Tentative Schedule of Online Food Science & Human Nutrition Courses

Updated 04/24/2025

All classes are three credits each.

Please note that additional classes will be added as new faculty members are hired. Early registration is encouraged because most graduate classes have size limits of 19-29 students**. Classes marked with an asterisk can be applied to either graduate certificate.** Each certificate requires 4 classes (12 credits); the M.S. requires 30 credits (ten classes) including FSN 501, 502, 524, and 543. Please note that classes with enrollments lower than six students may be canceled.

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|  | **Online-only classes** |
| **Food Technology certificate** | **Human Nutrition certificate** | **Required for the online M.S.** |
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| Summer 2025 | FSN 502 Food Preservation (Dr. Jin) 3 cr. **7/7-8/15** | FSN 508 Nutrition & Aging (Dr. Camire) 3 cr. **6/23-8/1** | FSN 543 Communication in Nutrition and Food Technology (Professor Yerxa) 3 cr**. 5/12-6/20** |
|  |  |  | FSN 524 Responsible Design, Conduct & Analysis of Research \*(Dr. McNamara) 3 cr. **6/23-8/22** |
|  |  |  | FSN 502 Food Preservation (Dr. Jin) 3 cr. **7/7-8/15** |
| Fall 2025 | FSN 586 Sensory & Consumer Science Applications (Dr. Camire) 3 cr. | FSN 501 Advanced Human Nutrition (Dr. Camire) 3 cr. | FSN 501 Advanced Human Nutrition (Dr. Camire) 3 cr. |
|  | FSN 547 Food & Bioprocess Technology (Dr. Jin) 3 cr.  | FSN 540 Advanced Clinical Topics (Dr. Therrien-Genest) 3 cr.  |  |
|  |  | FSN 546 Public Health Nutrition (Dr. McNamara) 3 cr.  |  |
| Spring 2026 | FSN 536 Food Laws and Regulations (Dr. Bushway) 3 cr.  | FSN 506 Nutritional Assessment (Dr. Therrien and Ms. Ouellette) 3 cr. | FSN 543 Communication in Nutrition and Food Technology (Dr. Klimis-Zacas) 3 cr. |
|  | FSN 538 Fermented Foods (Dr. Perry) 3 cr.(general microbiology class highly recommended as a prerequisite) | FSN 530 Integrated & Functional Nutrition (Dr. Camire) 3 cr. |  |
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| Summer2026 | New class! Food Ingredient Technology (Dr. Perry) 3 cr. This class has not been approved yet by the Graduate School. | FSN 603 Nutrient Changes Across the Food System\* (Dr. Camire) 3 cr. | FSN 501 Advanced Human Nutrition (Dr. Camire)  |
|  |  | FSN 566 Type 2 Diabetes, Obesity, and Food (Ms. Molloy) 3 cr.  |  |
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| Fall 2026 | FSN 502 Food Preservation (Dr. Jin) 3 cr.  | FSN 555 Organic & Natural Foods (Dr. Perry) 3 cr. | FSN 502 Food Preservation (Dr. Jin) 3 cr.  |
|  |  | FSN 540 Advanced Clinical Topics (Dr. Therrien-Genest) 3 cr.  | FSN 524 Responsible Design, Conduct & Analysis of Research \*(Dr. Camire) 3 cr. |
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| Spring 2027 | FSN 545 Utilization of Aquatic Food Resources (Dr. Skonberg) 3 cr. | FSN 506 Nutritional Assessment (Dr. Therrien and Ms. Ouellette)  | FSN 543 Communication in Nutrition & Food Technology \*(Professor Yerxa) 3 cr. |
| FSN 585 Principles of Sensory Evaluation (Dr. Camire) 3 cr. | FSN 542 Sustainability, Nutrition and Health (Dr. Klimis-Zacas) 3 cr. |  |
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**Course Descriptions- Descriptions are not yet available for courses in development**

FSN 501 Advanced Human Nutrition- Basic nutrition science with an emphasis on carbohydrate, lipid, protein, vitamin, mineral functions and metabolism. Genetic influences on nutrient needs and metabolism.

FSN 502 Food Preservation- Chemicals and processes (freezing, dehydration, canning, irradiation, extrusion) used to extend food quality and safety.

FSN 506 Nutritional Assessment: Covers methods of evaluating the nutritional status of individuals or groups of people by dietary assessment and nutrition-related health indicators.

