



POPM*4040 Epidemiology of Food-borne Diseases

Fall 2020

Section(s): C01

Department of Population Medicine

Credit Weight: 0.50

Version 1.00 - July 22, 2020

1 Course Details

1.1 Calendar Description

This course examines the epidemiology and prevention of food-borne infections and intoxications, including those of both microbiological and chemical origin. Drawing on outbreak investigations, surveys, risk assessments, government surveillance systems and basic research, the biological, ecological, socio-economic and public health context of these diseases will be discussed.

Pre-Requisites: 1 of FOOD*3230, POPM*3240
Restrictions: FOOD*4210.

1.2 Timetable

Tuesday and Thursday mornings, 8:30-9:50 am. Classes will be held remotely via CourseLink.

1.3 Final Exam

Exam date and time to be announced. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

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CLRE 201

3 Learning Resources

3.1 Recommended Resources

PDQ Epidemiology, 3rd ed, David Streiner, Geoffrey Norman. PMPH USA Ltd: Shelton CT. 2009. (Textbook)

Available online through the Library

Foodborne disease outbreaks: guidelines for investigation and control, World Health Organization, 2008. (Website)

http://www.who.int/foodsafety/publications/foodborne_disease/outbreak_guidelines.pdf

Procedures to Investigate Foodborne Illness, 6th edition, published by the International Association for Food Protection, 2011. (Article)

Available online through the Library

Principles & practice of public health surveillance, 3rd ed, Lisa M. Lee, Stephen B. Thacker, Michael E. St. Louis, Steven M. Teutsch. Oxford; New York: Oxford University Press. 2010. (Textbook)

Available online through the Library

Application of risk analysis to food standards issues, a Joint FAO/WHO Expert Consultation. World Health Organization, Geneva, Switzerland, 13-17 March 1995. (Website)

<http://www.who.int/foodsafety/publications/risk-analysis/en/>

Foodborne infections and intoxications, 4rd edition, J. Glenn Morris, Jr. and Morris Potter, Elsevier Academic Press, 2013. (Textbook)

Available online through the Library

Bad Bug Book, Foodborne Pathogenic Microorganisms and Natural Toxins, 2nd edition, published by the U.S. Food and Drug Administration, 2012 (Website)

<https://www.fda.gov/food/foodborne-pathogens/bad-bug-book-second-edition>

Foodborne Diseases, Alina Maria Holban and Alexandru Mihai Grumezescu (eds), London, United Kingdom: Elsevier Academic Press, 2018. (Textbook)

Available online through the Library

3.2 Journals

There are several peer-reviewed journals that publish epidemiological studies on food and waterborne diseases. For instance, you will find peer-reviewed papers and reports in:

- Emerging Infectious Diseases
- Epidemiology and Infection

- Eurosurveillance
- Foodborne Pathogens and Disease
- Journal of Food Protection
- Morbidity and Mortality Weekly Report: MMWR
- Preventive Veterinary Medicine
- Zoonoses and Public Health

You can find Canadian information at the website for the Public Health Agency of Canada <http://www.phac-aspc.gc.ca/zoono/index-eng.php>. You can have access to FoodNet Canada (formerly C-EnterNet) surveillance publications and annual report at <http://www.phac-aspc.gc.ca/foodnetcanada/index-eng.php>. The National Enteric Surveillance Program (NESP) reports can be found at Public Health Agency of Canada website at <http://publications.gc.ca/site/eng/432850/publication.html> .

For the U.S., information about foodborne diseases can be found at the Centers for Disease Control and Prevention (CDC) home Page <http://www.cdc.gov>.

4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Describe the basic epidemiology of foodborne infections and intoxications that are currently of major interest and importance.
2. Apply epidemiological concepts to the study of the etiology, impact and control of foodborne diseases, including their ecological and socio-economic contexts.
3. Analyse and interpret basic epidemiologic data from foodborne outbreaks.
4. Integrate science with socio-political understanding to make informed arguments about the management of risks and uncertainty related to foodborne diseases.
5. Communicate the nature of risks associated with foodborne diseases to both the general public and specific vulnerable populations.

5 Teaching and Learning Activities

Teaching Strategy: The course will be primarily lecture based, with encouragement of discussion to the extent possible in a remote teaching and learning environment. Where possible, guest lecturers who are experts in a given topic area will deliver lectures. The focus

will be on the skills necessary to investigate and evaluate the epidemiological patterns of foodborne diseases, including the assessment of the magnitude of foodborne disease problems, outbreak investigation, risk assessment, and communication. The emphasis will be on extracting generalizable principles and methodologies for understanding and controlling foodborne diseases.

Assignments vary in format and are designed to help you achieve course learning outcomes.

5.1 Lectures

Date	Lectures and Due Dates (Note – lecture dates subject to change based on instructor availability)
Sept. 10	An introduction to epidemiology of foodborne diseases
Sept. 15	Basic epidemiology for foodborne diseases
Sept. 17	Basic epidemiology for foodborne diseases - 2 Begin food diary
Sept. 22	Foodborne disease surveillance and risk assessment
Sept. 24	Disease burden – how big a problem is it?
Sept. 29	Outbreak investigation – how it is done in Canada Food Diary and Reflection Due
Oct. 1	<i>Listeria monocytogenes</i> , <i>Vibriosis</i>
Oct. 6	Social and commercial marketing Take-Home Midterm available on CourseLink
Oct. 8	Outbreak investigation – Case study
Oct. 15	<i>Escherichia coli</i> Take-Home Midterm Due October 18

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Oct. 20	<i>Salmonella</i>
Oct. 22	<i>Campylobacter</i>
Oct. 27	Antimicrobial resistant bacteria in food
Oct. 29	<i>Yersinia enterocolitica</i> and <i>Shigella</i>
Nov. 3	Foodborne parasites Groups and Topics for Town Hall Meetings distributed
Nov. 5	Viral foodborne diseases
Nov. 10	<i>Clostridium perfringens</i> , Staphylococcal food poisoning
Nov. 12	Botulism, <i>Bacillus cereus</i> , Ciguatera, other marine biotoxins Public dissemination Due November 15
Nov. 17	Chemical intoxications, mycotoxicosis
Nov. 19	Waterborne disease
Nov. 24	Foodborne disease prevention and control
Nov. 26	EcoHealth approaches to foodborne and waterborne disease
Dec. 1	Town Hall Meeting
Dec. 3	Town Hall Meeting
Date TBA	Final Exam

Assessments

Detailed instructions for all assessments will be provided. Assignments must be submitted in

electronic form to CourseLink Dropbox (see specific assignment instructions) and are due by 11:59 pm on the posted date.

6.1 Marking Schemes & Distributions

Assessment item	Due Date	Weight (%)
Food Diary and Reflection	September 29	20
Midterm exam (take-home)	October 18	20
Public Dissemination	November 15	20
Town Hall Meetings	December 1 and 3	15
Final Exam	TBA	25

7 University Statements

7.1 Email Communication

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

7.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

7.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The

deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

7.4 Copies of Out-of-class Assignments

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

7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website

<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website

<https://www.ridgetownc.com/services/accessibilityservices.cfm>

7.6 Academic Integrity

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 encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

7.7 Recording of Materials

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

7.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>
