

# FOOD SAFETY AND QUALITY ASSURANCE

The interdepartmental MSc program is the focal point for graduate teaching and research in food safety and quality assurance. The FSQA program is intended to prepare food scientists, food engineers, microbiologists and others with appropriate scientific backgrounds for participation in food safety monitoring and management in the food industry and in government food regulatory roles. Students wishing to undertake graduate studies at the MSc level with an emphasis on food safety and quality assurance will be working on a project with an approved advisor.

## Administrative Staff

### Chair

Lisa Duizer (112 Food Science, Ext. 53410)  
lduizer@uoguelph.ca

### Graduate Program Coordinator

Don Mercer (124 Food Science, Ext. 52204)  
dmerc@uoguelph.ca

### Graduate Program Assistant

106 Food Science, Ext. 56983  
fsqa@uoguelph.ca

## Graduate Faculty

*This list may include Regular Graduate Faculty, Associated Graduate Faculty and/or Graduate Faculty from other universities.*

### Shai Barbut

B.Sc. Hebrew (Jerusalem), MS, PhD UW Madison - Professor  
Graduate Faculty

### Maria Corradini

B.Tech. Argentina, M.Sc., PhD MIT - Associate Professor  
Graduate Faculty

### Lisa Duizer

B.Sc., M.Sc. Guelph, PhD Massey - Professor and Chair  
Graduate Faculty

### Lawrence Goodridge

B.Sc., M.Sc., PhD Guelph - Professor  
Graduate Faculty

### Iris Joye

B.Sc., M.Sc. Leuven, PhD Leuven/Ghent (Belgium) - Associate Professor  
Graduate Faculty

### Gisele LaPointe

B.Sc., PEI, M.Sc., PhD Quebec - Professor  
Graduate Faculty

### Loong-Tak Lim

B.Sc. Acadia, PhD Guelph - Professor  
Graduate Faculty

### Alejandro G. Marangoni

B.Sc. McGill, PhD Guelph - Professor  
Graduate Faculty

### Alice Marciniak

B.Sc., M.Sc. Lille (France), PhD Laval - Assistant Professor  
Graduate Faculty

### Massimo F. Marcone

B.Sc., PhD Guelph - Professor  
Graduate Faculty

### Donald Mercer

B.Sc., PhD Waterloo - Associate Professor  
Graduate Faculty

### Yoshinori Mine

B.Sc., M.Sc. Shinshu, PhD Tokyo - Professor  
Graduate Faculty

### Andrew Papadopoulos

B.A.Sc. Ryerson, MBA York, PhD Guelph - Professor  
Graduate Faculty

### Michael Rogers

B.Sc., M.Sc., PhD Guelph - Associate Professor  
Graduate Faculty

### Paul Spagnuolo

B.Sc., M.Sc. Guelph, PhD Waterloo - Associate Professor  
Graduate Faculty

### Keith Warriner

B.Sc. Nottingham, PhD Aberystwyth - Professor  
Graduate Faculty

### Ann Wilcock

MS, PhD Purdue - University Professor Emerita  
Associated Graduate Faculty

## MSc Program

### Admission Requirements

The program is most suitable for those with an undergraduate degree in food science or microbiology and for those currently employed in the food safety and quality assurance fields in government regulatory work or in the food industry who desire upgrading of skills and knowledge. Applicants for admission to this program must meet the admission requirement of a baccalaureate in an honours program (or the equivalent) in a relevant field of study from a recognized university or college with an average standing of at least a 'B' average.

Prospective students indicate whether they wish to complete the program in "Hybrid Delivery" (on-campus and online learning) or "Distance Delivery" (fully online) mode at the time of application.

"Distance Delivery" applicants are required to submit an additional (third) letter of support from an individual (such as a supervisor and/or manager) in an organization indicating a willingness to oversee the applicant's workplace project, should they be accepted to the program.

Applicants will be expected to have completed undergraduate courses that prepare them for participation in the core graduate courses and electives of the program. Undergraduate upgrading prior to applying may be necessary to ensure sufficient background in topics such as microbiology, toxicology, statistics, and analytical methods.

## Program Requirements

Completion of the MSc FSQA program requires a minimum of seven courses (or 4.0 credits) acceptable for graduate credit.

### Hybrid Delivery

Students must complete:

Code	Title	Credits
FSQA*6000	Food Safety and Quality Assurance Seminar	0.50
FSQA*6500	Food Safety and Quality Assurance Research Project <sup>1</sup>	1.00
FSQA*6600	Principles of Food Safety and Quality Assurance	0.50
FSQA*6150	Food Quality Assurance Management	0.50

At least three additional courses <sup>2</sup>

<sup>1</sup>

This project, equal to 1.00 credit, is one of the seven courses required to complete the program.

<sup>2</sup>

Suitable courses are listed in the courses section. Other courses, not listed here, also may be considered. Up to two senior undergraduate courses can be taken. The courses selected will depend upon the student's background, specialty, interest and area of project research. The normal duration of the program is three to four full-time semesters.

### Distance Delivery

Students must complete:

Code	Title	Credits
FSQA*6150	Food Quality Assurance Management	0.50
FSQA*6400	Workplace Project in Food Safety	1.00
FSQA*6600	Principles of Food Safety and Quality Assurance	0.50

At least four additional courses by distance education

The normal duration of the program is three full-time semesters.

## Graduate Diploma

### Admission Requirements

The program is most suitable for those with an undergraduate food science or microbiology background and for those currently employed in food safety and quality assurance fields in government food regulatory work or in the food industry who desire upgrading of skills and knowledge. Applicants for admission to this program must meet the admission requirement of a baccalaureate in an honours program (or the equivalent) in a relevant field of study from a recognized university or college with an average standing of at least a 'B' average. Applicants will be expected to have completed undergraduate courses that prepare them for participation in the core graduate courses and electives of the program. Undergraduate upgrading may be necessary to ensure sufficient background in topics such as microbiology, toxicology, statistics, and analytical methods.

