

# Nutrition — Dr.P.H.

## Program Director

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## Description

The Doctor of Public Health (Dr.P.H.) degree Nutrition Program is designed to provide advanced knowledge, skills, and competencies required to meet the increasing needs of public health nutrition at the doctoral level in the areas of research, academia, programs/policies and leadership. Research emphasis is on the plant based diets in the prevention of chronic diseases, nutritional epidemiology and community nutrition.

## Learner outcomes

Upon completion of the program, graduates will:

- Contribute to the theory and practice of public health nutrition.
- Apply for funding to conduct research studies, design and implement a nutrition research project.
- Demonstrate the ability to produce scientific papers and presentations.
- Demonstrate effective leadership skills.

## Educational effectiveness indicators

- Comprehensive examination
- Written research proposal
- Two publishable scientific papers
- One presentation at a scientific meeting

## Prerequisite

In addition to the entrance requirements for all DrPH degrees (<http://llucatalog.llu.edu/public-health/doctoral-degrees/#admissionstext>), applicants to the DrPH in Nutrition program must have:

- Master's degree in nutrition preferred; or an M.S. or M.P.H. degree with completion of all prerequisite courses; or a health professional degree at the doctoral level (M.D., D.D.S., or equivalent)
- Advanced biochemistry (may be taken concurrently with the program)
- Anatomy and physiology
- Behavioral science (one course)
- Quantitative and analytical proficiency as evidenced by GRE scores

All prerequisites must be completed with a passing grade of B or higher.

## Individuals who may benefit from the program

Those who may benefit from the program include individuals seeking careers in:

- academia and research.
- leadership in public health nutrition in government and nonprofit organizations.

## Program Requirements

### Corequisites

See standard DrPH corequisites (<http://llucatalog.llu.edu/public-health/doctoral-degrees/#drphstext>).

### Nutrition Major

|          |                                                         |   |
|----------|---------------------------------------------------------|---|
| NUTR 510 | Advanced Public Health Nutrition                        | 3 |
| NUTR 517 | Advanced Nutrition I: Carbohydrates and Lipids          | 4 |
| NUTR 518 | Advanced Nutrition II: Proteins, Vitamins, and Minerals | 4 |
| NUTR 519 | Phytochemicals                                          | 2 |
| NUTR 525 | Nutrition Policy, Programs, and Services                | 3 |
| NUTR 527 | Assessment of Nutritional Status                        | 3 |
| NUTR 534 | Maternal and Child Nutrition                            | 3 |
| NUTR 543 | Concepts in Nutritional Epidemiology                    | 3 |
| NUTR 564 | Contemporary Issues of Vegetarian Diets                 | 3 |
| NUTR 608 | Doctoral Seminar in Public Health Nutrition             | 3 |

### Religion

|          |                            |   |
|----------|----------------------------|---|
| RELE 5_  | Graduate-level Ethics      | 3 |
| RELRL 5_ | Graduate-level Relational  | 3 |
| RELT 5_  | Graduate-level Theological | 3 |

|                               |  |    |
|-------------------------------|--|----|
| <b>Electives</b> <sup>1</sup> |  | 20 |
|-------------------------------|--|----|

### Research and evaluation

|          |                                                 |     |
|----------|-------------------------------------------------|-----|
| NUTR 539 | Research Methods in Nutrition                   | 2   |
| NUTR 685 | Preliminary Research Experience                 | 2   |
| NUTR 697 | Dissertation Proposal                           | 4-6 |
| PHCJ 604 | Research Seminar                                | 2   |
| STAT 514 | Intermediate Statistics for Health-Science Data | 3   |
| STAT 515 | Grant- and Contract-Proposal Writing            | 3   |
| STAT 549 | Analytical Applications of SPSS                 | 2   |
| STAT 564 | Survey and Advanced Research Methods            | 3   |
| STAT 568 | Data Analysis                                   | 3   |

### Dissertation

|          |              |    |
|----------|--------------|----|
| NUTR 698 | Dissertation | 12 |
|----------|--------------|----|

|             |  |       |
|-------------|--|-------|
| Total Units |  | 96-98 |
|-------------|--|-------|

<sup>1</sup> Choose 20 units, in consultation with advisor, from the areas of nutrition, public health, basic science or leadership & administration; a minimum of six (6) units must be from NUTR

## Culminating experience

As a part of the culminating experience, the student completes two publishable scientific papers for submission to peer reviewed journals, successfully defends dissertation, and submits a committee approved dissertation manuscript. Further details provided in the Doctoral Handbook.

## Normal time to complete the program

4.33 years based on less than full-time enrollment

## 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.

### **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.

### **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.**

Techniques of individual nutrition assessment: dietary intake and evaluation, use of computer software (1 unit); anthropometric, clinical, and biochemical methodologies (1 unit); principles and practice in nutrition counseling in a supervised community setting (1 unit). Laboratory or practicum included in each unit.

