The University of Western Ontario School of Health Studies

# Research Methods in Health Sciences: HS2801A

Sep-Dec 2023

**Instructor**: Dr. Afshin Vafaei
**Email**: avafaei2@uwo.ca

**Office Hours:** Fridays 1 PM to 3 PM or by appointment
**Location**: [redacted]

**GTAs:**
[redacted]

**Lecture Times:** Fridays 10:30-12:30
**Location**: [redacted]
**Tutorial Times and locations:** 60 minutes weekly, organized according to the section assigned by Registrar, see the timetable
**Course Website:** [redacted]

---

## Prerequisite Checking

Minimum of 60% [mandatory] in each of Health Sciences 1001A/B and Health Sciences 1002A/B.

## Course Description

An introduction to the design of health sciences research, providing students with knowledge relevant to the planning and evaluation of research in both laboratory and applied settings.

## Learning Objectives

By the end of the course, the students should be able to:

1. Understand and define basic terms, concepts, and methods used in health research;
2. Propose appropriate research methods (e.g. study design, data collection, sampling) for specific research questions;
3. Identify key ethical issues (e.g. consent) as they apply to conducting health research;
4. Understand and identify basic methodological issues related to reliability and validity impacting research processes; and
5. Develop transferrable skills in health research methods, including, but not limited to: citations, constructing surveys and interviews, and other measurements.

## Textbook, Tools

1. **REQUIRED TEXTBOOK:** Jacobsen, Kathryn H. (2021). *Introduction to Health Research Methods: A Practical Guide (3rd edition).* Burlington, MA: Jones & Bartlett.
2. A scientific calculator
3. Additional course readings on OWL

## Class Schedule (subject to change)

| DATE | TOPICS | READINGS | TUTORIAL |
|---|---|---|---|
| **Construction of a research project** | | | |
| **Sep. 8** | Course Outline Review & Expectations<br>The Health Research Process, Selecting a Topic/Research Question, Theory in Research | Chapters 1, 2, 4 | None |
| **Sep. 15** | Data collection, Sampling, Questionnaire Design | Chapters 19, 20, 21 | |
| **Methods of conducting health research** | | | |
| **Sep. 22** | Measurement, Reliability, Validity | Chapter 21.9<br>EXTRA, On OWL | |
| **Sep. 29** | *Non-teaching day* to commemorate Truth & Reconciliation | | None |
| **Oct. 6** | Random Sampling Error, Bias | EXTRA, On OWL | |
| **Oct. 13** | The role of the 3rd factor: Confounding, Interaction (Effect Modification) | EXTRA, On OWL | |
| **Oct. 20** | Research Study Design (1): Overview, Case Series, Ecological and Cross-sectional Studies | Chapters 7, 8, 14, 9 | |
| **Oct. 27** | **MIDTERM TEST** | | |
| **FALL TERM READING WEEK (Oct. 30-Nov. 5)** | | | |
| **Nov. 10** | Research Study Designs (2 & 3): Case-Control, Cohort Studies, Experimental Studies | Chapters 10, 11, 12 | |
| **Nov. 17** | Research Study Designs (4): Qualitative Studies | Chapters 13, 22, 23 | |
| **Nov. 24** | Descriptive statistics, Introduction to Comparative Statistics | Chapters 29, 30 | |
| **Communicating research ideas and results** | | | |
| **Dec. 1** | Collaboration, Community Partnerships, Knowledge Translation<br>Wrap up | Chapters 5, 6, 34, 39, 40 | Practice of design and statistical analysis |
| Chapters refer to the required textbook (Jacobson 2021)<br>**All extra readings are also mandatory** | | | |

.

## Evaluation and Assignments

| Assessment | Weight of Final Mark | Due Date |
|---|---|---|
| Online modules | 10%<br>(5% each) | Sep. 29, 2023<br>Nov. 17, 2023 |
| Midterm | 25% | Oct. 27, 2023 |
| Final Exam (cumulative) | 45% | During the exam period (Dec. 10-22) |
| Tutorial Activities | 20% | Ongoing |

### **Participation/Tutorial Activities:** 20% of the overall grade

Students are encouraged to contribute to creating a dynamic learning environment in this course. There will be opportunities for constructive discussions and brief but structured in-class activities. Depending on the nature of the activity, students are expected to complete the activity in-class or submit their work to OWL. There will be about **9 in-class participation activities** throughout the term - students must attend **at least 8** of these events (either in tutorials or during lectures) to get a full grade.

| Section | Day | Time | Room | GTA |
|---|---|---|---|---|
| 002 | Fri | 09:30-10:30 AM | UCC-67 | Ibrahim |
| 003 | Mon | 12:30-1:30 PM | HSB-9 | Fereshteh |
| 004 | Tue | 11:30-12:30 AM | SEB-1056 | Mary-Ellen |
| 005 | Tue | 02:30-3:30 PM | HSB-9 | Mary-Ellen |
| 006 | Tue | 03:30-4:30 PM | SSC-3010 | Fereshteh |
| 007 | Wed | 09:30-10:30 AM | UCC-63 | Ibrahim |
| 008 | Thu | 09:30-10:30 AM | HSB-11 | Ola |
| 009 | Thu | 10:30- 11:30 AM | UCC-63 | Ola |

