

University of Southern California, Coordinated Program in Nutrition and Dietetics
Leonard Davis School of Gerontology
Master of Science Degree: Nutrition, Healthspan and Longevity

The Master of Science degree in Nutrition, Healthspan and Longevity, a Coordinated Program (CP) in Nutrition and Dietetics, enrolled its first class of students in January 2015 and received full accreditation from the Accreditation Council for Education in Nutrition and Dietetics (ACEND) in August 2018 to enroll 41 students (~20 students per year).

The program follows the required ACEND Core Knowledge and Competencies (page 8) and can be completed in two years, as a full-time degree program, or three-years part-time (distance only) with courses and supervised practice completed concurrently. Students will be able to complete the degree program on campus, or as a distance student if residing >100 miles from Los Angeles. Successful completion of 46 units is required for graduation (28 units of didactic course work, 12 units of supervised practice and 6 units of research). Completion of the didactic and supervised practice (1200 hours) components and the award of a master of science degree provides students with “eligibility” to write the national registration examination of the Commission of Dietetics Registration (CDR), granting use of the nationally recognized credential, Registered Dietitian Nutritionist (RDN). The program summative experience is a Capstone Project and is required for graduation. Students will be required to present their Capstone at a nutrition or related conference, in a peer-reviewed publication or newsletter, or deliver a presentation at a conference.

The academic programs at the USC Leonard Davis School of Gerontology study the human lifespan by exploring the biological, pathophysiological, psychological and sociological foundations; and the political, health systems and business dimensions that impact individuals and communities. The mission of the program is to produce highly competent, entry-level registered dietitian nutritionists, capable of providing excellent services to a variety of constituencies in a highly technical, constantly changing world with an emphasis on nutrition, healthspan and longevity.

In selecting applicants for admission, the program will consider both academic potential (as reflected in undergraduate study) and professional potential (e.g., reflected in experience, references and career goals). The GRE is not required unless GPA (undergrad) is <3.0. The USC Leonard Davis School of Gerontology will request information from applicants to supplement that supplied by the USC Application for Graduate Admission. Supplemental information includes a resume, statement of interest, two letters of reference (one academic, one work experience), proof of completion of prerequisites (course prerequisite grid), Didactic Program in Dietetics (DPD) verification (if applicable) and documentation of 40 hours of experience shadowing RDN(s) (document brief written summary of experience and include original signature and email address from RDN for each experience). Applications are due the 15th of January each year with student notification by April 1st.

Students will complete 1200 hours of supervised practice through nine rotations including hospital, community and foodservice settings, working with individuals across the lifespan (see pages 6-7). Students will receive mentoring and supervision from RDNs and health/foodservice professionals. Students will conduct literature reviews, analyze evidence, deliver presentations in the various medical nutrition therapy practice areas including cardiology, diabetes, disordered eating, GI, genetics, geriatrics, obesity, etc. and will hear from content experts from a variety of professions to expand depth of understanding and explore evidence to inform their practice. Placements will meet ACEND competency requirements (pgs. 8-9). Rotations will be scheduled by the Program for student on campus. Distance students will need to identify all supervised practice rotations; and, provide confirmation of supervised

practice rotations for Spring & Summer in the first year of the program, as a condition of program acceptance.

ACADEMIC PROGRAM PREREQUISITES AND REQUIRED COURSES

<u>Prerequisite - Required Undergraduate Science Courses</u>	<u># of Semester Units</u>	<u>USC-Equivalent for comparison</u>
1. General Chemistry (1-2 terms) with lab	4-8 units	CHEM 105aL
2. Organic Chemistry (1-2 terms) with lab*	4-8 units	CHEM 322aL
3. Biochemistry (1 term) with lab*	4 units	BISC 330L
4. Cellular Biology with Lab	4-8 units	BISC 101Lgx, 120L, 220Lg
5. Physiology with lab*	4 units	BISC104Lgx, 307L; GERO 310
6. Microbiology with lab*	4 units	BISC 300L

