POPM*6350 Safety of Foods of Animal Origins

Fall 2017
Section: DE

Department of Population Medicine
Credit Weight: 0.50

Course Details

Calendar Description
The detection, epidemiology, human health risk, and control of hazards in food of animal origin.

Pre-Requisite(s): None
Co-Requisite(s): None
Restriction(s): None
Method of Delivery: Online

Final Exam
There is no final exam in this course.

Instructional Support

Instructor

Scott McEwen
Email: smcewen@uoguelph.ca
Telephone: (519) 824-4120 Ext. 54751
Office: OVC Clinical Research Building (CRB) (sign states “Population Medicine”), Room 201

My name is Scott McEwen. I obtained my DVM and Doctor of Veterinary Science degrees from the University of Guelph. I am currently a Professor in the Department of Population Medicine, Ontario Veterinary College. My research focuses on the epidemiology of foodborne infections in food animal populations, particularly E. coli and antibiotic resistant organisms, but
also *Salmonella* and other pathogens. Since 1986 I have taught food safety to veterinary students and graduate students in a variety of degree programs and have been the principal research advisor of over 60 graduate students. I am author or co-author of over 260 publications in refereed scientific journals, mostly related to food safety, and have delivered invited research presentations in nine countries. I serve on several national and international public health and food safety committees and boards.

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**Learning Resources**

**Required Textbook**

**Title:** Food Safety Handbook  
**Author(s):** Schmidt, R. H. & Rodrick, G. E. (eds.)  
**Edition / Year:** 2003  
**Publisher:** John Wiley & Sons, Inc.  
**ISBN:** 9780471721598  
**Note:** This textbook is available to students via Ares.

**Course Website**

[CourseLink](https://courselink.uoguelph.ca/shared/login/login.html) (powered by D2L’s Brightspace) is the course website and will act as your classroom. It is recommended that you log in to your course website every day to check for announcements, access course materials, and review the weekly schedule and assignment requirements.

For this course, you will be required to access course reserve materials through the University of Guelph McLaughlin Library. To access these items, select Ares on the navbar CourseLink. Note that you will need your Central Login ID and password in order to access items on reserve.

For further instructions on accessing reserve resources, visit [How to Get Course Reserve Materials](http://www.lib.uoguelph.ca/find/find-type-resource/course-reserves-ares/how-get-course-reserve-material).

If at any point during the course you have difficulty accessing reserve materials, please contact the e-Learning Operations and Reserve Services staff at:

**Tel:** 519-824-1230 ext. 53621  
**Email:** libres2@uoguelph.ca  
**Location:** McLaughlin Library, First Floor, University of Guelph  

http://www.lib.uoguelph.ca/find/find-type-resource/course-reserves-ares/how-get-course-reserve-material
Learning Outcomes

Course Learning Outcomes

The goals of this course are to study the principles and practice of food safety, with emphasis on foods of animal origin. The detection, epidemiology, human health risk and control of hazards in foods will be discussed. This course will be multidisciplinary, with emphasis on the microbiological, chemical, esthetic and toxic hazards in foods. This course is designed to assist individuals engaged in food safety activity in protecting the public health from hazards in foods.

By the end of this course, you should be able to:

1. List important microbiological, chemical and physical food safety hazards that can occur in foods, and describe their implications to human health;
2. Identify and describe the sources of food safety hazards in foods, factors affecting multiplication or reduction in exposure to humans, and methods of inspection and control;
3. Analyze and interpret basic qualitative food safety data, draw conclusions and formulate recommendations;
4. Work with others to evaluate the food safety perspectives of various participants in the farm-to-fork continuum and to synthesize optimal food safety strategies; and
5. Address basic food safety problems through analysis and research. Obtain, critically assess and synthesize knowledge from relevant sources in order to identify and prioritize potential solutions, and effectively communicate the findings and recommendations in written format.

Teaching and Learning Activities

Method of Learning

The course is available in distance format only. It is divided into 12 units that correspond to weeks in the semester. Each unit contains learning objectives which are achieved by reading the assigned book chapters and articles, performing the specific activities, participating in weekly online discussions, and by completing the individual and group assignments. The unit activities and assignments include exercises to develop skills in problem identification and solving, qualitative risk characterization, data analysis, synthesis and consensus building.

