

Department of Nutrition and Food Science (NFSC)

Chairperson:	Toufeili, Imad
Professors:	Hwalla, Nahla; ^P Tannous, Raja; Toufeili, Imad
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Instructors:	Chamieh, Marie Claire; Hamadeh, Basma; ^P Habib-Mrad, Carla; Zablith, Nadine; ^P Zeidan-Nabahani, Maya
Research Associate:	Adra, Nada

Graduate Programs

The department of Nutrition and Food Science offers two graduate programs of study leading to the MS degree in either food technology or nutrition. Students can follow either a thesis or a non-thesis program of study. The MS degree in nutrition is also offered under the Interfaculty Graduate Nutrition Program as described in pages 421, 422 of this catalogue.

The department conducts quality research in the areas of: Community nutrition, Clinical nutrition, Human nutrition, Food chemistry, Food microbiology, Food Safety, and Sensory evaluation of foods.

MS in Nutrition

Core Courses (Thesis)

AGSC 301	Statistical Methods in Agriculture	2.3; 3 cr.
An investigation of the statistical techniques needed to design experiments and analyze and interpret agricultural research data. <i>Prerequisites: STAT 210 and CMPS 209. Course offered in fall and spring.</i>		
NFSC 311	Advanced Nutrition: Macro Nutrients	3.0; 3 cr.
Advances in carbohydrate, protein, lipid, fiber and ethanol nutrition, and metabolism. <i>Prerequisite: NFSC 274.</i>		
NFSC 314	Advanced Nutrition: Minerals	3.0; 3 cr.
Advanced nutritional, biochemical, and physiological aspects of macro- and micro-mineral elements, and toxic elements in humans. <i>Prerequisite: NFSC 274.</i>		
NFSC 315	Advanced Nutrition: Vitamins	3.0; 3 cr.
Advanced nutritional, biochemical, and physiological aspects of vitamins and vitamin-like substances in humans. <i>Prerequisite: NFSC 274.</i>		

NFSC 395 **Graduate Seminar in Nutrition and Food Science** **1.0; 1 cr.**

NFSC 399 **MS Thesis**

Core Courses (Non-Thesis)

AGSC 301	Statistical Methods in Agriculture	2.3; 3 cr.
An investigation of the statistical techniques needed to design experiments and analyze and interpret agricultural research data. <i>Prerequisites: STAT 210 and CMPS 209. Course offered in fall and spring.</i>		
NFSC 300	Graduate Tutorial	1-3 cr.
Directed study.		
NFSC 311	Advanced Nutrition: Macro Nutrients	3.0; 3 cr.
Advances in carbohydrate, protein, lipid, fiber and ethanol nutrition, and metabolism. <i>Prerequisite: NFSC 274.</i>		
NFSC 314	Advanced Nutrition: Minerals	3.0; 3 cr.
Advanced nutritional, biochemical, and physiological aspects of macro- and micro-mineral elements, and toxic elements in humans. <i>Prerequisite: NFSC 274.</i>		
NFSC 315	Advanced Nutrition: Vitamins	3.0; 3 cr.
Advanced nutritional, biochemical, and physiological aspects of vitamins and vitamin-like substances in humans. <i>Prerequisite: NFSC 274.</i>		
NFSC 395	Graduate Seminar in Nutrition and Food Science	1.0; 1 cr.

Elective Courses for the MS Degree in Nutrition

NFSC 300	Graduate Tutorial	1-3 cr.
Directed study.		
NFSC 306	Community Nutrition: Research and Intervention	3.0; 3 cr.
Identification and assessment of nutritional status in the community, nutritional surveys, program development, nutritional education planning policies, and nutritional ecology. <i>Prerequisite: NFSC 221 or NFSC 274.</i>		
NFSC 308	Advanced Therapeutic Nutrition	3.0; 3 cr.
Advances in nutritional care, metabolic changes, and dietary management of diseases. <i>Prerequisite: NFSC 274.</i>		
NFSC 310	Advanced Food Biochemistry	3.0; 3 cr.
Study of food enzymes, lipid oxidation in foods and biological systems, and genetically modified food. <i>Prerequisite: NFSC 261.</i>		
NFSC 312	Sports Nutrition	3.0; 3 cr.
Nutritional needs for the various types of athletic performance, and selected ergogenic and ergolytic supplements as related to physical performance.		

NFSC 351 Food Safety: Contaminants and Toxins 3.0; 3 cr.
 General principles of food toxicology with emphasis on toxic constituents in plant, animal, marine, and fungal origin, contaminants and food processing induced toxins. Risk characterization and laws and regulations of food safety.

