

# MASTER OF SCIENCE IN CLINICAL NUTRITION

<https://www.pacific.edu/academics/schools-and-colleges/school-of-health-sciences/programs/clinical-nutrition.html>

Phone: 916-733-2804

Long Wang, Department Chair

## Program Offered

Master of Science in Clinical Nutrition

## Program Overview

Registered dietitian nutritionists (RDNs) are the food and nutrition experts on the healthcare team. They practice in a variety of settings including hospitals, ambulatory and long-term care, private practice, community agencies and foodservice corporations. The scope of practice for RDNs continues to expand and this entry-level program prepares students to be able to provide comprehensive, compassionate, evidence-based nutrition care in an inter-professional environment. This program is open to students with or without academic and career experience in nutrition and dietetics.

The Master of Science in Clinical Nutrition (MSCN) is the first Graduate Program in Nutrition and Dietetics in California that follows the Future Education Model standards and offers an entry-level graduate degree that integrates in-person academic coursework, distance education coursework, and supervised experiential learning experience (clinical rotations). A total of 1,110 experiential learning hours are included in the 59-unit, four-semester (16-month) program, which fulfill the required supervised clinical practice hours for eligibility to sit for the Commission on Dietetic Registration's (CDR) Registration Examination for Dietitians.

## Program Mission Statement

The mission of the Master of Science in Clinical Nutrition Graduate Program in Nutrition and Dietetics is to prepare competent, entry-level registered dietitian nutritionists who advance the profession through interprofessional, evidence-based practice, and leadership.

## Program Goals and Objective

The MSCN program is designed to prepare students to practice competently following an evidence-based approach in an increasingly complex health care environment and participate in inter-professional care.

### Goal 1. Graduates will become employed as entry-level registered dietitian nutritionists (RDNs).

Objectives

1.1 At least 80% of program students complete the program requirements within six trimesters or 24 months (150% of the program length).

1.2 At least 90% of program graduates take the CDR credentialing exam for dietitian nutritionists within 12 months of program completion.

1.3 The program's one-year pass rate (graduates who pass the registration exam within one year of the first attempt) on the CDR credentialing exam for dietitian nutritionists will be at least 80%.

1.4 Of graduates who seek employment, at least 80% are employed in nutrition and dietetics or related fields within 12 months of graduation.

1.5 During their first year of employment, program graduates will be ranked by at least 80% of employers who respond to our employer

survey as "satisfactory" or better in professional knowledge and skills as compared to the expected competency of entry-level RDNs.

1.6 During their first year of employment, 90% of program graduates who respond to our graduate survey will report that they felt well-prepared by the Program as an entry-level registered dietitian nutritionist (RDN).

### Goal 2. Graduates will participate in interprofessional practice and leadership activities and apply an evidence-based approach to practice.

Objectives

2.1 During their first year of employment, 80% of program graduates who respond to our graduate survey will report participating in interprofessional practice (interdisciplinary healthcare teams, interprofessional committees/initiatives).

2.2 During their first year of employment, 80% of program graduates who respond to our graduate survey will report participating in leadership activities at their workplace and/or professional organizations.

2.3 During their first year of employment, 100% of program graduates who respond to our graduate survey will report that they routinely use current evidence-based research in professional practice.

## Accreditation Status

The MSCN program is fully accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND). The current accreditation term ends June 30, 2031. The next review by the ACEND Board will be in 2031.

For more information on the ACEND and its accreditation standards, please visit [www.eatrightpro.org/acend](http://www.eatrightpro.org/acend) (<http://www.eatrightpro.org/acend/>).

## Admission Requirements

For the most current information regarding the application process and requirements, please visit the website (<https://www.pacific.edu/academics/schools-and-colleges/school-of-health-sciences/programs/clinical-nutrition.html>).

### Proficient application of critical thinking in nutritional decision making

Achieved by emphasis that medical nutrition therapy requires the practitioner to apply logic and reasoning to achieve healing. These principles are taught and practiced in the didactic curriculum in small group discussions, through interactions with simulated followed by actual patients, and, through a commitment to the application of science in medicine.

### Patient-centered approach to health care practice

Patient-centered care is based on putting the needs of others first and helping people develop and perform to the best of their abilities. It strives to improve outcomes by strengthening the provider-patient relationship, providing care in consultation with patients, and by replacing the provider-centered system with one from the patient's viewpoint. Students will become familiar with this type of practice in the didactic phase and will gain hands-on experience working directly with preceptors and MSCN program faculty who serve as mentors.