Course Structure

Unit 01: General Overview and Production Chain for Foods of Animal Origin
Unit 02: Farm to Fork Food Safety
Unit 03: Characterization of Food Risks
Unit 04: Food Safety Surveillance Systems
Unit 05: Food Safety Policy
Unit 06: Biological Hazards – Bacteria
Unit 07: Biological Hazards – Parasites, Viruses, and Prions
Unit 08: Chemical Hazards
Unit 09: System for Risk Management – Pre-Harvest
Unit 10: Systems for Risk Management – Post-Harvest; Slaughter & Primary Processing; Raw Meat & Poultry
Unit 11: Systems for Risk Management – Post-Harvest: Further Processing, Retail & Food Service
Unit 12: Integrated Pathogen Reduction Programs and International Programs

Schedule

Unit 01: General Overview and production Chain for Foods of Animal Origin

Week 1 – Thursday, September 7 to Sunday, September 17

Readings

- Unit 01 Content
- Textbook: Chapter 1 (pp. 3-9)
- Ares:

Activities

- Familiarize yourself with the course website by reviewing the Start Here section of the course.
- Review the Outline and Assessments sections on the course website to learn about course expectations, assessments, and due dates.

Unit 02: Farm to Fork Food Safety

Week 2 – Monday, September 18 to Sunday, September 24

Readings

- Unit 02 Content
- Ares:

Unit 03: Characterization of Food Risks
Week 3 – Monday, September 25 to Sunday, October 1

Readings
- Unit 03 Content
- Textbook: Chapter 2 (pp. 11-18), and Chapter 3 (pp. 19-46)
- Ares:

Activities
- Select a topic for Capstone Project

Unit 04: Food Safety Surveillance Systems

Week 4 – Monday, October 2 to Sunday, October 8

Readings
- Unit 04 Content
- Textbook: Chapter 15 (pp. 277-290), and Chapter 19 (pp. 363-363)
- Ares:
  - Williams, R. C. et al. (2000).

Assessments
- Food Safety Policy: Expert Group Report
  Due: Sunday, October 8 by 11:59 pm ET

Unit 05: Food Safety Policy

Week 5 – Monday, October 9 to Sunday, October 15

Readings
- Unit 05 Content
- Ares:

Assessments
- Food Safety Policy: Policy Group Summary Posting
  Due: Friday, October 13 by 12:00 pm ET
- Food Safety Policy: Policy Group Report
  Due: Sunday, October 15 by 11:59 pm ET
Unit 06: Biological Hazards - Bacteria

Week 6 – Monday, October 16 to Sunday, October 22

Readings

- Unit 06 Content
- Textbook: Chapter 8 (pp. 127-135), Chapter 9 (pp. 137-156), and Chapter 10 (pp. 157-185)
- Ares:

Unit 07: Biological Hazards – Parasites, Viruses, and Prions

Week 7 – Monday, October 23 to Sunday, October 29

Readings

- Unit 07 Content
- Textbook: Chapter 10 (pp. 185-191)
- Ares:

Unit 08: Chemical Hazards

Week 8 – Monday, October 30 to Sunday, November 5 (40th Class Day: Friday, November 3)

Readings

- Unit 08 Content
- Textbook: Chapter 12 (pp. 213-232), Chapter 13 (pp. 233-264), Chapter 16 (pp. 291-314)
- Ares:
  - Smith-Spangler, C. et al. (2012).

Assessments

- Food Safety Risk Characterization
  - Due: Sunday, November 5 by 11:59 pm ET

Unit 09: Systems for Risk Management – Pre-Harvest

Week 9 – Monday, November 6 to Sunday, November 12

Readings
• Unit 09 Content
• Textbook: Chapter 20 (pp. 363-379)
• Ares:

Unit 10: Systems for Risk Management – Post-Harvest; Slaughter & Primary Processing; Raw Meat & Poultry

Week 10 – Monday, November 13 to Sunday, November 19

Readings
• Unit 10 Content
• Textbook: Chapter 25 (pp. 443-452), Chapter 21 (pp. 383-402), Chapter 22 (pp. 403-410)
• Ares:
  o McKean, J. D., (2010).

Unit 11: Systems for Risk Management – Post-Harvest: Further Processing, Retail & Food Service

Week 11 – Monday, November 20 to Sunday, November 26

Readings
• Unit 11 Content
• Textbook: Chapter 26 (pp. 455-522), Chapter 27 (pp. 523-548), Chapter 28 (pp. 549-569)
• Ares:

Assessments
• Capstone Project
  Due: Sunday, November 26 by 11:59 pm ET

Unit 12: Integrated Pathogen Reduction Programs and International Programs

Week 12 – Monday, November 28 to Friday, December 1

Readings
• Unit 12 Content
• Textbook: Chapter 17 (pp. 325-336), and Chapter 38 (pp. 793-800)
• Ares:
  o Rajic, A. et al. (2007).
  o Wegener, H. C. (2010).

