Nutrition — M.P.H.

Program director
Celine Heskey

The Master of Public Health (M.P.H.) degree program in nutrition provides specialized training in community nutrition within the multidisciplinary public health programs offered by the School of Public Health (SPH). The program is designed to train professionals to assume leadership positions in assessing community nutrition needs; and in planning, directing, and evaluating the nutrition component of health-promotion and disease-prevention efforts.

Public health nutritionists work in a variety of settings in government and voluntary agencies, public and private community health centers, ambulatory care clinics, schools, industries, private practice, and specialized community health projects. They function as directors and administrators of nutrition programs, nutrition care providers, advocates, educators, counselors, consultants, and researchers.

Learner outcomes
The curriculum of the M.P.H. degree in nutrition prepares students for careers in public health and community nutrition. It is appropriate for individuals with professional credentials, such as medicine, dentistry, dietetics, or nursing. Students may opt to complete a research project with publication potential in lieu of a field practicum.

Upon completion of the program, graduates will:

- Integrate their knowledge of biological mechanisms underlying the effect of food and nutrients on health to the solution of public health problems.
- Function independently and collaboratively as leader or member of a team to plan, manage, and evaluate community-based nutrition-promotion activities.
- Critically analyze studies and apply findings to nutrition interventions.
- Scrutinize public policies and processes related to food and nutrition and explore their impact on health outcomes.
- Articulate the role of vegetarian dietary practices on human health, the environment, and ecology.

Educational effectiveness indicators
Program learner outcomes as evidenced by:

- Signature assignments linked to course and noncourse requirements
- Field practicum report
- Culminating experience (http://llucatalog.llu.edu/public-health/masters-degrees/#mphtext)

Prerequisite

- General chemistry
- Organic chemistry
- Microbiology
- Physiology
- Human nutrition or equivalent

Individuals who may benefit from the program
- Graduates of bachelor’s degree programs in chemistry, biology, social sciences, etc., who seek advanced degrees in nutrition or the health professions.
- Health professionals, such as physicians, nurses, dentists, allied health professionals, and registered dietitians.

Program requirements

<table>
<thead>
<tr>
<th>Corequisites</th>
<th>Units</th>
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<tbody>
<tr>
<td>NUTR 490 Topics in Foods and Food Preparation</td>
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Public health core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>PCOR 501</td>
<td>Public Health for Community Resilience</td>
<td>5</td>
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<tr>
<td>PCOR 502</td>
<td>Public Health for a Healthy Lifestyle</td>
<td>5</td>
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<tr>
<td>PCOR 503</td>
<td>Public Health and Health Systems</td>
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Major

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<tr>
<th>Course Code</th>
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<tr>
<td>NUTR 504</td>
<td>Nutritional Metabolism</td>
<td>5</td>
</tr>
<tr>
<td>NUTR 510</td>
<td>Advanced Public Health Nutrition</td>
<td>3</td>
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<tr>
<td>NUTR 517</td>
<td>Advanced Nutrition I: Carbohydrates and Lipids</td>
<td>4</td>
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<td>NUTR 518</td>
<td>Advanced Nutrition II: Proteins, Vitamins, and Minerals</td>
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<tr>
<td>NUTR 519</td>
<td>Phytochemicals</td>
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<td>NUTR 525</td>
<td>Nutrition Policy, Programs, and Services</td>
<td>3</td>
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<td>NUTR 527</td>
<td>Assessment of Nutritional Status</td>
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<td>NUTR 564</td>
<td>Contemporary Issues of Vegetarian Diets</td>
<td>2</td>
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<tr>
<td>NUTR 605</td>
<td>Seminar in Nutrition</td>
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Religion

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<tr>
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<th>Units</th>
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<tr>
<td>RELE 534</td>
<td>Ethical Issues in Public Health (or REL_)</td>
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Cognates/Electives

Choose in consultation with advisor

Total Units

57

Field experience

Practicum units are in addition to the minimum didactic units required for the degree

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<tr>
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<th>Units</th>
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<tbody>
<tr>
<td>PHCJ 798D</td>
<td>Public Health Practicum (400 hours x 2 quarters)</td>
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<tr>
<td>or PHCJ 798A</td>
<td>Public Health Practicum</td>
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<tr>
<td>or PHCJ 798B</td>
<td>Public Health Practicum</td>
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<tr>
<td>or PHCJ 798C</td>
<td>Public Health Practicum</td>
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Choose from defined cognates (http://llucatalog.llu.edu/public-health/#mphtext).