### **NUTR 528. Symposium: Adventist Philosophy of Nutrition. 1 Unit.**

The science of nutrition as related to the Seventh-day Adventist philosophy of health.

### **NUTR 529. Health Aspects of Vegetarian Eating. 2,3 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.**

Experiential course that applies medical nutrition therapy in the assessment and counseling of individuals and groups across the life cycle in an outpatient setting. Includes training in counseling, educational materials development, and cultural sensitivity. Includes at least forty hours of dietetic practice. May be repeated for additional credit.

### **NUTR 538. Principles of Effective Nutrition Education. 3 Units.**

Teaching methods appropriate to the nutrition educator. Definition of an effective teacher. Learning environment, lesson design, and use of teaching models. Strategies to improve student motivation and the retention of information. Evaluation of learning outcomes. Laboratory included. Includes thirty hours of dietetic practice.

### **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.

### **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 545. Clinical Nutrition I. 3 Units.**

Medical nutrition therapy and care for a variety of clinical disorders with nutritional implications. Laboratory included.

### **NUTR 546. Clinical Nutrition II. 3 Units.**

Continues medical nutrition therapy for a variety of clinical disorders with nutritional implications: renal disease, chronic obstructive pulmonary disease, inborn errors of metabolism, AIDS, pancreatitis, care of the critically ill and/or obese patient. Includes forty-five practicum hours.

### **NUTR 554. Critical Care Nutrition I. 3 Units.**

Current issues related to the nutritional needs of patients with diabetes, heart disease, and renal disease. Drug-nutrient interactions, laboratory values, treatment modalities; and their effect on nutrition in the critical care of these patients. Counseling strategies for each. Laboratory included.

**NUTR 555. Critical Care Nutrition II. 3 Units.**

Current issues related to the nutritional needs of preterm neonate, transplant, oncology, AIDS, and COPD patients. Enteral/parenteral feeding products and their administration. Counseling strategies for the client and/or caregiver in each instance. Laboratory included.

**NUTR 556. Nutritional Applications in Lifestyle Intervention. 1 Unit.**

Provides students with practical experience and training in applying nutritional assessment and counseling skills to address lifestyle interventions. Reviews current dietary practice guidelines and pertinent food components relative to their health effects. Includes hands-on training in skills, tools, and strategies for effective nutrition counseling.

**NUTR 564. Contemporary Issues of Vegetarian Diets. 2,3 Units.**

Introduces contemporary issues and controversies related to vegetarian diets. Presents background information on the history and rationale of vegetarian diets, ecologic and environmental issues, health benefits and risks of the vegetarian lifestyle. A major paper on one of the vegetarian topics required for 3 units.

**NUTR 565. Ethnic Food Practices. 2 Units.**

Introduces major ethnic and religious food practices in the United States. Cultural background and other data for the purpose of preparing health professionals to serve their clients in a culturally sensitive manner.

**NUTR 577. Nutrition Care Management. 3 Units.**

Translates institutional mission into goals, objectives, and standards of care. Applies operations analysis, financial management, quantitative decision making, and productivity management techniques to enhance the delivery of nutrition care. Ethical and legal behavior. Staff recruitment, selection, development, and retention. Develops quality assurance indicators. Skills in managing the human and technological resources available to the registered dietitian.

**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 586. Mediterranean Diet: Nutrition, Cuisine, and Culture. 3,4 Units.**

An off-campus, experiential course that provides theoretical and practical training in the cuisine, nutrition, and health aspects of Mediterranean-style vegetarian diets. Students explore the impact of vegetarian diets on nutritional status, chronic disease, and longevity. Includes visits to agricultural and culinary food production and food consumption sites. Formal lectures held at a major European university. Includes formal lectures, practicum, and field work. Additional project required for fourth unit.

**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.

**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 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 692. Research Consultation. 1-4 Units.**

Individual advice on project design and on data collection, analysis, and evaluation. Restricted to School of Public Health students and staff.

**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 department, or in other department(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.**

Student prepares 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-upon objectives that will provide the basis for evaluation. Culminates in a written and oral dissertation proposal defense 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 699. Applied Research. 2 Units.**

Assignment to private, government, or international voluntary health agency, hospital, or other school-approved organization where practical application of the materials studied on campus is made, under the guidance of the department faculty and of the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

**NUTR 798B. Field Practicum. 6 Units.**

Assignment to private, government, or international voluntary health agency, hospital, or other school-approved organization where practical application of the materials studied on campus is made, under the guidance of the department faculty and of the organization involved. May consist of a research project. Meets the dietetic practice hours of the Graduate Coordinated Program in Public Health Nutrition and Dietetics. May be repeated for additional credit.

**NUTR 798D. Field Practicum. 12 Units.**

Assignment to hospital or other School of Public Health-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. May be repeated for additional credit.

**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.