***Not all colleges/universities offer separate lab along with lecture, unit requirement must be met**

<u>Prerequisite - Required Undergraduate non-Science Courses</u>	<u># of Semester Units</u>	<u>USC-Equivalent for comparison</u>
1. General Psychology or Sociology	3-4 units	PSYC 100, SOCI 200
2. Algebra, pre-Calculus, Calculus or Statistics	3-4 units	Math 108, 125, 208
3. Speech/Communication	3-4 units	COMM 204

<u>Prerequisite - Required Undergrad Nutrition-Related Courses</u>	<u># of Semester Units</u>	<u>USC-Equivalent for comparison</u>
1. Basic Human Nutrition	2-4 units	GERO 411; HP 230; HBIO 302L
2. Introductory Food Science/Experimental Foods	3-4 units	BISC 115Lxg (Spring)

NOTE: All prerequisites must be completed within 10 years of program application, with the exception of mathematics, speech/communication and psychology/sociology are not time restricted.

Master of Science Degree Required Course

1) Nutrition, Genes, Longevity and Disease	4 units	GERO 498
2) Fundamentals of Clinical Nutr. Screening & Assessment	4 units	GERO 511
3) Communicating Nutrition & Health	2 units	GERO 512
4) Fundamentals of Nutrition (Macronutrients)	3 units	GERO 513
5) Food Production & Foodservice Management w/Lab	4 units	GERO 515L
6) Advanced Medical Nutrition Therapy w/Lab	4 units	GERO 517L
7) Current Topics in Clinical Nutr., Healthspan, Longevity	4 units	GERO 518
8) Micro-nutrients, Health and Longevity	3 units	GERO 560
9) Directed Research	2 units	GERO 590
10) Field Practicum - Supervised Practice in Dietetics	12 units	GERO 591
11) Research Methods	4 units	GERO 593

Total: 46 units

The courses are sequential, as written in a 2-year course schedule (next page). Each student will register for GERO 591- Supervised Practice beginning the second semester if the first semester GPA, for each course completed is ≥ 3.0 . Student must take supervised practice, 2 or 4 units (GERO 591) each semester for a total of 12 units (1200 hours). Courses will be taught on an annual basis and build on the semester prior, therefore courses are not interchangeable.

**PROPOSED COURSE SCHEDULE (2-Year Full-Time Program of Study)
On-Campus and Distance Students**

Units Fall Year 1

4	GERO - 511 – Fundamentals of Clinical Nutrition Screening and Assessment
3	GERO - 513 – Fundamentals of Nutrition: Macronutrients
4	GERO - 515L - Food Production & Food Services Management with Lab
4	GERO - 593 – Research Methods

Total Units: 15

Units Spring Year 1

3	GERO - 560 – Micronutrients, Health and Longevity
2	GERO - 512 – Communicating Nutrition and Health
4	GERO- 517L – Advanced Therapeutic Nutrition with Lab
2	GERO - 591 – (200 hours) Field Practicum - Supervised Practice - Professionalization Seminar; Community Nutrition; Nutrition Education

Total Units: 11

Units Summer Year 1

4	GERO - 498 - Nutrition, Genes, Longevity and Diseases
2	GERO - 591 – (200 hours) Field Practicum - Supervised Practice - Retail Foodservice Management

Total Units: 6

Units Fall Year 2

4	GERO - 518 – Current Topics in Clinical Nutrition, Healthspan and Longevity
4	GERO - 591 – (400 hours) Field Practicum - Supervised Practice –In-Patient Foodservices; Medical Nutrition Therapy (MNT) I; Outpatient MNT

Total Units: 8

Units Spring Year 2

2	GERO - 590 – Directed Research – Portfolio
4	GERO - 591 – (400 hours) Field Practicum - Supervised Practice – MNTII; Clinical Concentration

Total Units: 6

Degree Total Units: 46 Units

**PROPOSED COURSE SCHEDULE (3-Year Distance Program of Study)
Part-time Distance Students**

Units Fall Year 1

- 3 GERO - 513 – Fundamentals of Nutrition: Macronutrients
- 4 GERO – 515L - Food Production & Food Services Management with Lab

