for health care professionals and concluded that “there is an urgent need to better prepare health care professionals to address nutrition-related conditions using best practices. (4)

The new Graduate Certificate in Nutrition for Health Care Professionals is designed to provide advanced training in nutrition for physicians, nurses, physician assistants, nurse practitioners and other licensed health professionals.

Requirements and Coursework to earn the Graduate Certificate in Nutrition for Health Care Professionals

Licensed health care professionals are eligible to earn this certificate. Proof of current licensure status will be required for admission. Application for the certificate program must be completed using the current Graduate Studies policy for non-degree seeking students.

(<http://www.case.edu/gradstudies/prospective-students/non-degree-students/>)

Five courses, totaling 15 credit hours will be required for the proposed certificate. The Certificate will be awarded at the completion of all required courses and the certificate will be noted on the student's official transcript.

Courses taken at other educational institutions will not be accepted in lieu of any of the credits required for the Certificate. A maximum of two courses (6 credits) may be double-counted for this certificate and the Graduate Certificate in Maternal and Child Nutrition.

There is a 5 year time limit for completing the certificate starting from the date of acceptance as a non-degree student.

As a pre-requisite to admission to the Certificate Program, all students interested in the Graduate Certificate in Nutrition for Health Care Professionals Program must take and earn a grade of "B" or better in the following course:

NTRN 401. Nutrition for Community and Health Care Professionals. 2 Units. This course will focus on understanding how diet and nutrition impact health and wellness throughout the life cycle. There are core concepts in human nutrition that all health care professionals should understand to optimize their care of individuals, themselves, and the community.

After successful completion of NTRN 401, students must complete and submit the "Intent to Complete the Graduate Certificate in Nutrition for Health Care Professionals."

The Certificate does not carry with it any licensure or privileges and is not approved by any professional organization. Students must earn a minimum of a "B" in all required courses in order to earn the Certificate and maintain a 3.0 GPA through completion of the required courses for the Certificate.

Required courses (after completion of NTRN 401 (with a grade of "B" or better)

NTRN 433. Advanced Human Nutrition I. 4 Units. Emphasis on reading original research literature in energy, protein and minerals with development of critical evaluation and thinking skills.

THREE NTRN ELECTIVES - Three additional 3 credit courses at the 400 level or higher chosen from the following list:

NTRN 434. Advanced Human Nutrition II. 3 Units. Emphasis on reading original research literature on vitamins with development of critical evaluation and thinking skills.

NTRN 435. Nutrition during Pregnancy and Lactation. 3 Units. Study of current research literature on nutrition for pregnancy and lactation including nutrient requirements, nutrition assessment, and nutrition intervention. Prereq: Graduate Student in Nutrition or Public Health Nutrition or ([NTRN 363](#) and [NTRN 364](#)) or requisites not met permission.

NTRN 436. Pediatric Nutrition. 3 Units. This course will focus on understanding the nutritional needs of infants, children and adolescents. Evidence based guidelines will be used as we discuss best clinical practice for the management of pediatric nutrition issues. Anthropometric measurements used in growth assessment will be reviewed. Nutrient requirements for each stage of development will be explored with a specific focus on micronutrients relevant to pediatrics such as fluoride, iron, calcium and vitamin D. Abnormal growth resulting in malnutrition and obesity will be examined with a focus on prevention, diagnosis and treatment. Skills necessary to complete a pediatric nutrition assessment will be reviewed with opportunities to practice and demonstrate competency. Prereq: [NTRN 435](#).

NTRN 437. Evaluation of Nutrition Information for Consumers. 3 Units. Reading and appraisal of food and nutrition literature written for the general public, including books, magazines, newsletters. Prereq: Graduate standing and Nutrition or Public Health Nutrition major or consent of instructor

NTRN 438. Dietary Supplements. 3 Units. An examination of dietary supplements specific to health promotion and disease prevention/treatment throughout the life cycle. Topics and concepts include regulation, controversies, safety, efficacy, and the surrounding scientific evidence for dietary supplement use. Prereq: NTRN 434.

