**Course Information**

Systematic reviews and meta-analyses are used in numerous fields in medical research. They form the core of evidence-based decision-making in health care sector. Vital policy decisions made by federal as well as provincial governments are based on reliable syntheses of increasing amount of research information. Additionally, pharmaceutical companies use meta-analysis to synthesis evidence from a series of studies to assess the efficacy of a drug. Meta-analysis is used in every field including education, psychology, criminology, business, and ecology. This course is designed to provide undergraduate students with the details of the process of conducting a systematic review and meta-analysis, discuss strengths and limitations of the methods, and give step-by-step guidance on how to do a systematic review and meta-analysis.

Unless you have either the requisites for this course or written special permission from the Graduate Chair to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

**Course Objectives**

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

- Design and develop different types of research, policy, and clinical questions.
- Design and develop inclusion and exclusion criteria.
- Design and develop a review protocol.
- Conduct comprehensive database search as well as grey literature search.
• Use EPPI Reviewer 4 software tools to retrieve and select search for the review.
• Design and develop screening questions for three-levels of screening process.
• Conduct three-levels of screening process to pick the best and relevant evidence to address research, policy or clinical question.
• Assess, evaluate, and choose from various guidelines from the literature to rate the quality of evidence and strength of recommendations.
• Identify and discuss in details various sources of heterogeneity between and within studies in a systematic review.
• Design and develop a meta-analysis plan for a systematic review.
• Conduct and complete a systematic review and meta-analysis including systematic review protocol and a final manuscript.

Course Materials

Required Text:

Chapter 1 and Chapters 12 – 18.

Link: [http://handbook.cochrane.org/](http://handbook.cochrane.org/)
Chapters 5 - 8.

Methods of Evaluation

• 15% - Participation
• 35% - example
• 50% - Project

Policy on Accommodation for Medical and Non-Medical Absences

For assignments worth 10% or more, refer to Western University’s Policy on Accommodation for Medical Illness: [https://studentservices.uwo.ca/secure/index.cfm](https://studentservices.uwo.ca/secure/index.cfm).

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 by the instructor for either medical or non-medical academic accommodation, then such documentation must be submitted by the student directly to the appropriate Faculty Dean’s office and not to the instructor. It will be the Dean’s office that will determine if accommodation is warranted.
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: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

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/

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. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html

To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: http://www.health.uwo.ca/mental_health/module.html. This module is 30 minutes in length and provides participants with a basic understanding of mental health issues and of available campus and community resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion of the module, participants receive a certificate confirming their participation.

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

For undergraduate academic counselling assistance, students will need to speak with the Bachelor of Medical Sciences Office: http://www.schulich.uwo.ca/bmsc/general-counselling.

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.