Assessments
• Online Discussion Summary
  Due: Friday, December 1 by 11:59 pm ET

Assessment

The grade determination for this course is indicated in the following table. A brief description of each assessment is provided below. Select Content on the navbar to locate Assessments in the table of contents panel to review further details of each assignment. Due dates for each assessment can be found under the schedule heading of this outline.

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Assessment Descriptions

Online Discussions & Summary

Active participation in discussion is an important part of the course. The discussion questions are designed to stimulate thought, learning and skill development in areas that pertain to the weekly units. Students will be evaluated on their participation in the discussions (10%) and are responsible for submitting a 3-page report on their participation (5%).

Food Safety Policy

For this exercise, you will each be assigned to two different groups, an Expert Group that will discuss and develop a position paper on the policy question, and a policy group composed of one or two members from each expert group. The policy group is to discuss and debate the policy question and try to achieve consensus concerning the best official policy for Canada.
Grade is based on assessment of expert and policy group reports, individual contributions and peer assessments (using the PEAR tool).

Food Safety Risk Characterization

The purpose of this assignment is to develop a commodity flow chart, to identify a hazard, and perform a qualitative exposure assessment.

Capstone Project

In this assignment you are expected to select a problem from a list that will be provided to you, then analyze the problem, suggest and rank possible solutions (after identifying and describing ranking criteria), identify the roles of different stakeholders in the optimal solution (at the local, regional, national and international levels, as appropriate), and identify and discuss potential barriers to your solutions, and ways around those barriers.

Course Technologies and Technical Support

CourseLink System Requirements

You are responsible for ensuring that your computer system meets the necessary system requirements. Use the browser check tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window).

http://spaces.uoguelph.ca/ed/system-requirements/
https://courselink.uoguelph.ca/d2l/systemCheck

Technical Skills

As part of your online experience, you are expected to use a variety of technology as part of your learning:

- Manage files and folders on your computer (e.g., save, name, copy, backup, rename, delete, and check properties);
- Install software, security, and virus protection;
- Use office applications (e.g., Word, PowerPoint, Excel, or similar) to create documents;
- Be comfortable uploading and downloading saved files;
- Communicate using email (e.g., create, receive, reply, print, send, and download attachments);
- Navigate the CourseLink learning environment (the instructions for this are given in your course);
- Communicate using a discussion board (e.g., read, search, post, reply, follow threads) in the CourseLink website;
- Upload assignments using the Dropbox tool in the CourseLink website;
• Access, navigate, and search the Internet using a web browser (e.g., Firefox, Internet Explorer); and
• Perform online research using various search engines (e.g., Google) and library databases.

Course Technologies

CourseLink

Distance Education courses are offered entirely online using CourseLink (powered by D2L’s Brightspace), the University of Guelph’s online learning management system (LMS). By using this service, you agree to comply with the University of Guelph’s Access and Privacy Guidelines. Please visit the D2L website to review the Brightspace privacy statement and Brightspace Learning Environment web accessibility standards.

http://www.uoguelph.ca/web/privacy/
https://www.d2l.com/legal/privacy/
https://www.d2l.com/accessibility/standards/

Peer Evaluation, Assessment and Review (PEAR)

This course will use the Peer Evaluation, Assessment and Review (PEAR) tool. The PEAR tool is subject to the University of Guelph’s Access and Privacy Guidelines outlined on the University website. An accessibility statement does not exist for this course technology.

http://www.uoguelph.ca/web/privacy/

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

CourseLink Support
University of Guelph
Day Hall, Room 211
Email: courselink@uoguelph.ca
Tel: 519-824-4120 ext. 56939
Toll-Free (CAN/USA): 1-866-275-1478

Walk-In Hours (Eastern Time):
Monday thru Friday: 8:30 am–4:30 pm

Phone/Email Hours (Eastern Time):
Monday thru Friday: 8:30 am–8:30 pm
Saturday: 10:00 am–4:00 pm
Sunday: 12:00 pm–6:00 pm

Course Specific Standard Statements

Acceptable Use
The University of Guelph has an **Acceptable Use Policy**, which you are expected to adhere to.
https://www.uoguelph.ca/ccs/infosec/aup

**Communicating with Your Instructor**

During the course, your instructor will interact with you on various course matters on the course website using the following ways of communication:

- **Announcements**: The instructor will use **Announcements** on the Course Home page to provide you with course reminders and updates. Please check this section frequently for course updates from your instructor.