MS in Food Technology

Core Courses (Thesis)

AGSC 301 Statistical Methods in Agriculture 2.3; 3 cr.
 An investigation of the statistical techniques needed to design experiments and analyze and interpret agricultural research data. *Prerequisites: STAT 210 and CMPS 209. Course offered in fall and spring.*

NFSC 305 Sensory Evaluation of Food 3.0; 3 cr.
 Designed to help the food scientist solve typical sensory problems; select appropriate panelists for specific sensory tests and conduct such tests, analyze and interpret the results, and write a report. *Prerequisite: STAT 210 or EDUC 227.*

NFSC 310 Advanced Food Biochemistry 3.0; 3 cr.
 Study of food enzymes, lipid oxidation in foods and biological systems, and genetically modified foods. *Prerequisite: NFSC 261.*

NFSC 351 Food Safety: Contaminants and Toxins 3.0; 3 cr.
 General principles of food toxicology with emphasis on toxic constituents in plant, animal, marine, and fungal origin, contaminants and food processing induced toxins. Risk characterization and laws and regulations of food safety.

NFSC 370 Food Product Development 3.0; 3 cr.
 To learn the chemical and physical properties of food ingredients. To apply the product development process from idea generation to marketing. *Prerequisite: NFSC 287.*

NFSC 395 Graduate Seminar in Nutrition and Food Science 1.0; 1 cr.

NFSC 399 MS Thesis

Core Courses (Non-Thesis)

AGSC 301 Statistical Methods in Agriculture 2.3; 3 cr.
 An investigation of the statistical techniques needed to design experiments and analyze and interpret agricultural research data. *Prerequisites: STAT 210 and CMPS 209. Course offered in fall and spring.*

NFSC 300 Graduate Tutorial 1-3 cr.
 Directed study.

NFSC 304 Traditional Methods of Food Processing 2.3; 3 cr.
 Scientific basis of common traditional processing and preservation methods used in the Middle East. *Prerequisite: NFSC 287 or NFSC 288.*

NFSC 305 Sensory Evaluation of Food 3.0; 3 cr.
 Designed to help the food scientist solve typical sensory problems; select appropriate panelists for specific sensory tests and conduct such tests, analyze and interpret the results, and write a report. *Prerequisite: STAT 210 or EDUC 227.*

NFSC 310 Advanced Food Biochemistry 3.0; 3 cr.
 Study of food enzymes, lipid oxidation in foods and biological systems, and genetically modified foods. *Prerequisite: NFSC 261.*

NFSC 351 Food Safety: Contaminants and Toxins 3.0; 3 cr.
 General principles of food toxicology with emphasis on toxic constituents in plant, animal, marine, and fungal origin, contaminants and food processing induced toxins. Risk characterization and laws and regulations of food safety.

NFSC 370 Food Product Development 3.0; 3 cr.
 To learn the chemical and physical properties of food ingredients. To apply the product development process from idea generation to marketing. *Prerequisite: NFSC 287.*

NFSC 395 Graduate Seminar in Nutrition and Food Science 1.0; 1 cr.

Elective Courses for the MS Degree in Food Technology

Any course approved by the Supervisory Committee.

NFSC 302 Dairy Technology 2.3; 3 cr.
 The chemistry, technology, and processing of milk and milk products. *Prerequisite: NFSC 288.*

NFSC 306 Community Nutrition: Research and Intervention 3.0; 3 cr.
 Identification and assessment of nutritional status in the community, nutritional surveys, program development, nutritional education planning policies, and nutritional ecology. *Prerequisite: NFSC 221 or NFSC 274.*

NFSC 308 Advanced Therapeutic Nutrition 3.0; 3 cr.
 Advances in nutritional care, metabolic changes, and dietary management of diseases. *Prerequisite: NFSC 274.*

NFSC 312 Sports Nutrition 3.0; 3 cr.
 Nutritional needs for the various types of athletic performance, and selected ergogenic and ergolytic supplements as related to physical performance.

NFSC 314 Advanced Nutrition: Minerals 3.0; 3 cr.
 Advanced nutritional, biochemical, and physiological aspects of macro- and micro-mineral elements, and toxic elements in humans. *Prerequisite: NFSC 274.*

NFSC 315 Advanced Nutrition: Vitamins 3.0; 3 cr.
 Advanced nutritional, biochemical, and physiological aspects of vitamins and vitamin-like substances in humans. *Prerequisite: NFSC 274.*

NFSC 371 **Food Engineering** **3.0; 3 cr.**
Basic concepts and principles of food engineering and their applications; focus on engineering design and analysis of unit operations common to food processing. *Prerequisite: NFSC 291.*

NFSC 391 **Laboratory Methods in Nutrition and Food Science** **1.6; 3 cr.**
Principles of animal experiments, analytical techniques, and instrumentation used in nutrition and food science research studies. *Prerequisite: NFSC 267.*