### Program Requirements

All students must complete the following five courses:

Code	Title	Credits
FSQA*6100	Food Law and Policy	0.50
FSQA*6150	Food Quality Assurance Management	0.50
FSQA*6200	Food Safety Systems Management	0.50
FSQA*6600	Principles of Food Safety and Quality Assurance	0.50
POPM*6350	Safety of Foods of Animal Origins	0.50

## Collaborative Specializations

### Toxicology

The MSc in Food Safety and Quality Assurance (Hybrid Delivery) participates in the collaborative specialization in toxicology. Two Toxicology graduate level courses must be completed as part of the course work. Please consult the Toxicology listing for a detailed description of the master's collaborative specialization.

## Courses

### FSQA\*6000 Food Safety and Quality Assurance Seminar Fall Only [0.50]

Provides experiential training in forms of communication that are likely to be required in professional or academic careers in food science and technology.

**Restriction(s):** Restricted to Food Safety and Quality Assurance students.

**Department(s):** Department of Food Science

**Location(s):** Guelph

### FSQA\*6100 Food Law and Policy Fall Only [0.50]

The fundamentals of food policy development and Canadian and international food law are learned and practiced through online presentations, independent study and online interactions with other students and industry professionals.

**Offering(s):** Offered through Distance Education format only.

**Department(s):** Department of Food Science

**Location(s):** Guelph

### FSQA\*6150 Food Quality Assurance Management Winter Only [0.50]

Examination and review of principles and concept of quality assurance and their application to consumer products and services. Topics include applied aspects of total-quality management principles.

**Offering(s):** Offered through Distance Education format only.

**Department(s):** Department of Food Science

**Location(s):** Guelph

### FSQA\*6200 Food Safety Systems Management Winter Only [0.50]

Food safety systems are studied in four modules. (1) A brief review of plant hygiene and HACCP principles. Students with insufficient background will do supplemental study in these areas; (2) HACCP implementation and verification; (3) HACCP-based food safety programs in Canada; and (4) International Food Safety Management Systems.

**Offering(s):** Offered through Distance Education format only.

**Department(s):** Department of Food Science

**Location(s):** Guelph

**FSQA\*6300 Leadership in Food Safety Fall Only [0.50]**

This course prepares students for food safety leadership roles in the global food industry by developing core problem-solving, management, and communication competencies. Students are exposed to industry based and governmental based food safety leadership initiatives at both the regional and international levels.

**Offering(s):** Offered through Distance Education format only.

**Department(s):** Department of Food Science

**Location(s):** Guelph

**FSQA\*6400 Workplace Project in Food Safety Winter and Summer Reg Required [1.00]**

A major project of relevance to a host employer related to food safety and quality assurance, which includes the preparation of a written and an oral presentation to the graduate faculty.

**Offering(s):** Offered through Distance Education format only.

**Department(s):** Department of Food Science

**Location(s):** Guelph

**FSQA\*6500 Food Safety and Quality Assurance Research Project Summer, Fall, and Winter [1.00]**

An original research project related to food safety and quality assurance which includes the preparation of a written report suitable for publication and an oral presentation of the findings to the graduate faculty.

**Department(s):** Department of Food Science

**Location(s):** Guelph

**FSQA\*6600 Principles of Food Safety and Quality Assurance Fall Only [0.50]**

An integrated approach to factors affecting food safety and quality including microbial and chemical contamination is provided. Major food-borne disease outbreaks are studied as examples. Modern methods of quality management to minimize contamination of processed foods is discussed.

**Offering(s):** Offered through Distance Education format only.

**Department(s):** Department of Food Science

**Location(s):** Guelph

## Other Graduate Courses Suitable for Credit in this Program

### Food Science

Code	Title	Credits
FOOD*6190	Advances in Food Science	0.50
FOOD*6710	Advances in Food Chemistry	0.25
FOOD*6720	Advances in Food Microbiology	0.25
FOOD*6730	Special Topics in Food Physics	0.25
FOOD*6740	Special Topics in Food Processing	0.25
FOOD*6750	Special Topics in Food for Health	0.25
FOOD*6760	Special Topics in Food Quality	0.25

### Food, Agricultural and Resource Economics

Code	Title	Credits
FARE*6130	Operations Management in the Agri-Food Sector	0.50

## Human Health and Nutritional Sciences

Code	Title	Credits
HHNS*6400	Functional Foods and Nutraceuticals	0.50
HHNS*6410	Applied Functional Foods and Nutraceuticals	1.00

### Pathobiology

Code	Title	Credits
PABI*6000	Bacterial Pathogenesis	0.50
PABI*6550	Epidemiology of Zoonoses	0.50

### Population Medicine

Code	Title	Credits
POPM*6200	Epidemiology I	0.50
POPM*6210	Epidemiology II	0.50
POPM*6350	Safety of Foods of Animal Origins	0.50

### Plant Agriculture

Code	Title	Credits
PLNT*6110	Fruit and Vegetable Technology	0.50

## Undergraduate Courses Suitable for Credit in this Program

### Food Science

Code	Title	Credits
FOOD*3030	Food Chemistry I	0.50
FOOD*4190	Advanced Food Analysis	0.50
FOOD*4090	Functional Foods and Nutraceuticals	0.50

### Human Health and Nutritional Sciences

Code	Title	Credits
NUTR*4510	Toxicology, Nutrition and Food	0.50

### Population Medicine

Code	Title	Credits
POPM*4040	Epidemiology of Food-borne Diseases	0.50