Total Units: 7

Units Spring Year 1

- 3 GERO - 560 – Micronutrients, Health and Longevity
- 2 GERO - 591 – (200 hours) Field Practicum - Supervised Practice - Professionalization Seminar; Retail Food Services Management

Total Units: 5

Units Summer Year 1

- 4 GERO - 498 - Nutrition, Genes, Longevity and Diseases

Total Units: 4

Units Fall Year 2

- 4 GERO - 511 – Fundamentals of Clinical Nutrition Screening and Assessment
- 4 GERO - 593 – Research Methods

Total Units: 8

Units Spring Year 2

- 2 GERO - 512 – Communicating Nutrition and Health
- 4 GERO- 517L – Advanced Therapeutic Nutrition with Lab
- 2 GERO - 591 – (200 hours) Field Practicum - Supervised Practice – Community Nutrition and Nutrition Education

Total Units: 8

Units Summer Year 2

- 4 GERO - 591 – (400 hours) Field Practicum - Supervised Practice – Inpatient Foods, MNT I and MNT II

Total Units: 4

Units Fall Year 3

- 4 GERO - 518 – Current Topics in Clinical Nutrition: Healthspan and Longevity
- 2 GERO - 591 – (200 hours) Field Practicum - Supervised Practice –Outpatient MNT

Total Units: 6

Units Spring Year 3

- 2 GERO - 590 – Directed Research – Portfolio
- 2 GERO - 591 – (400 hours) Field Practicum - Supervised Practice – Clinical Concentration

Total Units: 4

Degree Total Units: 46 Units

COURSE DESCRIPTION (USC Courses Catalog 2019-20)

GERO - 498 - Nutrition, Genes, Longevity and Diseases (4, Su) Examines role of nutrition and genes and the impact each has on longevity and diseases, particularly diseases related to aging. Offered in Genoa, Italy.

GERO 511 Fundamentals of Clinical Nutrition Screening and Assessment (4, Fa) Examines tools and resources used to assess the nutrition status of individuals including biochemical, anthropometric, subjective global assessment and evidence-based screening and assessment tools across the health disciplines used to evaluate health status.

GERO 512 Communicating Nutrition and Health (2, Sp) Overview of current understanding of the dietary and nutritional needs of individuals across their lifespan. Open only to graduate students.

GERO 513 Fundamentals of Nutrition: Macronutrients (3, Fa) Study the principles of human nutrition throughout the life cycle. Topics and controversies in nutrition and health are discussed. Open only to graduate students.

GERO 515L Food Production and Food Services Management (4, Fa) Study of principles and procedures for food systems including techniques of food preparation, development, modification and evaluation of recipes, menus and products acceptable to diverse groups.

GERO 517L Advanced Therapeutic Nutrition (4, Sp) Application of nutrition science, physiology, biochemistry, and metabolism to evaluate critically ill patients and modification of diets to meet individual needs.

GERO 518 Current Topics in Clinical Nutrition: Healthspan and Longevity (4, Fa) Discuss various factors that affect nutrition and aging. Topics include allergies in nutrition, food toxins, weight factors, and prevention and treatment of multiple organ systems. Open only to graduate students.

GERO 560 Micronutrients, Health, and Longevity (3, Sp) Explore the basis of nutrient needs for vitamins, major minerals and trace minerals including nutrient interactions, related to health and longevity.

GERO 590 Directed Research (2, Sp) Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC.

GERO 591 Field Practicum (1-12, max 12, FaSpSm) Supervised experiential learning in one or more organizations that serve individuals across the lifespan; includes a regularly scheduled seminar. Graded CR/NC.

GERO 593 Research Methods (4, Fa) An introduction to research methods and their application to gerontology including problem formation, research design, data collection, descriptive and analytic statistics, interpretation, and report preparation.

SUPERVISED PRACTICE ROTATION DESCRIPTIONS

The nine supervised practice rotations that students enrolled in the USC Leonard Davis School of Gerontology Coordinated Program will be required to complete are summarized below. The Professionalization Seminar will include two-day required orientation on the USC Campus in January of each year, at the start of enrollment in Supervised Practice.