NTRN 439. Food Behavior: Physiological, Psychological and Environmental Determinants. 3 Units. Good dietary habits are associated with improved population health. Despite this, a large proportion of individuals do not meet current dietary recommendations and there are significant disparities between groups based on sociodemographic characteristics. Why is this? Traditional views on this question focused solely on individual decision making without taking into account the complex influence of biology, social forces, and environment on dietary behavior. This course will introduce students to the major influences on dietary behavior and their interactions and modifying factors in the context of the socioecological model.

NTRN 440. Nutrition for the Aging and Aged. 3 Units. Consideration of the processes of aging and needs which continue throughout life. The influences of food availability, intake, economics, culture, physical and social conditions and chronic disease as they affect the ability of the aged to cope with living situations. Recommended preparation: Nutrition major or consent of instructor.

NTRN 446. Advanced Maternal Nutrition: Special Topics. 3 Units. Analysis of the problems commonly associated with high-risk pregnancies and fetal outcome. Discussion of causes,

mechanisms, management and current research. Recommended preparation: [NTRN 435](#) or consent.

NTRN 448. Integrative and Functional Nutrition. 3 Units. An examination of the core concepts and principles surrounding integrative and functional medical nutrition therapy (IFMNT). The course will emphasize a whole systems approach to addressing clinical imbalances and creating personalized therapeutic interventions based upon an individual's genetics, environment and lifestyle. Topics include precision medicine, IFMNT nutrition care plan processes, IFMNT laboratory tests and interpretation, dietary supplementation, and discussion of the evidence for integrative therapeutic nutrition/diet plans related to the gut microbiome/gastrointestinal disorders, food sensitivity/intolerance, methylation, immune function, detoxification, cardio-metabolic intervention, energy, hormones, and wellness.

NTRN 452. Nutritional Biochemistry and Metabolism. 3 Units. Mechanisms of regulation of pathways of intermediary metabolism; amplification of biochemical signals; substrate cycling and use of radioactive and stable isotopes to measure metabolic rates.

NTRN 454. Advanced Nutrition and Metabolism: Investigative Methods. 3 Units. Lecture/discussion course on the use of analytical techniques in metabolic research on whole body metabolism, energy balance, and disease (diabetes, obesity, and neuropathologies), discussions include concentrating on the design of in-vitro and in-vivo investigative protocols in humans and animals using stable isotope tracer and mass spectrometric analysis; critical interpretation of data from the literature with emphasis on metabolic pathway identification, regulation and kinetics.

NTRN 455. Molecular Nutrition. 3 Units. Nutrient control of gene expression in mammalian cells and deregulation of expression of these genes. The molecular basis of nutrition-related diseases, such as diabetes mellitus, PKU, and LDL-receptor deficiency, will be discussed. The application of genetic manipulation to metabolism and nutrition will be evaluated. Recommended preparation: [BIOC 407](#). Prereq: [BIOC 407](#) or Requisites Not Met permission.

NTRN 459. Diabetes Prevention and Management. 3 Units. In this course, we will explore the diabetes epidemic, its effects on the healthcare system, and strategies for prevention. The pathophysiology of the disease will be examined as well as environmental factors leading to the increase in diagnoses. Comorbid conditions and acute and chronic complications of diabetes and hyperglycemia will be addressed. Rationale for current therapeutic strategies will be explored, including the use of blood glucose monitoring, physical activity, nutrition counseling, oral medications, and insulin therapy. Patient education and health literacy will be studied in the context of patient centered goal setting. Requirements for developing a Diabetes Self-Management Education Program will be discussed. Community program development will be examined in the context of population-based prevention strategies. Prereq: Graduate Standing.

NTRN 460. Sports Nutrition. 3 Units. Study of the relationships of nutrition and food intake to body composition and human performance. Laboratory sessions include demonstrations of body composition and fitness measurements and participation in a research project.

NTRN 461. Energy Dysregulation: From Obesity to Anorexia. 3 Units. Energy imbalance and the implications on health will be explored in this course

NTRN 462. Exercise Physiology and Macronutrient Metabolism. 3 Units. The purpose of this course is to provide students with the knowledge of theoretical and applied concepts of exercise physiology.

