

Department of Epidemiology and Biostatistics

Epidemiology 9551A

Foundations of Epidemiology

Fall 2022

1. Technical Requirements:



Stable internet connection



Laptop or computer



Access to course OWL site



Access to Schulich Remote Desktop Services (RDS)

2. Course Overview and Important Dates:



Delivery Mode	Dates	Time	Location
In Person	Mondays	9:00 to 10:30 am	PHFM 3015
	Fridays	9:00 to 10:30 am	PHFM 3015

*Details about design and delivery of the course are listed below in Section 4

Classes Start	Reading Week	Classes End	Study Day(s)	Exam Period Begins
September 12	October 31 to November 4	December 8	December 9	December 10

* November 12, 2022: Last day to drop a first-term half course without academic penalty

NOTE: In the event of a COVID-19 resurgence during the course that necessitates moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at times indicates in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online at the discretion of the instructor.

3. Contact Information

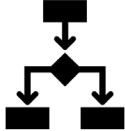


Course Instructor	Contact Information
Dr. Kelly Anderson	kelly.anderson@schulich.uwo.ca
Teaching Assistant	Contact Information
Joshua Wiener	jwiener2@uwo.ca

4. Course Description and Design

This course aims to provide a comprehensive introduction to fundamental concepts, principles, and terminology of epidemiologic research. Topics include measures of disease frequency and effect, key study designs, causation, bias, and confounding. In addition to the class sessions, students will participate in “lab” sessions where they will apply concepts learned in class to epidemiologic datasets to gain basic analytic skills.

Prerequisites: Enrollment in the graduate program in Epidemiology & Biostatistics, or permission of the course instructor.



All course material will be available through OWL: <http://owl.uwo.ca>. Any changes will be indicated on the OWL site and discussed with the class.

If students need assistance, they can seek support on the [OWL Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

[Google Chrome](#) or [Mozilla Firefox](#) are the preferred browsers to optimally use OWL; update your browsers frequently.

5. Learning Outcomes

Upon successful completion of this course, students will be able to:

- Describe the implications of basic causal theory for study design and analysis;
- Use epidemiological concepts to describe the distribution and determinants of disease, with consideration of person, place, and time;
- Apply measures of disease frequency to describe the extent of disease in a population;
- Compute estimates of disease effect to examine exposure-disease associations;
- Distinguish between and understand the limitations of various research designs;
- Address threats to the validity of study findings, including bias, misclassification, confounding, and effect modification.



6. Course Content and Schedule



Week	Date	Topic
1	Sept 12	<i>Lab #1: Introduction to Stata</i>
	Sept 16	Causal Thinking in Epidemiology
2	Sept 19	Populations and Population Health
	Sept 22	Overview of Epidemiological Study Designs
3	Sept 26	Measures of Disease Frequency
	Sept 30	<i>Lab #2: Measures of Disease Frequency</i>
4	Oct 3	Measures of Effect & Population Impact
	Oct 7	<i>Lab #3: Measures of Effect & Population Impact</i>
5	Oct 10	Thanksgiving Monday - NO CLASS
	Oct 14	Information Bias
6	Oct 17	Selection Bias
	Oct 21	<i>Tutorial: Midterm Review Session</i>
7	Oct 24	Midterm Exam
	Oct 28	Confounding I: Definition & Conceptual Issues
8	Oct 31	Fall Reading Week - NO CLASS
	Nov 4	
9	Nov 7	Confounding II: Adjustment and Control
	Nov 11	<i>Lab #4: Confounding</i>
10	Nov 14	Interaction & Effect Measure Modification
	Nov 18	<i>Lab #5: Interaction & Effect Modification</i>
11	Nov 21	Cohort Studies
	Nov 25	Cross-Sectional & Ecological Studies
12	Nov 28	Case-Control Studies
	Dec 2	Surveillance and Screening
13	Dec 5	Final Exam Review
	Dec 9	Final Exam Period – NO CLASS

Lab and tutorial sessions will be led by the course TA

7. Participation and Engagement



- Students are expected to participate and engage with the course content
- Students can participate during class and lab sessions, or by posting in the online discussion forum on OWL
- Students can also participate by interacting in the forums with their peers and instructors
- A rubric for evaluating participation is available on the course OWL page

8. Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Assessment	Weighting	Due Date
Participation	10%	N/A
Assignment #1	5%	September 26
Assignment #2	5%	October 11
Assignment #3	5%	October 21
Midterm Exam	25%	October 24
Assignment #4	5%	November 21
Assignment #5	5%	December 5
Final Exam	40%	December 12



- All assignments are submitted to OWL **by 5:00 pm** on the due date
- Exams will occur during scheduled class time
- Any requests for marking reassessment should be submitted in writing to the course instructor
- After an assessment is returned, students should wait 24 hours to digest feedback before requesting reassessment; to ensure a timely response, please reach out within 7 days

