

# Food Science (FOOD)

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## Food Science (FOOD) Courses

### FOOD 5100 [0.5 credit]

#### Advanced Food Processing and Technology

Major techniques used in food processing and preservation of raw agricultural materials. Targeted food groups include dairy, cereal grains and oilseeds.

### FOOD 5101 [0.5 credit]

#### Advanced Nutrition and Metabolism

Metabolism of macronutrients in the human body. Detailed catabolic and anabolic reactions of carbohydrates, lipids and proteins. Regulatory control points in healthy and diseased states. Discussion of the literature pertaining to nutrition, metabolism and disease. Also offered at the undergraduate level, with different requirements, as FOOD 4201, for which additional credit is precluded.

### FOOD 5102 [0.5 credit]

#### Food Biotechnology

Developments in biotechnology related to food production and quality. Traditional food biotechnology and novel biotechnological methods related to the production of food; the use of traditional food crops in other bio-industries. Aspects of microbiology and genetic engineering.

### FOOD 5103 [0.5 credit]

#### Cellular Redox in Health and Disease

Crucial interactions of free radicals with biomolecules in living organisms. Procedures for detecting cellular and DNA damage, lipid and protein oxidation products; the link between oxidative stress and chronic diseases.

### FOOD 5104 [0.5 credit]

#### Theory and Principles of Food Quality and Control

Sampling plans and statistical methods. Physical, chemical, biological and microbiological tests in quality control as it relates to food safety and regulation. Also offered at the undergraduate level, with different requirements, as FOOD 4001, for which additional credit is precluded.

### FOOD 5105 [0.5 credit]

#### Functional Foods and Natural Health Products

Bioactive components of functional foods and natural health products, for improvement of health and nutrition. Sources and chemistry of bioactives, mechanisms of actions, process technology, efficacy and safety. Role of research and development in industry in commercialization of new products.

Also offered at the undergraduate level, with different requirements, as FOOD 4203, for which additional credit is precluded.

### FOOD 5802 [0.0 credit]

#### Seminar II

Students are required to present a seminar on their Ph.D. research topic in their research program. In addition, students are required to attend the seminars of their fellow classmates and actively participate in the discussion following the seminar.

Includes: Experiential Learning Activity

Also listed as CHEM 5802.

Prerequisite(s): enrolment in the Ph.D. program.

### FOOD 5804 [0.5 credit]

#### Modern Scientific Communication

A course on communication and other skills useful for chemistry graduates. Effective manuscript writing, creating graphics, CV development, networking, science communication, use of social media, outreach, EDI considerations.

Also listed as CHEM 5804.

Precludes additional credit for CHEM 5801 (no longer offered), FOOD 5801 (no longer offered).

### FOOD 5810 [0.5 credit]

#### Seminar I

Explore the principles and practice of oral scientific communication for scientific and non-scientific audiences. Students are required to present short seminars geared towards a general audience (in the style of Three-minute thesis(3MT) and/or TedTalk) as well as a research seminar geared towards a scientific audience.

Also listed as CHEM 5810.

Precludes additional credit for CHEM 5801 (no longer offered), FOOD 5801 (no longer offered).

Seminar

### FOOD 5909 [3.0 credits]

#### M.Sc. Thesis

Includes: Experiential Learning Activity

### FOOD 6909 [0.0 credit]

#### Ph.D. Thesis

Includes: Experiential Learning Activity