NTRN 528. Introduction to Public Health Nutrition. 3 Units. Philosophy, objectives, organization, and focus of government and voluntary agencies with emphasis on nutrition components. Prereq: Public health nutrition students and graduate nutrition students only.

NTRN 529. Nutritional Epidemiology. 3 Units. This course uses epidemiology as a tool for assessing potential causal associations between dietary excesses, deficiencies and imbalances to the prevalent chronic diseases. Recommended preparation: Statistics and Public Health Nutrition students only.

Importance of the Proposed Graduate Certificate to the Department of Nutrition

The proposed Graduate Certificate in Nutrition for Health Care Professionals reflects the strategic plan of the Department of Nutrition in several important ways. First, it will strengthen the academic offerings at the MS level. Second, it may enhance the employment opportunities or salary expectations for students who complete the Certificate. Third, it will strengthen the reputation of the Department of Nutrition and the School of Medicine by formalizing the only certificate like this in the country with course options available for a wide range of interests.

We have recognized experts on our faculty who are teaching the courses required for this Certificate program. Please see bios of faculty who teach some of these courses in Appendix A.

Importance of the Proposed Graduate Certificate to the School of Medicine

The proposed Graduate Certificate in Nutrition for Health Care Professionals fits perfectly with the School of Medicine's vision to demonstrate leadership in building collaborations across the community, region, and nation to catalyze better health care. There are no universities who offer a similar Graduate Certificate. This program also fits with the School of Medicine's desire to develop, expand, and market MS, certificate, and related programs to provide cutting edge and in demand educational opportunities.

Importance of the Proposed Graduate Certificate to Case Western Reserve University

The proposed Graduate Certificate in Nutrition for Health Care Professionals fits well with the University's Strategic Plan to advance interdisciplinary initiatives in research and education that align our expertise with the world's most pressing needs and to enhance learning, course design, advising, and research.

Costs and Income from the Proposed Graduate certificate in Nutrition for Health Care Professionals

There is no cost associated with this certificate program since the required courses currently exist. The movement of students through the coursework will be supervised one of the nutrition department's academic advisors for graduate nutrition students, currently either Stephanie Harris, Tammy Randall or Hope Barkoukis.

There may be minimal internal additional cost to advising non-degree students who wish to pursue this graduate certificate. The exact cost will vary with the number of non-degree students who enroll and that is not known at this time. It is anticipated that the income from the tuition paid by non-degree students will more than off-set any internal additional cost.

There will be costs to the Department of Nutrition for marketing the Certificate which are estimated to be \$2000 per year after a cost of \$4000 in the first year. These costs would include brochure design and setup, administrative cost to set up direct mail database, and the cost of advertising the certificate program on health care professional organizations' websites.

Administration Procedures and Marketing Plan

The Graduate Certificate in Nutrition for Health Care Professionals will be administered through the Graduate Program Coordinator in the Department of Nutrition under the direction of Hope Barkoukis, Interim Chair and currently one of the academic advisors for non-degree MS students.

Plans are in place to market the Certificate to Health Care Professionals in the Northeast Ohio area through the following strategies:

- Announcements on the Department of Nutrition website.
- Printed flyers and brochures direct-mailed to Health Professionals in Northeast Ohio home addresses which have been obtained through State of Ohio Licensing Boards for Medicine, Nursing, Dentistry, and Pharmacy.
- Printed flyer and brochures, exhibit booths, virtual information sessions, and website advertising at Ohio state professional organizations: Ohio State Medical Association, Ohio Nursing Association, Ohio Dental Association, Ohio Pharmacists Association and their local affiliates.

References

(1) Healthy People 2020 [Internet]. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion [cited [August 28, 2016].

Available from: <https://www.healthypeople.gov/2020/topics-objectives/topic/nutrition-and-weight-status/objectives>

(2) Jernigan AM, Tergas AI, Satin AJ, et al. Obesity management in gynecologic cancer survivors: provider practices and attitudes. *Am J ObstetGynecol*2013;208:408.e1-8.