## Health care delivery through a team-based model that fosters community collaboration

Achieved by providing students the opportunity to develop a passion for community service through frequent experiences serving the health care needs of the underserved alongside nutrition and healthcare provider role models in interprofessional practice. Graduate RDNs are in a unique position to have a tremendous impact on the communities in which they live and work. The ability to provide compassionate care to marginalized citizens with the breadth of care, multiplied through a team-based approach is paramount. During their tenure with the MSCN program, students will participate in such collaborative environments in a variety of clinical settings.

## Commitment to life-long learning

Achieved by modelling self-study and continuing education, by encouraging on-going enthusiasm for exploration and investigation, and by directing students to resources for furthering knowledge.

## Master of Science in Clinical Nutrition

The Clinical Nutrition program is a full-time program with a cohort based plan of study. Students are required to enroll full-time and must advance through a pre-determined curriculum in sequence with their cohort. Students are required to successfully pass each course in a given trimester in order to advance to the subsequent trimester with their cohort and progress in the program. Students who do not pass a course, or who withdraw from a course, will not be able to progress with their cohort in the program. Students may be able to rejoin the program at a later date if allowed by program policy and approved by the Department Chair/Program Director.

Students must complete 59 trimester units with a Pacific cumulative grade point average of 3.0 to earn the Master of Science in Clinical Nutrition degree. Completion requirements include successful completion of all academic and supervised experiential learning coursework with a grade of "B" or better and 80% or higher meeting program competencies required to be met for an entry-level registered dietitian.

### Trimester 1 (Fall)

NUTR 201	Evidence Based Practice & Scientific Inquiry	3
NUTR 203	Advanced Nutrition Assessment, Physical Exam & Diagnosis	3
NUTR 213	Health Care and Food Systems Management	3
NUTR 215	Community and Public Health Nutrition	3
NUTR 219	Nutrition Leadership and Innovation	3

### Trimester 2 (Spring)

NUTR 205	Advanced Nutrition Counseling and Education	3
NUTR 212	Advanced Medical Nutrition Therapy	9
NUTR 217	Capstone I	3

### Trimester 3 (Summer)

NUTR 221	Capstone II Project	2
NUTR 287A	Supervised Clinical Practice Experience I	13

### Trimester 4 (Fall)

NUTR 222	Capstone III Project	1
NUTR 287B	Supervised Clinical Practice Experience II	13

## Nutrition Courses

### NUTR 201. Evidence Based Practice & Scientific Inquiry. 3 Units.

This course provides a foundation of scientific inquiry and research literacy for accessing and evaluating on-line and electronic databases and reading and interpreting research. Course readings provide a foundation for understanding the lecture material. Using published research, students will learn how to analyze levels of evidence, apply critical appraisal techniques and apply findings to clinical case scenarios. Prerequisites: Matriculated status in the Master of Science Clinical Nutrition program or permission by instructor.

### NUTR 202. Scientific Inquiry in Nutrition and Dietetics. 3 Units.

This course provides a foundation of scientific inquiry and research literacy for retrieving, accessing, and evaluating nutrition literature. Focus will be on interpreting research, analyzing levels of evidence, applying critical appraisal techniques, and applying findings to clinical case scenarios. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

### NUTR 203. Advanced Nutrition Assessment, Physical Exam & Diagnosis. 3 Units.

This course explores the scientific evidence underlying comprehensive nutrition assessment of individuals and groups of all ages in a variety of practice settings within the context of the Nutrition Care Process (NCP). Students will develop clinical decision-making skills and use NCP terminology to identify nutrition diagnoses and develop, monitor, and evaluate the efficacy of nutrition interventions. The course includes an introduction to nutrition-focused physical exam and other clinical assessment skills to be attained at the novice level. Students will demonstrate clinical decision-making skills and reasoning through an introduction to Medical Nutrition Therapy topics. Prerequisite: Matriculated status in the Master of Science in Clinical Nutrition program or permission by the instructor.