- **Ask Your Instructor Discussion**: Use this discussion forum to ask questions of your instructor about content or course-related issues with which you are unfamiliar. If you encounter difficulties, the instructor is here to help you. Please post general course-related questions to the discussion forum so that all students have an opportunity to review the response. To access this discussion forum, select **Discussions** from the **Tools** dropdown menu.

- **Email**: If you have a conflict that prevents you from completing course requirements, or have a question concerning a personal matter, you can send your instructor a private message by email. The instructor will respond to your email within 48 to 72 hours.

- **Skype**: If you have a complex question you would like to discuss with your instructor, you may book a Skype meeting. Skype meetings depend on the availability of you and the instructor, and are booked on a first come first served basis.

**Netiquette Expectations**

For distance education courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online.

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language online;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;
- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;
- Stating false claims about lost quiz answers or other assignment submissions;
- Threatening or harassing a student or instructor online;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
• Attempting to compromise the security or functionality of the learning management system; and
• Sharing your username and password.

Submission of Assignments to Dropbox

Assignments for this course should be submitted electronically via the online Dropbox tool. When submitting your assignments using the Dropbox tool, do not leave the page until your assignment has successfully uploaded. To verify that your submission was complete, you can view the submission history immediately after the upload to see which files uploaded successfully. The system will also email you a receipt. Save this email receipt as proof of submission.

Be sure to keep a back-up copy of all of your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, your instructor strongly recommend you save your assignments to a cloud-based file storage (e.g., Google Docs), or send to your email account, so that should something happen to your computer, the assignment could still be submitted on time or re-submitted.

It is your responsibility to submit your assignments on time as specified in the schedule section of this outline. Be sure to check the technical requirements and make sure you have the proper computer, that you have a supported browser, and that you have reliable Internet access. Remember that technical difficulty is not an excuse not to turn in your assignment on time. Don’t wait until the last minute as you may get behind in your work.

If, for some reason, you have a technical difficulty when submitting your assignment electronically, please contact your instructor or CourseLink Support.

http://spaces.uoguelph.ca/ed/contact-us/

Late Policy

If you choose to submit your individual assignments to the Dropbox tool late, the full allocated mark will be reduced by 10% per day after the deadline for the submission of the assignment to a limit of six days at which time access to the Dropbox folder will be closed.

Extensions will be considered for medical reasons or other extenuating circumstances. If you require an extension, discuss this with the instructor as soon as possible and well before the due date. Barring exceptional circumstances, extensions will not be granted once the due date has passed. These rules are not designed to be arbitrary, nor are they inflexible. They are designed to keep you organized, to ensure that all students have the same amount of time to work on assignments, and to help to return marked materials to you in the shortest possible time.

Obtaining Grades and Feedback

Unofficial assessment marks will be available in the Grades tool of the course website.

Your instructor will have grades posted online within 2 weeks of the submission deadline, if the assignment was submitted on time. Once your assignments are marked you can view your grades on the course website by selecting Grades from the Tools dropdown menu on the navbar. Your course will remain open to you for seven days following the last day of the final exam period.
University of Guelph degree students can access their final grade by logging into WebAdvisor (using your U of G central ID). Open Learning program students should log in to the OpenEd Student Portal to view their final grade (using the same username and password you have been using for your courses).

https://webadvisor.uoguelph.ca/WebAdvisor/WebAdvisor?TYPE=M&PID=CORE-WBMAIN&TOKENIDX=2526105680

https://courses.opened.uoguelph.ca/portal/logon.do?method=load

Rights and Responsibilities When Learning Online

For distance education (DE) courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online.

For more information on your rights and responsibilities when learning in the online environment, visit Rights and Responsibilities.

http://opened.uoguelph.ca/student-resources/rights-and-responsibilities
University of Guelph: Graduate Policies

As a student of the University of Guelph, it is important for you to understand your rights and responsibilities and the academic rules and regulations that you must abide by.

If you are a registered University of Guelph Degree Student, consult the Graduate Calendar for the rules, regulations, curricula, programs and fees for current and previous academic years.

If you are an Open Learning Program Student, consult the Open Learning Program Calendar for information about University of Guelph administrative policies, procedures and services.

https://www.uoguelph.ca/registrar/calendars/graduate/current/
http://opened.uoguelph.ca/student-resources/open-learning-program-calendar

Email Communication

University of Guelph Degree Students

As per university regulations, all students are required to check their uoguelph.ca e-mail account regularly: e-mail is the official route of communication between the University and its students.

Open Learning Program Students

Check your email account (the account you provided upon registration) regularly for important communications, as this is the primary conduit by which the Open Learning and Educational Support will notify you of events, deadlines, announcements or any other official information.