FSN 508 Nutrition and Aging: Roles of nutrients, foods and supplements in maintaining health during aging. Online class with some live discussions. FSN 501 is recommended for background preparation.

FSN 524 Responsible Design, Conduct and Analysis of Research: Experimental design, ethical considerations, and statistics for responsible conduct of nutritional and medical research. An undergraduate statistics class is recommended as a prerequisite.

FSN 530 Integrative and Functional Nutrition: Review of alternative practices such as traditional Chinese medicine, Ayurvedics, homeopathy, naturopathy, herbal medicine, and dietary supplements and how these practices can be integrated with conventional dietetic practice. Special needs of different life stages and disease conditions are addressed. Prerequisite: FSN 501.

FSN 536 Food Laws and Regulations: Examination and discussion of federal, international and state laws and regulations applying to the processing, handling, distribution and serving of food products and dietary supplements. May not be taken in addition to FSN 436.

FSN 538 Food Fermentation: An overview of fermentation of various categories of foods by applying principles of microbiology. Includes discussion of microbial metabolic pathways of importance in microbial inoculants and the physicochemical changes that occur within the substrate matrix during the fermentation process.

FSN 539 Probiotics in Food: Formulation and Function: Introduces the process of assessing probiotic characteristics of microorganisms. Reviews current understanding of probiotic mechanisms and efficacy in humans with focus on administration via food products. Discusses the process of effective formulation of probiotic food products and related legal considerations.

FSN 540 Advanced Clinical Topics: A critical evaluation of medical nutrition therapy in the inpatient clinical setting. Application of the current medical literature to practice decisions. Nutritional goals for a variety of medical conditions are discussed. Prerequisite: Graduate standing in FSN or FNS.

FSN 542 Sustainability, Nutrition and Health: This course explores sustainable practices when growing, processing, transporting, distributing, choosing, preparing, and consuming food and how these practices affect the tripod of sustainability, i.e. environment, society (health) and economy in the context of the “Farm to Healthy Body” model. Applications for health professionals are addressed.

FSN 543 Communication in Nutrition and Food Technology: This course is designed to provide preparation for effective delivery of oral and written presentations in the fields of Nutrition and Food Technology. The course will also explore the differences and similarities in presenting to the scientific community and lay audiences and finally, the course will study other forms of communication including blogs, podcasts, and social media.

FSN 545 Utilization of Aquatic Food Resources: Utilization and food quality of wild and farmed aquatic animals including production, chemical/physical properties, nutritional value, post-harvest changes, processing systems, regulatory issues, by-product utilization and food safety.

FSN 546 Public Health Nutrition: An introduction to Public Health Nutrition and the role of the Public Health Nutrition professional. Emphasis will be on definition, identification and prevention of nutrition related disease, as well as improving health of a population by improving nutrition.

FSN 547 Food and Bioprocess Technology: An exploration of the fascinating and dynamic world of food and bioprocess technologies, learning the principles, applications, and innovations that drive modern food processing and biomanufacturing. Students will gain the knowledge and skills needed to analyze and optimize processes, evaluate their sustainability and economic feasibility, and contribute to solving real-world challenges in the food and biotechnology industries.

FSN 555 Organic and Natural Foods: Introduces organic and natural foods from an industry perspective. Discussion of food production and processing, legal issues, ingredient functionality, and controversies.

FSN 566 Type 2 Diabetes, Obesity, and Food: A comprehensive exploration of Type 2 diabetes and obesity, focusing on their epidemiology, pathophysiology, contributing factors, and nutrition interventions. Students will analyze the interplay between diet, physical activity, and genetic and environmental influences in the development and management of these conditions. Special emphasis will be placed on evidence-based nutrition counseling techniques and the role of dietitians and other healthcare providers in promoting sustainable lifestyle changes.

FSN 585 Principles of Sensory Evaluation: Introduction to sensory evaluation practices including difference and affective testing. Online class with scheduled synchronous discussions. Prior classes in Food Science, Statistics, and Psychology are strongly recommended. [This class is the one that explains how to perform sensory tests and choose the appropriate test for a situation.]

FSN 586 Sensory and Consumer Science Applications: Assessment of food behaviors and emotions, satiety, purchase intent, and other factors related to food selection. Online class with scheduled synchronous discussions. FSN 585 and FSN 524 are recommended as prerequisites.

FSN 603 Nutrient Changes in the Food System: Review of the changes in food nutrient and phytochemical composition and bioavailability from the farm through the processing and distribution to consumers.