1. Professionalization Seminar (40 hours)

Through the Professionalization Seminar, which consists of a series of sessions, activities, and communication exchanges, the program director walks the students throughout their entire supervised practice so that students develop and bring professional attitude, behavior, ethics, and values into their roles as professional RDNs.

The Professionalization Seminar topics include orientation to supervised practice, professional conduct, tutoring, and mentoring support. Actual activities and assignments include medical terminology training, participating in public policy activities for legislative and regulatory initiatives, conflict resolution case studies, applying nutrition services within a culturally diverse population, developing a draft CDR portfolio, registration exam preparation, resume development, and selecting prospective employment opportunities. Additionally, students communicate with the internship coordinator monthly, receiving individualized support throughout their supervised-practice experience. The internship coordinator may develop other projects, activities and assessments, such as: learning portfolios, journal clubs, research projects, homework assignments, readings, quizzes, pre-tests, and post-tests.

2. Retail/Institutional Foodservice, Production, and Management Guidelines (200 hours)

The Retail/Institutional Foodservice, Production, and Management Rotation focuses on all aspects of marketing, procurement, storage, preparation, delivery, service, and management of retail/institutional operations. Students practice the care and operation of equipment, sanitation audits, HACCP Guidelines, menu planning, customer service, and management activities. The activities in this rotation include practical hands-on practice, as well as, operations management to prepare for entry-level management responsibilities.

3. Inpatient Foodservice, Production, and Management Rotation Guidelines (120 hours)

The Inpatient Foodservice, Production, and Management Rotation focuses on all aspects of producing and delivering nutrition, within an inpatient setting, to patients who have medical needs related to their diets including menu modifications, meal orders, tray preparation and delivery, meal promotion, food production, and patient satisfaction. While the activities in this rotation may seem similar to the Retail/Institutional Foodservice, Production, and Management Rotation, it focuses exclusively on providing nutritional needs for patients, and not on serving the general public in a retail setting.

4. Community Nutrition Rotation Guidelines (160 hours)

Students practice providing community-based nutrition services including community nutrition assessment, counseling, education, wellness promotion, and project related time management. Students also develop skills in evaluating and applying government program guidelines and policies.

5. Nutrition Education Rotation Guidelines (40 hours)

During this rotation, students promote good health and wellness to school age children, adolescents, college students, adults and/or the elderly through nutrition education. Students learn how to create a series of lessons

while learning how to interact and appropriately educate this age group. These lessons are to be taught to individuals when they are in groups or classes with their peers.

6. Inpatient Medical Nutrition Therapy I Rotation Guidelines (160 hours)

Inpatient Medical Nutrition Therapy I is the first rotation where students practice the Nutrition Care Process (NCP) for Medical Nutrition Therapy (MNT) in an institutional setting. Students practice the Nutrition Care Process with populations that have common disease states or conditions impacted by diet, including obesity, diabetes, hypertension, cardiovascular disease, and gastrointestinal disorders. Students also prepare and present case study reports to become skillful in investigating and discussing these disease states and conditions in professional settings. Students use a log to track the populations they are serving and the disease states and conditions they are treating during this rotation.

7. Outpatient Medical Nutrition Therapy Rotation Guidelines (120 hours)

Outpatient Medical Nutrition Therapy builds on the skills developed in the Inpatient Medical Nutrition Therapy (MNT) 1 Rotation. In this rotation, students practice the Nutrition Care Process with patients who are being seen in an outpatient setting. These patients have disease states or conditions impacted by diet and do not require hospitalization at this time. Therefore, students will be supporting patients who are caring for themselves and may require guidance to incorporate good nutrition practice into their daily lives. Students also prepare and present case study reports to become skillful in investigating and discussing these disease states and conditions in professional settings.

8. Inpatient Medical Nutrition Therapy II Rotation Guidelines (240 hours)

Inpatient Medical Nutrition Therapy II is the second rotation where students practice the Nutrition Care Process (NCP) for Medical Nutrition Therapy (MNT) in an institutional setting. Students practice NCP with populations with complex disease states or conditions that require significant nutrition intervention such as renal disease, multisystem organ failure, and hepatic disease. Students also prepare and present case study reports to become skillful in investigating and discussing these disease states and conditions in professional settings.