When You Cannot Meet Course Requirements

When you find yourself unable to meet an in-course requirement due to illness or compassionate reasons, please advise your course instructor (or designated person such as a teaching assistant) in writing, with your name, ID number and email contact.

University of Guelph Degree Students

Review the Graduate Calendar for information on regulations and procedures for Academic Consideration.

https://www.uoguelph.ca/registrar/calendars/graduate/current/

Open Learning Program Students

Please refer to the Open Learning Program Calendar for information on regulations and procedures for requesting Academic Consideration.

http://opened.uoguelph.ca/student-resources/open-learning-program-calendar
Drop Date

University of Guelph Degree Students

The last date to drop one-semester courses, without academic penalty, is indicated in the Schedule of Dates section of the Graduate Calendar. Review the Graduate Calendar for regulations and procedures for Dropping Courses.

https://www.uoguelph.ca/registrar/calendars/graduate/current/

Open Learning Program Students

Please refer to the Open Learning Program Calendar.

http://opened.uoguelph.ca/student-resources/open-learning-program-calendar

Copies of Out-of-Class Assignments

Keep paper and/or other reliable back-up copies of all assignments: you may be asked to resubmit work at any time.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment.

University of Guelph Degree Students

Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Accessibility Services as soon as possible.

For more information, contact Accessibility Services at 519-824-4120 ext. 56208, email Accessibility Services or visit the Accessibility Services website.

accessibility@uoguelph.ca
https://wellness.uoguelph.ca/accessibility/

Open Learning Program Students:

If you are an Open Learning program student who requires academic accommodation, please contact the Academic Assistant to the Director. Please ensure that you contact us before the end of the first week of your course (every semester) in order to avoid any delays in support. Documentation from a health professional is required for all academic accommodations. Please note that all information provided will be held in confidence.

If you require textbooks produced in an alternate format (e.g., DAISY, Braille, large print or eText), please contact the Academic Assistant to the Director at least two months prior to the
course start date. If contact is not made within the suggested time frame, support may be delayed. It is recommended that you refer to the course outline before beginning your course in order to determine the required readings.

The provision of academic accommodation is a shared responsibility between OpenEd and the student requesting accommodation. It is recognized that academic accommodations are intended to “level the playing field” for students with disabilities.

jessica.martin@uoguelph.ca

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

The Academic Misconduct Policy is detailed in the Graduate Calendar.

https://www.uoguelph.ca/registrar/calendars/graduate/current/

Copyright

All content within this course is copyright protected. Third party copyrighted materials (such as book chapters and articles) have either been licensed for use in this course, or have been copied under an exception or limitation in Canadian Copyright law.

The fair dealing exemption in Canada's Copyright Act permits students to reproduce short excerpts from copyright-protected materials for purposes such as research, education, private study, criticism and review, with proper attribution. Any other copying, communicating, or distribution of any content provided in this course, except as permitted by law, may be an infringement of copyright if done without proper license or the consent of the copyright owner. Examples of infringing uses of copyrighted works would include uploading materials to a commercial third party web site, or making paper or electronic reproductions of all, or a substantial part, of works such as textbooks for commercial purposes.

Students who upload to CourseLink copyrighted materials such as book chapters, journal articles, or materials taken from the Internet, must ensure that they comply with Canadian Copyright law or with the terms of the University’s electronic resource licenses.

For more information about students’ rights and obligations with respect to copyrighted works, review Fair Dealing Guidance for Students.

http://www.lib.uoguelph.ca/sites/default/files/fair_dealing_policy_0.pdf
Graduate Student Responsibilities

From the choice of Advisor, choice of research project and through to degree completion, graduate students must recognize that they carry the primary responsibility for their success. The responsibilities assigned to Advisors, Advisory Committees and Departments provide the framework within which students can achieve success. Students should take full advantage of the knowledge and advice that the Advisor and Advisory Committee have to offer and make the effort to keep the lines of communication open. The Graduate Student Responsibilities are located in the Graduate Calendar.

https://www.uoguelph.ca/registrar/calendars/graduate/current/

General Regulations

Graduates students are expected to be familiar with the General Regulations in the Graduate Calendar, including those related to university-wide policies on admission, registration, graduation, theses, fees and other subjects of importance to graduate students.

https://www.uoguelph.ca/registrar/calendars/graduate/current/

Plagiarism Detection Software

Students should be aware that faculty have the right to use software to aid in the detection of plagiarism or copying and to examine students orally on submitted work. For students found guilty of academic misconduct, serious penalties, up to and including suspension or expulsion from the University can be imposed.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.