Culminating experience

In addition to standard culminating experience requirements (http://llucatalog.llu.edu/public-health/masters-degrees/#mphtext), students in the Nutrition MPH program will be required to complete a written comprehensive examination.

Normal time to complete the program

2 years (8 academic quarters) based on full-time enrollment; part time permitted
Courses

NUTR 490. Topics in Foods and Food Preparation. 1 Unit.
On-line course provides an introduction to foods and food preparation. Includes relationship of food composition to food preparation, cultural and ethnic food patterns, sensory evaluation of food, and culinary techniques.

NUTR 504. Nutritional Metabolism. 5 Units.
Studies the static and dynamic aspects of the metabolism of carbohydrates, lipids, amino acids, proteins, nucleic acids, enzymes, hormones, vitamins, and minerals in the normal healthy human.

NUTR 509. Public Health Nutrition and Biology. 3 Units.
Introduces the concepts of nutrition and biology as related to public health. Includes life-cycle issues and discussion of major nutrition-related diseases and their prevention. Integrates molecular and biological approaches to public health problems; and addresses the role of nutritional assessment, intervention, and policy to solve public health issues.

NUTR 510. Advanced Public Health Nutrition. 3 Units.
Advances in public health nutrition and the science base for application to the prevention of disease in the community. Includes nutritional guidelines, policies, monitoring systems, efficacious interventions throughout the life cycle, and interactions between genetic and nutritional factors. Prerequisite: NUTR 504 or equivalent.

NUTR 517. Advanced Nutrition I: Carbohydrates and Lipids. 4 Units.
Advanced study of the nutrition, metabolism, and function of carbohydrates and lipids as related to health and disease. Prerequisite: NUTR 504; or biochemistry equivalent; or consent of instructor.

NUTR 518. Advanced Nutrition II: Proteins, Vitamins, and Minerals. 4 Units.
Advanced study of the nutrition, metabolism, and function of proteins, vitamins, and minerals as related to health and disease.

NUTR 519. Phytochemicals. 2 Units.
Discusses the role of phytochemicals in disease prevention and treatment. Reviews current research in this area.

NUTR 525. Nutrition Policy, Programs, and Services. 3 Units.
Develops professional skills in management of nutrition programs. Includes legislative advocacy and analysis of current nutrition programs at local, state, and federal levels. Laboratory.

NUTR 526. Nutrition Counseling and Education. 2 Units.
Counseling skills, specifically counseling one-on-one and groups, in order to facilitate changes in nutrition status. Teaching/learning styles, development of therapeutic relationships with patients/clients, and development of listening skills. Case-study evaluation, nutrition-counseling guides, and development of group-education lesson plans.

NUTR 527. Assessment of Nutritional Status. 3 Units.
Provides a foundation for understanding how to collect and interpret anthropometric, biochemical, clinical, and dietary data; and for understanding how to use such data in analyzing food and nutrient intake and needs in individuals, groups, and populations of varying health statuses. Includes 1 unit of laboratory.

NUTR 529. Health Aspects of Vegetarian Eating. 3 Units.
Introduces concepts of vegetarian nutrition as related to health and longevity. Addresses nutritional adequacy, as well as the benefits of vegetarian eating related to the prevention of major chronic diseases, such as heart disease, cancer, obesity, diabetes, and osteoporosis. Covers the interplay between the risks and benefits of vegetarian eating. Students taking course for 3 units either prepare a term paper or develop a vegetarian nutrition program.

NUTR 531. Community Nutrition Intervention I. 2 Units.
Provides training and practice identifying/assessing community health issues. Students collaborate with local associations and faculty advisers to analyze a public health issue and evaluate intervention alternatives using an asset-based, problem-solving approach.

NUTR 532. Community Nutrition Intervention II. 1 Unit.
Focuses on implementation and evaluation strategies to address a community health issue that was identified and analyzed in NUTR 531.

NUTR 534. Maternal and Child Nutrition. 3 Units.
Advanced study of the role of nutrition in human growth and development during the prenatal period, lactation, infancy, and childhood.

NUTR 535. Research Applications in Nutrition. 3 Units.
Overview of research methods in nutrition. Provides an understanding of foundational issues of research design from both the quantitative and qualitative perspectives, as well as understanding of the sequence of procedures in proposal development. Laboratory included.