### NUTR 204A. Advanced Macronutrient Metabolism. 3 Units.

This course covers sources, digestion, absorption, and transport of macronutrients, metabolic pathways of macronutrients (carbohydrates, proteins and lipids) and their regulation, tissue-specific utilization of macronutrients within the human body, and the integrated nature of physiological and biochemical aspects of metabolism in health and disease. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

### NUTR 204B. Advanced Micronutrient Metabolism. 3 Units.

This course explores the significant role micronutrients (vitamins and minerals) play as regulatory agents in the metabolic pathways as well as the interaction between nutrients within these pathways, the variability in micronutrient requirements between individuals, signs and symptoms associated with both nutrient deficiency and excess, and food sources and supplement forms and dosages for micronutrients and the various uses with respect to disease prevention and therapy. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

### NUTR 205. Advanced Nutrition Counseling and Education. 3 Units.

This course provides instruction and experiential learning in nutrition counseling and education to promote health behavior change among individuals and groups. Using the biopsychosocial framework, students examine factors impacting behavior change, including cultural considerations, health literacy, psychological and social determinants of health. Students apply interviewing, counseling and education theories and strategies, with an emphasis on motivational interviewing. Topics also include telenutrition and clinical perspectives for special populations. Prerequisites: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 212. Advanced Medical Nutrition Therapy. 9 Units.**

This course builds on scientific foundations of nutrient metabolism (macronutrients and micronutrients), biochemistry, anatomy, physiology for the application of nutrition and diet to the health and disease and individuals and populations. Pathophysiology of obesity, cardiovascular, endocrine, liver, gastrointestinal tract, pulmonary, renal diseases and critical care among others are covered along with appropriate medical nutrition therapies to prevent and manage these conditions. Using the Nutrition Care Process (NCP) the principles of nutrition assessment, diagnosis, intervention and monitoring for the diseases are covered. This course prepares students for their supervised practice experiences. Prerequisites: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 213. Health Care and Food Systems Management. 3 Units.**

This course will integrate fundamental knowledge from the behavioral and social sciences and organizational dynamics to provide a set of strategies and techniques to navigate human resources, food, equipment and facilities, to deliver quality products and services to customers and ultimately influence meaningful, sustainable change within the nutrition organization and beyond. Simulated cases and case presentations requiring managerial and strategic planning skills will provide student application experience. Prerequisite: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 215. Community and Public Health Nutrition. 3 Units.**

The course provides an understanding of community and public health nutrition as the promotion of health through nutrition and the prevention of nutrition related disease in populations through epidemiology of nutritional disease, environmental scans and development of interventions and policies. Food insecurity and the impact of various nutrient inadequacies and excesses at different stages of the life cycle and their functional outcomes in terms of morbidity, psychological well-being, reproduction and growth will be highlighted. Local, national, and global food production, access, and supply in relation to nutrition, health, and sustainable food systems will be covered in the context of socioeconomic development and current political/economic policies. Prerequisite: Matriculated status in the Master of Science in Clinical Nutrition program or permission by the instructor.

**NUTR 217. Capstone I. 3 Units.**

The course provides the research foundation and principles for designing and developing a research project or study. Students will gain knowledge, skills and practice in the pre-planning stages of research including how to write research proposals and protocols. Prerequisites: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 219. Nutrition Leadership and Innovation. 3 Units.**

This course provides instruction and experiential learning in leadership and innovation, with an emphasis in clinical nutrition management. Students gain self-awareness of their behavioral style and apply strategies for effective communication and influence. The VUCA framework and emerging trends and innovations in clinical nutrition and healthcare are explored. Students conceptualize the movement from current state to future state through the strategic planning process, organization management, and quality/performance improvement. Critical dimensions of leadership are explored, including leadership ethics and diversity equity and inclusion. Prerequisite: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 221. Capstone II Project. 2 Units.**

The course is a continuation of Capstone I and provides the research foundation and principles for designing and developing a research project or study. The course provides an understanding of the tools used to implement, execute and analyze the results of a research project or study. Prerequisite: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 222. Capstone III Project. 1 Unit.**

The course is a continuation of Capstone I & II. Students will complete writing their capstone report, identify conference for presenting their capstone project, write conference-style abstract, create conference-style poster, writing a draft of manuscript for a peer-reviewed journal, and develop a proposal for a follow-up research study/project that includes a mini-grant application. Prerequisites: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 224. Leadership in Nutrition and Dietetics. 3 Units.**