(3) Nelson JM, Vos MB, Walsh SM et al. Weight-management related assessment and counseling by primary care providers in an area of high childhood obesity prevalence: current practices and areas of opportunity. *Child Obes*2015;2:194-201,

(4) Kris-Etherton PM, Akabas SR, Bales CW, et al. The need to advance nutrition education in the training of health care professionals and recommended research to evaluate implementation and effectiveness. *Am J ClinNutr* 2014;99(suppl):1153S-66S.

APPENDIX A

Faculty Bios for those teaching courses in
The Graduate Certificate in Nutrition for Health Care Professionals Program

Hope Barkoukis, PhD, RDN, LD

NTRN 401, NTRN 440

Hope is a licensed, registered dietitian, associate professor, interim chair of the nutrition department and the faculty lead for the JJM Mandel Wellness & Preventative Care Pathway. Prior to joining the faculty, she developed nutrition and wellness programs for Fortune 500 companies; completed advanced professional culinary training; and has presented hundreds of culinary demonstrations for media, professional and community audiences. Hope is the recipient of many teaching awards for her engaging and energetic teaching style including the John S. Diekman Graduate Award for teaching excellence. Most recently, she received the 2016 Professional Achievement Award from the 7,000 member organization, SCAN: Sports, Cardiovascular and Wellness nutrition practice group, (www.scandpg.org). Additionally, Hope has been appointed by the CWRU Board of Trustees as the inaugural recipient of the Jack, Joseph and Morton Mandel Professorship in Wellness and Preventative Care, 2016–2021. Hope's research areas include aging, glucose metabolism, sports nutrition and liver disease.

David Cavallo, PhD, MPH, RDN

NTRN 439, NTRN 528

Dr. Cavallo, a registered and licensed dietitian, is interested in findings ways to encourage better dietary and physical activity through the use of technologies like social media. In addition to his research, he enjoys teaching students about the broader role that nutrition plays in public health and the myriad influences on health behavior, from biology to policy, that shape population health. When he's not writing and teaching, he enjoys cycling and trying to keep up with his two young daughters.

Dr. Cavallo is a behavioral scientist who studies the use of emerging communications technologies such as social media to reduce obesity-related mortality and morbidity with an emphasis on cancer. He has expertise in the areas of technology development and the design, implementation, and analysis of behavioral intervention technologies.

Colleen Croninger, PhD

NTRN 452

Dr. Croninger is an Associate Professor in the Department of Nutrition at Case Western Reserve University. She has been studying genetics and its impact on metabolic pathways for over 20 years. In the last 10 years she has focused on the genetic susceptibility to development of liver disease from obesity or alcohol.

In addition she is the Assistant Dean of Medical Student research and oversees the 4 month research requirement for the medical students. She also teaches undergraduate, graduate and medical students the biochemical pathways that impact health and disease.

Her lab focuses on the development of liver disease caused by obesity and insulin resistance or from chronic alcohol consumption. They have used novel research animals called chromosomal substitution strains (CSS) to identify novel genes involved in protection from liver fibrosis. Using whole body metabolism studies and molecular biology techniques, her lab investigates how these genes impact metabolism and result in disease.

Stephanie Harris, PhD, RDN, LD

NTRN 433, NTRN 438, NTRN 448

Stephanie Harris is a registered and licensed dietitian nutritionist and an assistant professor in the Department of Nutrition. She is also the director of the Coordinated Dietetic Internship/Master's Degree Program in the department. Her research interests have centered on the use of metabolomics and stable isotope techniques for new metabolite and pathway discovery, and more recently expanded to (i) dietary supplement use, motivations for use and regulation; (ii) education, knowledge and attitudes of integrative medicine among dietetics educators; and (iii) nutrition education for health care professionals. Prior to her academic career, Stephanie worked as a registered dietitian in (i) an outpatient setting, (ii) a community setting, and (iii) a corporate wellness.