9. Specialty Concentration (Elective) Rotation Guidelines (120 hours)

The Specialty Concentration provides opportunity for students to gain further experience and depth in a nutrition area of personal interest. The number and scope of elective rotation varies annually depending on the availability of sites. The primary learning objective is for students to demonstrate an understanding and to work independently in the area of nutrition that they are most likely to practice post-graduation. Before beginning the rotation, students will select their area of concentration with the advice and consent of the program director and internship coordinator:

- Medical Intensive Care
- Surgical Medical Oncology
- Food Service Management
- Transplant
- Sports
- Corporate Wellness
- Renal
- Disordered Eating
- Developmental Disabilities
- Research
- Private Practice
- Others defined by the internship coordinator

Core Knowledge and Competencies for the Registered Dietitian Nutritionist

Domain 1. Scientific and Evidence Base of Practice: Integration of scientific information and translation of research into practice.

KRDN 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.

KRDN 1.2 Use current information technologies to locate and apply evidence-based guidelines and protocols.

KRDN 1.3 Apply critical thinking skills.

CRDN 1.1 Select indicators of program quality and/or customer service and measure achievement of objectives.

CRDN 1.2 Apply evidence-based guidelines, systematic reviews and scientific literature.

CRDN 1.3 Justify programs, products, services and care using appropriate evidence or data.

CRDN 1.4 Evaluate emerging research for application in nutrition and dietetics practice.

CRDN 1.5 Conduct projects using appropriate research methods, ethical procedures and data analysis.

CRDN 1.6 Incorporate critical-thinking skills in overall practice.

Domain 2. Professional Practice Expectations: Beliefs, values, attitudes and behaviors for the professional dietitian nutritionist level of practice.

KRDN 2.1 Demonstrate effective and professional oral and written communication and documentation.

KRDN 2.2 Describe the governance of nutrition and dietetics practice, such as the Scope of Nutrition and Dietetics Practice and the Code of Ethics for the Profession of Nutrition and Dietetics; and describe inter-professional relationships in various practice settings.

KRDN 2.3 Assess the impact of a public policy position on nutrition and dietetics practice.

KRDN 2.4 Discuss the impact of health care policy and different health care delivery systems on food and nutrition services.

KRDN 2.5 Identify and describe the work of inter-professional teams and the roles of others with whom the registered dietitian nutritionist collaborates in the delivery of food and nutrition services.

KRDN 2.6 Demonstrate an understanding of cultural competence/sensitivity.

KRDN 2.7 Demonstrate identification with the nutrition and dietetics profession through activities such as participation in professional organizations and defending a position on issues impacting the nutrition and dietetics profession.

KRDN 2.8 Demonstrate an understanding of the importance and expectations of a professional in mentoring and precepting others.

CRDN 2.1 Practice in compliance with current federal regulations and state statutes and rules, as applicable, and in accordance with accreditation standards and the Scope of Nutrition and Dietetics Practice and Code of Ethics for the Profession of Nutrition and Dietetics.

CRDN 2.2 Demonstrate professional writing skills in preparing professional communications.

CRDN 2.3 Demonstrate active participation, teamwork and contributions in group settings.

CRDN 2.4 Function as a member of inter-professional teams.

CRDN 2.5 Assign duties to NDTRs and/or support personnel as appropriate.

CRDN 2.6 Refer clients and patients to other professionals and services when needs are beyond individual scope of practice.

CRDN 2.7 Apply leadership skills to achieve desired outcomes.

CRDN 2.8 Demonstrate negotiation skills.

CRDN 2.9 Participate in professional and community organizations.

CRDN 2.10 Demonstrate professional attributes in all areas of practice.

Abbreviations: KRDN=Core Knowledge; CRDN=Practice Competencies; NHL= Program Concentration Area Nutrition, Healthspan & Longevity

- CRDN 2.11 Show cultural competence/sensitivity in interactions with clients, colleagues and staff.
- CRDN 2.12 Perform self-assessment and develop goals for self-improvement throughout the program.
- CRDN 2.13 Prepare a plan for professional development according to Commission on Dietetic Registration guidelines.
- CRDN 2.14 Demonstrate advocacy on local, state or national legislative and regulatory issues or policies impacting the nutrition and dietetics profession.
- CRDN 2.15 Practice and/or role play mentoring and precepting others.

