

Department of Epidemiology and Biostatistics

Epidemiology 9690S: Advanced Topics in Epidemiology

Course Outline for Winter 2021



Although this academic year might be different, Western University is committed to a **thriving campus**. We encourage you to check out the [Digital Student Experience](#) website to manage your academics and well-being. Additionally, the following link provides available resources to support students on and off campus: <https://www.uwo.ca/health/>.

1. Technical Requirements:



Stable Internet connection



Laptop or computer



Working microphone



Working webcam

2. Course Overview and Important Dates:



Delivery Mode	Dates	Time
Online	Mondays	9:00 am – 12:00 pm

Classes Start	Reading Week	Classes End	Exam Period
January 13	February 15 - 19	February 24	NA

3. Contact Information:



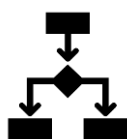
Course Coordinator	Contact Information
Piotr Wilk	Email: pwilk3@uwo.ca

Teaching Assistant(s)	Contact Information
NA	NA

4. Course Description and Design:

The goal of this seminar course is to familiarise students with basic structural equation modeling techniques. The course consists of a series of lectures and computer demonstrations covering the theory and practice of structural equation modeling with a focus on the practical application of these techniques to the analysis of cross-sectional and longitudinal health data. In addition to weekly synchronous lectures, students will participate in interactive synchronous group sessions to complete their assignments and research projects.

Mode	Dates	Time	Frequency
Virtual synchronous	Mondays	9:00 am – 12:00 pm	Weekly



- Asynchronous pre-work must be completed one day prior to synchronous sessions
- Attendance at synchronous sessions is required
- Missed work should be completed within 48 hours

There are no mandatory textbooks for this course. The weekly mandatory and optional readings will be provided by the 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. Students interested in evaluating their Internet speed, please click [here](#).

5. Prerequisites:

Enrollment in the graduate program in Epidemiology and Biostatistics, or permission of the course instructor. This course is also open to MSc students who are interested in acquiring and applying advanced statistical modeling techniques in their research and work. Students are expected to have knowledge of simple and multiple linear regression models and categorical data analysis such as logistic regression models. Prior knowledge and experience using Mplus software is beneficial but not a requirement for this course.

6. Learning Outcomes:

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

- apply basic concepts of path analysis, confirmatory factor analysis, and structural equation modeling
- run statistical models using Mplus software
- be familiar with advanced statistical models for cross-sectional and longitudinal data



7. Course Content and Schedule:



Week	Date	Topic
1	January 13	Causal inference / Mplus modeling framework
2	January 20	Mediation / Path analysis
3	January 27	Measurement theory / Confirmatory factor analysis
4	February 3	Basic structural equation models
5	February 10	Life course epidemiology / Analysis of longitudinal data
6	February 15 – 21	Reading Week
7	February 24	Advanced structural equation models

8. Online Participation and Engagement:



- Students are expected to participate and engage with content as much as possible
- Students can participate during virtual synchronous sessions
- Students can also participate by interacting in the forums with their peers and instructors

9. Evaluation:

Below is the evaluation breakdown for the course. Grades will be assigned on the basis of the pass/fail system. The evaluation components and the grade distribution may change, based on the class size. Any deviations will be communicated. If for any reason you are unable to meet any of the course requirements, it is essential that you inform the instructor in advance or as soon as you are aware of the situation.

Assessment	Weighting	Due Date
In class presentation	NA	NA
Research Project – Manuscript	NA	February 24
Research Project – Peer Review	NA	March 1



- All assignments are due at 11:55 pm EST unless otherwise specified
- Written assignments will be submitted to Turnitin (statement in policies below)
- Students will have unlimited submissions to Turnitin
- After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days

Information about late or missed evaluations:

- Late assessments without self-reported absences will be subject to a late penalty 10% per day
- Late assessments with self-reported absences should be submitted within 24 hours of the end of the 48-hour period
- An assessment cannot be submitted after it has been returned to the class

10. Communication:



- Students should check the OWL site every 24 – 48 hours
- A weekly update will be provided on the OWL announcements
- Students should email their instructor using their UWO email
- Emails will be monitored daily; students will receive a response in 24 – 48 hours
- This course will use the OWL forum for discussions
- The discussion forums will be monitored daily by instructors

11. Office Hours:



- Office hours will be held via Zoom after class
- Students will be able to sign up for an appointment using their UWO email
- Group office hours will be held (by appointment)

12. Resources:



- All resources will be posted in OWL
- Additional resources may be available via UWO email

13. 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) are copyrighted and cannot be sold/shared
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed

14. 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 in to OWL to ensure you have seen everything posted to help you succeed in this class.
3. Follow weekly checklists created on OWL or create your own to help you stay on track.
4. Take notes as you go through the lesson material. Treat this course as you would a face-to-face course. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively than just reading or watching the videos.

5. Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
6. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) or teaching assistant(s).
7. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

15. Western Academic Policies and Statements

Policy on Accommodation for Medical and Non-Medical Absences

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.

Statement on Copyright and Audio/Video Recording

All of the remote learning sessions for this course will be recorded. The data captured during these recordings may include your image, voice recordings, chat logs and personal identifiers (name displayed on the screen). The recordings will be used for educational purposes related to this course, including evaluations. The recordings may be disclosed to other individuals participating in the course for their private or group study purposes. Please contact the instructor if you have any concerns related to session recordings.

Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation, or the participant has the prior written permission of the instructor. You must always ask permission to record another individual and you should never share or distribute recordings.

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.

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/>. Information regarding health- and wellness-related services available to students may be found at <http://www.health.uwo.ca/>

Registrarial Services: <http://www.registrar.uwo.ca>
USC Student Support Services: <http://westernusc.ca/services/>
Student Development Centre: <http://www.sdc.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 or undergraduate chair), or other relevant administrators in their unit.

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

Student Accessibility Services

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 encouraged to register with Student Accessibility Services, a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both SAS 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.

Department & Faculty Offices

The Epidemiology & Biostatistics main office is located in K201 in the Kresge Building on Main campus.