NUTR 537. Nutrition Education Practicum. 1 Unit.
Provides experience in evidence-based education in an outpatient setting. Student applies culturally sensitive medical nutrition therapy, counsels individuals and groups, develops patient-education materials, shadows health-care professionals, and engages patients in an integrated health-care setting for 30 hours—providing nutrition resources to staff and patients as needed. May be repeated for additional credit.

NUTR 539. Research Methods in Nutrition. 2 Units.
Discusses the steps in the research process as they relate to clinical nutrition investigation. Validity of biological parameters and dietary intake measurements, study design, subject selection, and ethical issues. Prerequisite: STAT 509 or STAT 521; or equivalent.

NUTR 543. Concepts in Nutritional Epidemiology. 3 Units.
Prepares students to conduct research relating diet to health/disease outcomes. Reviews methodological issues related to dietary assessment for clinical/metabolic and epidemiological research. Topics include variation in diet, measurement error and correction for its effects, advantages and limitations of different diet assessment techniques, design and development of a food frequency instrument, total energy intake in analyses.

NUTR 556. Nutritional Applications in Lifestyle Intervention. 3 Units.
Review of literature on the basic nutrients, protein, fat, carbohydrate, vitamins, minerals, and water. Develops skills to analyze, evaluate, and prescribe dietary intake for weight loss, weight maintenance, and weight gain. Reviews current dietary guidelines and pertinent food components relative to their health effects. Trains in skills, tools, and strategies for effective nutrition education. Practical training in nutritional assessment and education skills for lifestyle interventions.

NUTR 557. Nutrition Care Process for Diabetes and Heart Disease. 2 Units.
Knowledge, application, and practice applying the nutrition care process and terminology in assessing patients with diabetes and heart disease. Develops critical thinking skills needed to identify and document information available in patients' medical chart.
NUTR 564. Contemporary Issues of Vegetarian Diets. 2 Units.
Introduces scientific and social issues of vegetarian diets. Provides background information on the history and rationale of vegetarianism, as well as data on the health benefits and risks of a vegetarian diet.

NUTR 578. Exercise Nutrition. 2.3 Units.
Nutritional needs of professional and recreational athletes. The role of macro- and micronutrients as ergogenic aids. Presents overview of current research in the areas of exercise nutrition. Additional unit assignment available for doctoral students with instructor direction.

NUTR 585. Topics in Global Nutrition. 3 Units.
Discussion of current issues of importance in international nutrition.

NUTR 595. Special Topics in Nutrition. 1-4 Units.
Current topics in nutrition. May be repeated for additional credit.

NUTR 597. Special Topics in Clinical Nutrition. 1-3 Units.
Current topics in clinical nutrition. May be repeated for additional credit.

NUTR 605. Seminar in Nutrition. 1 Unit.
Explores current major issues in nutrition. Students choose and research a topic or problem and discuss their findings in class. Written report required. May be repeated for additional credit. Prerequisite: Five graduate units in nutrition; or consent of instructor.

NUTR 608. Doctoral Seminar in Public Health Nutrition. 1-3 Units.
Enhances skills relative to scientific literature review, critical thinking, scientific discussion with peers, presentation using advanced audiovisual aids, writing review paper and abstract as per peer-reviewed journal requirements. Maximal interaction with faculty, peers, and visiting nutritional professionals. Limited to doctoral degree students in nutrition. May be repeated for additional credit.

NUTR 608A. Scientist Forum. 1 Unit.
Provides a venue for critically appraising the scientific literature and current topics in the field, understanding the ethical principles of being a scientist, professional presentations, interacting with faculty and peers, participating in dissertation proposal and dissertation defense, and IRB training. Students enroll during the Fall, Winter, and Spring quarters of their second year in the doctoral program for a total of 3 units.

NUTR 608B. Scientist Forum. 1 Unit.
Provides a venue for critically appraising the scientific literature and current topics in the field, understanding the ethical principles of being a scientist, professional presentations, interacting with faculty and peers, participating in dissertation proposal and dissertation defense, and IRB training. Prerequisite: NUTR 608A.

NUTR 608C. Scientist Forum. 1 Unit.
Provides a venue for critically appraising the scientific literature and current topics in the field, understanding the ethical principles of being a scientist, professional presentations, interacting with faculty and peers, participating in dissertation proposal and dissertation defense, and IRB training. Prerequisite: NUTR 608B.

NUTR 617. Preventive Nutrition I: Carbohydrates and Lipids. 2 Units.
Critically reviews the current scientific literature to discuss topics surrounding advances in macronutrient (CHO and lipid) metabolism, discusses the role of quantity and quality of carbohydrate and fat in disease prevention, and provides the rationale and science base of its application to practice. Prerequisite: NUTR 504, NUTR 518. or equivalent.