Domain 3. Clinical and Customer Services: Development and delivery of information, products and services to individuals, groups and populations.

- KRDN 3.1 Use the Nutrition Care Process to make decisions, identify nutrition-related problems and determine and evaluate nutrition interventions.
- KRDN 3.2 Develop an educational session or program/educational strategy for a target population.
- KRDN 3.3 Demonstrate counseling and education methods to facilitate behavior change and enhance wellness for diverse individuals and groups.
- KRDN 3.4 Explain the processes involved in delivering quality food and nutrition services.
- KRDN 3.5 Describe basic concepts of nutritional genomics.
- CRDN 3.1 Perform the Nutrition Care Process and use standardized nutrition language for individuals, groups and populations of differing ages and health status, in a variety of settings.
- CRDN 3.2 Conduct nutrition focused physical exams.
- CRDN 3.3 Demonstrate effective communications skills for clinical and customer services in a variety of formats and settings.
- CRDN 3.4 Design, implement and evaluate presentations to a target audience.
- CRDN 3.5 Develop nutrition education materials that are culturally and age appropriate and designed for the literacy level of the audience.
- CRDN 3.6 Use effective education and counseling skills to facilitate behavior change.
- CRDN 3.7 Develop and deliver products, programs or services that promote consumer health, wellness and lifestyle management.
- CRDN 3.8 Deliver respectful, science-based answers to client questions concerning emerging trends.
- CRDN 3.9 Coordinate procurement, production, distribution and service of goods and services, demonstrating and promoting responsible use of resources.
- CRDN 3.10 Develop and evaluate recipes, formulas and menus for acceptability and affordability that accommodate the cultural diversity and health needs of various populations, groups and individuals.

Domain 4. Practice Management and Use of Resources: Strategic application of principles of management and systems in the provision of services to individuals and organizations.

- KRDN 4.1 Apply management theories to the development of programs or services.
- KRDN 4.2 Evaluate a budget and interpret financial data.
- KRDN 4.3 Describe the regulation system related to billing and coding, what services are reimbursable by third party payers and how reimbursement may be obtained.
- KRDN 4.4 Apply the principles of human resource management to different situations.
- KRDN 4.5 Describe safety principles related to food, personnel and consumers.
- KRDN 4.6 Analyze data for assessment and evaluate data to be used in decision-making for continuous quality improvement.

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- CRDN 4.1 Participate in management of human resources.
- CRDN 4.2 Perform management functions related to safety, security and sanitation that affect employees, customers, patients, facilities and food.
- CRDN 4.3 Conduct clinical and customer service quality management activities.
- CRDN 4.4 Apply current nutrition informatics to develop, store, retrieve and disseminate information and data.
- CRDN 4.5 Analyze quality, financial and productivity data for use in planning.
- CRDN 4.6 Propose and use procedures as appropriate to the practice setting to promote sustainability, reduce waste and protect the environment.
- CRDN 4.7 Conduct feasibility studies for products, programs or services with consideration of costs and benefits.
- CRDN 4.8 Develop a plan to provide or develop a product, program or service that includes a budget, staffing needs, equipment and supplies.
- CRDN 4.9 Explain the process for coding and billing for nutrition and dietetics services to obtain reimbursement from public or private payers, fee-for-service and value-based payment systems.
- CRDN 4.10 Analyze risk in nutrition and dietetics practice.

Program Concentration Area – Nutrition, Healthspan & Longevity (NHL)

Competencies: Upon completion of the program, graduates are able to:

NHL 5.1. Translate research evidence on biology of aging and mechanisms for the extension of health and treatment of disease.

NHL 5.2. Incorporate knowledge of nutrient gene interactions, molecular and biochemical parameters and medication use, into the nutrition care plan (MNT) for individuals with complex medical conditions.

Abbreviations: KRDN=Core Knowledge; CRDN=Practice Competencies; NHL= Program Concentration Area Nutrition, Healthspan & Longevity

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