This course focuses on leadership and innovation in nutrition and dietetics, with an emphasis in clinical nutrition management. Students gain self-awareness of their behavioral style, apply strategies for effective communication and advocacy, and influence the field of nutrition and dietetics. Strategic planning, organization management, and quality/performance improvement will be covered. Critical dimensions of leadership including leadership ethics, inclusion, diversity, equity, and access will be explored. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 225. Advanced Topics in Medical Nutrition Therapy. 3 Units.**

This course provides instruction and experiential learning in the assessment and management of advanced medical nutrition therapy topics such as inflammation, neurological health, oncology nutrition, food as medicine, and plant-forward nutrition. The course curriculum will expand student's knowledge on a variety of pathophysiological conditions and integrate this knowledge with medical nutrition therapy. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 226. Nutrigenetics and Nutrigenomics. 3 Units.**

This course focuses on the role of nutrigenetics and nutrigenomics in healthcare and the impact that nutrition and modifiable risk factors can have on genetic expression. This course is designed to provide students with the knowledge needed to: interpret the results of genomic testing, correlate genomic data with client presentation, and recommend personalized diet and lifestyle modifications that could impact genetic expression or mitigate the impact of presenting polymorphisms. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 227. Contemporary Topics in Nutrition and Dietetics. 3 Units.**

The course explores trendy topics in nutrition and dietetics that are not typically addressed in other courses. Examples include, but are not limited to, trauma informed practice, nutrition and climate change, nutrition and artificial intelligence, nutrition informatics, nutrition and media, and nutrition policy advocacy. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 228. Gut Microbiome and Gastrointestinal Nutrition. 3 Units.**

This course provides instruction and experiential learning in the assessment and management of patients with gastrointestinal conditions. The course curriculum will explore various gastrointestinal disorders and the tools available for their diagnosis and treatment allowing the student to design an appropriate nutrition care plan. Students will learn how bacteria from food and the environment may affect the digestive process and how diet patterns can minimize some illnesses and chronic diseases. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 231A. Nutrition Scholarly Project I. 3 Units.**

The course provides the foundation of research methodology and principles for designing and developing a clinical scholarly project. Methods for statistical analysis will be addressed. Students will gain knowledge, skills, and practice in the pre-planning stages of research including how to write research proposals and protocols. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 231B. Nutrition Scholarly Project II. 3 Units.**

The course is a continuation of the Nutrition Scholarly Project I course. Students will apply tools to implement their clinical scholarly project, analyze the results, and be ready to disseminate their findings in a professional setting. Prerequisite: Matriculated status in the Master of Science in Nutrition Science program or permission by the instructor.

**NUTR 287A. Supervised Clinical Practice Experience I. 13 Units.**

NUTR 287A is the first of two Supervised Clinical Practice Experience (SCPE) courses in the MSCN program. SCPE comprises supervised experiential learning in clinical nutrition and food service/systems management settings across the continuum of care. Students apply the Nutrition Care Process Model in diverse professional work settings to demonstrate competence in the Accreditation Council for Education in Nutrition and Dietetics (ACEND®) Future Education Model (FEM) Graduate Degree Competencies. Regular interaction occurs between students and instructors via Friday Seminars (Zoom), which comprise rotation debriefing, didactic and experiential learning activities led by faculty and guest instructors. Prerequisite: Matriculated status in the Master of Science in Clinical Nutrition program or permission by the instructor.

**NUTR 287B. Supervised Clinical Practice Experience II. 13 Units.**

NUTR 287B is the second of two Supervised Clinical Practice Experience (SCPE) courses in the MSCN program. SCPE comprises supervised experiential learning in clinical nutrition and food service/systems management settings across the continuum of care. Students apply the Nutrition Care Process Model in diverse professional work settings to demonstrate competence in the Accreditation Council for Education in Nutrition and Dietetics (ACEND®) Future Education Model (FEM) Graduate Degree Competencies. Regular interaction occurs between students and instructors via Friday Seminars (Zoom), which comprise rotation debriefing, didactic and experiential learning activities led by faculty and guest instructors. Prerequisite: Matriculated status in the Master of Science Clinical Nutrition program or permission by the instructor.

**NUTR 291. Independent Study. 1-4 Units.****NUTR 293. Graduate Special Topics. 1 or 4 Unit.**

This course covers emerging issues or specialization contents in nutrition. Pre-req: Permission by instructor.