NUTR 618. Preventive Nutrition II: Protein, Vitamins and Minerals. 2 Units.
Advanced study of current knowledge in nutrition and the rationale and science base of its application to practice in the prevention of disorders. Focuses on the role of proteins, vitamins, and minerals. Prerequisite: NUTR 504, NUTR 517, or equivalent.

NUTR 619. Preventive Nutrition III: Phytochemicals. 3 Units.
Critically review of the current scientific literature to discuss topics surrounding advances in phytochemical metabolism and foods and food groups that are phytochemical rich; and to understand their role in disease prevention.

NUTR 620. Advanced Topics in Nutrition. 3 Units.
Lecture and discussion of an advanced topic in nutrition bearing on the theory or practice of one aspect of the discipline. Specific content varies from year to year. May be repeated for additional credit. Topics may include: nutrigenomics and epigenetics, environment and nutrition, microbiome and diet, etc. Limited to doctoral degree students.

NUTR 643. Advanced Applications in Nutritional Epidemiology. 1-2 Units.
Critically assesses nutritional epidemiology exposure and outcome measures. Applies critical thinking skills to the development of nutritional epidemiology research. Topics covered include: issues related to nutrition database sources, self-reported exposure and outcome data issues, assessment of diet and lifestyle behavior interrelations, AHS-2 databases structures, guidelines for submitting a research proposal to the Adventist Health Study (AHS). Includes formal lectures and student presentations. Students submitting a proposal to AHS-2 research register for 2 units.

NUTR 664. Vegetarian Nutrition: Person, Population, Planet. 3 Units.
Presents and discusses the scientific and social issues related to vegetarian diets. Provides background information on the history and rationale for vegetarianism, as well as evidence for the health benefits and risks of a vegetarian diet. A forum in which to discuss personal attitudes and lifestyle approaches to vegetarianism. For doctoral students only.

NUTR 678. Advanced Exercise Nutrition. 3 Units.
Discusses current research in the field of exercise nutrition; nutritional needs of professional and recreational athletes; and the role of macro- and micronutrients as ergogenic aids. Requires a presentation and a term paper on a current research topic in exercise nutrition. Limited to doctoral students. Instructor approval required for master's degree students.

NUTR 685. Preliminary Research Experience. 2 Units.
Experience in various aspects of research under the guidance of a faculty member and by participation in an ongoing project. Must be completed prior to beginning dissertation/research project. Limited to doctoral degree students.

NUTR 694. Research. 1-12 Units.
Independent research for doctoral degree candidates and qualified master's degree students on problems currently being studied in the program, or in other programs(s) with which they collaborate. Research program arranged with faculty member(s) involved. Minimum of 100 hours required for each unit of credit. Written report required.

NUTR 695. Thesis. 2 Units.
Preparation of report of individual, guided experimental-research study in nutrition, under direct faculty supervision. Limited to graduate students whose thesis project has been approved by their research committee.
NUTR 696. Directed Study/Special Project. 1-4 Units.
Individual arrangements for advanced students to study under the
guidance of a program faculty member. May include readings, literature
reviews, or other special projects. Minimum of thirty hours required for
each unit of credit. A maximum of 4 units applicable to any master's
degree program.

NUTR 697. Dissertation Proposal. 1-10 Units.
Doctoral student develops a written dissertation proposal and works in
collaboration with the dissertation committee chair on mutually agreed-
on objectives that will provide the basis for evaluation. Culminates in
a written and oral dissertation proposal defense and advancement to
candidacy. Prerequisite: NUTR 697 and advancement to candidacy.

NUTR 698. Dissertation. 1-14 Units.
Student prepares manuscript presenting results of doctoral research
study. Limited to doctoral degree students.

NUTR 799B. Dietetic Practicum. 6 Units.
Assignment to hospital or other school-approved organization where
practical application of the materials studied regarding food service and
medical nutrition therapy is made under the guidance of department
faculty and the organization involved. Intended to meet the dietetic
practice hours of the Graduate Coordinated Program in Public Health
Nutrition and Dietetics.

NUTR 799D. Dietetic Practicum. 12 Units.
Assignment to hospital or other school-approved organization where
practical application of the materials studied regarding food service and
medical nutrition therapy is made under the guidance of department
faculty and the organization involved. Intended to meet the dietetic
practice hours of the Graduate Coordinated Program in Public Health
Nutrition and Dietetics.