Lynn CiadellaKam, PhD, RDN, MBA, MS,

NTRN 460, NTRN 461

Lynn Ciadella-Kam, a registered and licensed dietitian, joined Case Western Reserve University in 2013 as an Assistant Professor in Nutrition. At CWRU, Dr. Kam is engaged in both teaching and research with a primary focus on sports nutrition, wellness, and women's health.

Specifically, her research has focused on developing practical strategies to alleviate the health consequences of energy imbalances (i.e., the mismatch between energy intake and energy expenditure) as seen in obesity, disordered eating, and intense exercise training. Dr. Kam is actively engaged in several national organizations including serving as American Physiology Society Teaching Section's representative for Physiologist in Industry, Student Research Award

Chair and Social Media for Nutrition Interest Group for American College of Sports Medicine, and a representation on a national task force on physical activity. In addition, she is actively involved in the School of Medicine serving on Council of Students, Admissions Committee, and recently elected to serve on the Committee on Budget, Finance, and Compensation. Finally, Dr. Kam has a passion for developing students in the area of sports nutrition and research in nutrition and exercise sciences and has actively mentored both undergraduates and graduates in this area.

Danny Manor, PhD

NTRN 434, NTRN 455, NTRN 551

Danny Manor completed his undergraduate studies in biochemistry in 1982 at Tel Aviv University in Israel and earned his PhD in anatomy, structural biology and biophysics from the Albert Einstein College of Medicine in Bronx, New York in 1989. Dr. Manor held a postdoctoral position in the Department of Physics at the City University of New York, where he applied biophysical approaches for the study of vitamin A in visual pigments and of GTP-binding proteins.

In 1992, Dr. Manor moved to the Department of Pharmacology at Cornell University in Ithaca, New York, where he studied the role of small GTP-binding proteins in malignant transformation. After receiving a faculty position at Cornell's Division of Nutritional Science, his studies diversified to include molecular bases of cancer prevention and redox biology.

Dr. Manor joined the Department of Nutrition in the School of Medicine at Case Western Reserve University as an Associate Professor in 2006. His research work has been funded by the American Cancer Society (ACS), the National Cancer Institute (NCI), the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and some private foundations.

Tammy Randall, MS, RDN, LD, CDE

NTRN 459

Tammy Randall is a registered and licensed dietitian nutritionist and certified diabetes educator who teaches NTRN 359/459: Diabetes Prevention and Management. She is also the Director of the MS in Public Health Nutrition Dietetic Internship which provides students the opportunity to complete their practical hours needed to sit for the Registered Dietitian Nutritionist exam while completing a graduate degree.

Before joining the faculty at Case, Tammy held roles in clinical as well as community settings. She was a diabetes educator for the Cleveland Clinic's Endocrinology and Metabolism Institute, Director of Education at the Diabetes Partnership of Cleveland, and an Extension Educator for the Ohio State University Cooperative Extension Service.

Tammy is active in the Academy of Nutrition and Dietetics, serving on the Board of Directors as a member of the House of Delegates Leadership Team. She has served as chair of the Academy's

Member Value Committee, a member of the Academy Positions Committee and Delegate from Ohio. She is also a former President of both the Greater Cleveland Academy of Nutrition and Dietetics and Ohio Academy of Nutrition and Dietetics.

Cheryl Thompson, PhD

NTRN 529

Dr. Thompson is a cancer genetic and molecular epidemiologist. Her research is in the area of identification of factors influencing risk of cancer, as well as factors and biomarkers associated with prognosis and treatment outcomes. One of her primary areas of interest is the role of inherited genetic variation in cancer, and how genetic variations interact with lifestyle or behavior to influence risk of or outcomes for cancer. An area of specialization that she has is in the association of obesity and energetics and genetic pathways related to metabolism and energetics with cancer. Dr. Thompson was recently the first scientist to report the association of short sleep with having more aggressive types of breast cancer.

Dr. Thompson also serves as the Director of Master's Programs for the School of Medicine. In this role, she provides support for all master's programs and their students and works with faculty to develop new educational initiatives.