

# Department of Nutrition and Food Science (NFSC)

Chairperson:	Olabi, Ammar
Professors:	Hwalla, Nahla; Obeid, Omar; Toufeili, Imad
Associate Professor:	Olabi, Ammar
Assistant Professors:	Abiad, Mohammad; Ghattas, Hala; Kassaify, Zeina; Naja, Farah; Nasreddine, Lara
Lecturers:	El Khoury, Dalia; Hleis, Sani; Natour, Jamila
Instructors:	Chamieh, Marie Claire; <sup>P</sup> Ghandour, Sana; <sup>P</sup> Habib-Mrad, Carla; Hamadeh, Basma; Mikati, Nadine; Tannous, Diana
Research Associate:	Adra, Nada
Visiting Professor	Sahyoun, Nadine

## 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 446-47 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)

**NFSC 301**                      **Statistical Methods for Nutrition and Food Science**                      **2.3; 3 cr.**

This is an intermediate level course of statistics. Topics include introduction to designs in Nutrition and Food Science research; critical appraisal of literature; methods of describing data; statistical inference for means and proportions; linear and logistic regression, and an introduction to multiple regression. *Prerequisites: STAT 210 or EDUC 227 and CMPS 209. Course offered in fall and spring.*

**NFSC 311**                      **Advanced Nutrition: Macro Nutrients**                      **3.0; 3 cr.**

Advances in carbohydrate, protein, lipid, fiber and ethanol nutrition and metabolism. *Prerequisite: NFSC 274.*

**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 307**            **Nutritional Epidemiology**            **3.0; 3**  
This course deals with the design, conduct, analysis, and interpretation of epidemiologic studies related to nutrition, particularly the relationship between nutritional status, diet and disease. *Prerequisites: STAT 210 or EDUC 227 and CMPS 209* Course offered in fall and spring.
- NFSC 308**            **Advanced Therapeutic Nutrition**            **3.0; 3 cr.**  
Advances in nutritional care, metabolic changes, and dietary management of diseases. *Prerequisites: NFSC 292 and NFSC 293.*
- NFSC 310**            **Advanced Food Biochemistry**            **3.0; 3 cr.**  
Study of food enzymes, lipid oxidation in foods and biological systems, and genetically modified food. *Prerequisite: NFSC 261.*
- 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. *Prerequisite: NFSC 274.*
- 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)

- NFSC 301**            **Statistical Methods for Nutrition and Food Science**            **2.3; 3 cr.**  
This is an intermediate level course of statistics. Topics include introduction to designs in Nutrition and Food Science research; critical appraisal of literature; methods of describing data; statistical inference for means and proportions; linear and logistic regression, and an introduction to multiple regression. *Prerequisites: STAT 210 or EDUC 227 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)

**NFSC 301 Statistical Methods for Nutrition and Food Science 2.3; 3 cr.**

This is an intermediate level course of statistics. Topics include introduction to designs in Nutrition and Food Science research; critical appraisal of literature; methods of describing data; statistical inference for means and proportions; linear and logistic regression, and an introduction to multiple regression. *Prerequisites: STAT 210 or EDUC 227 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.**  
The role of nutrition in improving the health and well being of communities. Population nutritional status and needs assessment; planning, implementing and evaluating community nutrition and emergency nutrition programs and policies. Identification and assessment of nutritional status in the community, nutritional surveys, program development, nutritional education planning policies, and nutritional ecology. *Prerequisites: NFSC 221 and NFSC 222.*
- 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 377**                    **Food Packaging**                    **3.0; 3 cr.**  
This course provides the students with the basic knowledge regarding food packaging materials, machinery and technology. It provides an overview of the elements of packaging science and engineering applied to the presentation, distribution and marketing of various food products. *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.*