Information about late or missed evaluations:

- Please discuss an alternative deadline with the instructor in advance if you foresee difficulties meeting the assigned due dates
- Late assessments without prior approval will be subject to a late penalty (5% per day)
- An assessment cannot be submitted for grading after it has been returned to the class. In the event of extended illness, the assignment weight will be transferred to the final exam.
- If an exam is missed due to illness, a make-up date will be offered

9. Communication:



- Students are responsible for all materials posted on the course OWL page, and should check the site regularly
- This course will use the OWL forum for discussion, which will be monitored daily by the instructor and teaching assistant. Students will receive a response within 24 to 48 hours, outside of weekends and holidays.
- Please post **course-related questions to the discussion forum**, so that all students can access the answers. Emails with course-related questions will be redirected to the OWL discussion forum.

10. Office Hours:



- Office hours with the teaching assistant will be held Thursdays from 2:00 to 3:00 pm, or by appointment (email)
- Office hours with the course instructor will be held after class sessions or by appointment (email)

11. Course Resources



- Required Textbook: Weiss NS & Koepsell TD. (2014) Epidemiologic Methods: Studying the Occurrence of Illness, 2nd Edition. New York, Oxford University Press. [Available Online via UWO Library.](#)
- Optional Textbook: Porta M. (2014) A Dictionary of Epidemiology, 6th Edition. New York, Oxford University Press. [Available Online via UWO Library.](#)
- Stata/BE License
- Additional readings and other course materials will be posted to the weekly lesson folder on OWL

12. Professionalism & Privacy:



Western students are expected to follow the [Student Code of Conduct](#). Additionally, the following expectations and professional conduct apply to this course:

- Students are expected to follow online etiquette expectations provided on OWL
- All course materials created by the instructor(s), including assignments and exams, are copyrighted and **cannot be shared**
- Recordings are not permitted (audio or video) without explicit permission, and permitted recordings are not to be distributed in any format

13. How to Be Successful in this Class:

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.



1. Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
2. Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed.
3. Connect with others. Try forming a study group and meeting on a weekly basis for study and peer support.
4. **Do not be afraid to ask questions!** If you are struggling with a topic, check the online discussion boards or contact your instructor or teaching assistant. It is always better to seek help early, rather than waiting until after an exam or assignment.
5. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

14. Western Academic Policies and Statements

Absence from Course Commitments

All non-medical absences must be approved in advance. In the case of an unexpected absence on compassionate grounds, documentation may be requested. If documentation is required for either medical or non-medical academic accommodation, then such documentation must be submitted by the student to the instructor.

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. You must always ask permission to record another individual and you should never share or distribute recordings.

Support Services

As part of a successful student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western's Campus Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page <http://www.music.uwo.ca/>, and our own McIntosh Gallery <http://www.mcintoshgallery.ca/>.

Registrarial Services: <http://www.registrar.uwo.ca>

USC Student Support Services: <http://westernusc.ca/services/>

Academic Support and Engagement: <http://academicsupport.uwo.ca/>

SGPS Life & Community web page: https://grad.uwo.ca/life_community/self/index.html

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (Graduate Chair), or other relevant administrators in their unit. Health and Wellness-related information and services are available at <https://www.uwo.ca/health/>.

Students who are in emotional/mental distress should refer to Mental Health@Western <https://www.uwo.ca/health/> for a complete list of options about how to obtain help.

Accessible Education Western (AEW)

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program.

Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction. More information and access to services is available on the AEW website:

http://academicsupport.uwo.ca/accessible_education/index.html

Department & Faculty Offices

The Department of Epidemiology and Biostatistics is located on the third floor of the Western Centre for Public Health & Family Medicine (PHFM) on Western University's Main Campus.

Technology Requirements

You are responsible for all required course materials and announcements posted to the course's OWL website. Please ensure after the first class that when you log in you are able to access the course site. A copy of the course outline will be available on both OWL and the departmental website.

Cell Phone and Electronic Device Policy

The Schulich School of Medicine & Dentistry is committed to ensuring that testing and evaluation are undertaken fairly across all our departments and programs. For all tests and exams, it is the policy of the School and the Department of Epidemiology and Biostatistics that any electronic devices, i.e., cell phones, tablets, cameras, or iPod are strictly prohibited. These devices **MUST** be left either at home or with the student's bag/jacket at the front of the room and **MUST NOT** be at the test/exam desk or in the individual's pocket. Any student found with one of these prohibited devices will receive a grade of zero on the test or exam. Non-programmable calculators are only allowed when indicated by the instructor. The Department of Epidemiology and Biostatistics is not responsible for stolen/lost or broken devices.