### **Online Modules:** 10% of the overall grade

**CORE ethics principles in health research (due: September 29th, 2023).** Following the instructions provided by The Canadian Institutes of Health Research (CIHR), students will learn about the core ethics principles of health research in 9 short modules. Submission of the CORE-2022 Certificate of Completion to OWL is required for a full (5%) mark. https://tcps2core.ca/welcome

**Sex and gender in health research (due: November 17th, 2023).** Institute of Gender and Health at the CIHR provides three modules on Integrating Sex & Gender in Health Research. Submission of certificates of **at least two (2)** of the courses to OWL is required for a full (5%) mark.
https://cihr-irsc.gc.ca/e/49347.html

### **Midterm and Final Exams:** 25% and 45% of the overall grade

Midterm exam will be held on October 27th, 2023. The goal is assessment of understanding topics covered in weeks 1 to 7 before they are jammed for the final exam.

Final exam will evaluate students' deep understanding of **ALL** course materials and will be scheduled by the Office of the Registrar during the formal exam period (Dec. 10 to Dec. 22; 2023).

## Missed work

Attendance at all classes is **mandatory**, and it is not possible to provide equal opportunity for all students to make-up the missed classes. **All materials** covered in the classes are **testable**. If you are absent from a graded class activity, you will receive a zero on the activity.

## Missed Exams

If you are too ill to write a quiz or exam or there are other 'extenuating circumstances beyond your control' you **must** document this either with a medical certificate (if available) or by notifying the instructor in writing (with your signature). If you are ill for an extended period of time, it is your responsibility to contact the instructor immediately on your return to campus.

Only **one** make-up time will be scheduled for missed midterm in the week after the reading week on **Thursday November 9, 2023.** **TENTATIVE final examination common make-up** dates in January 2024 will be provided when the Final Exam schedule is released in October.

## MARKS

| | | |
|---|---|---|
| A+ | 90-100 | One could scarcely expect better from a student at this level |
| A | 80-89 | Superior work that is clearly above average |
| B | 70-79 | Good work, meeting all requirements and eminently satisfactory |
| C | 60-69 | Competent work, meeting requirements |
| D | 50-59 | Fair work, minimally acceptable. |
| F | below 50 | Fail |

It is anticipated that the course averages in years 1 through 4 grades will vary and this is the normative breakdown of average grades/year:

Year 1: 68-72
Year 2: 70-74 (core) and 72-76 (elective)
Year 3: 72-76 (core) and 74-78 (elective)
Year 4: 74-80

## POLICIES

### Prerequisites

Unless you have either the requisites for this course or written special permission from your Dean 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.

### Covid -19 Contingency Plan for in-person class pivoting to 100% online learning

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated 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 as determined by the course instructor.

**In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction**, tests and examinations in this course will be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide personal information (including some biometric data) and the session will be recorded. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: https://remoteproctoring.uwo.ca.

**Late assignments**

Assignments must not be missed unless there is a medical condition, family emergency, or other unforeseen circumstances. A note from your Physician indicating the nature of your condition must be submitted to the School of Health Studies Main Office, and only upon receipt of such a letter will instructors consider a new due date for an assignment. Late assignments may be docked a certain percentage per day, which is determined by the instructor.

**Attendance and Classroom Behaviour (online and/or in-person)**

In the School of Health Studies, each course instructor sets specific expectations for attendance and participation that are specific to the course, teaching objectives, and learning outcomes. Regular attendance is expected and essential for all courses, but particularly those that include participation grades in their evaluation schemes. Participation means not only attendance, but active engagement in the class, including (for example) contribution to small and large group discussions, a demonstrated effort to prepare for class by completing assigned readings before class, and following the instructor's guidelines for use of electronic devices during class time. **Students who miss classes, or parts of classes, are responsible for the material they have missed. Instructors are not obliged to review the contents of missed lectures**.

**Use of Recording Devices and Course Content**

During Exams**:** Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any electronic devices during ANY tests, quizzes, midterms, examinations, or other in-class evaluations.

During Lectures and Tutorials**:** Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. From time to time, your professor may ask the class to turn off all computers, to facilitate learning or discussion of the material presented in a particular class. **Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.**

**Use of Plagiarism Checking Software**

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).

**Student Code of Conduct**

Code of Student Conduct defines the standard of conduct expected of students registered at The University of Western Ontario, provides examples of behaviour that constitutes a breach of this conduct, provides examples of sanctions that may be imposed, and sets out the disciplinary procedures that the University follows. Scholastic offences are taken seriously, and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: Academic Calendar - Western University (uwo.ca).

**Academic Consideration**

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by extenuating circumstances, including short-term illness or injury. Reasonable academic consideration is a cooperative process between the University, the student, and academic staff. All participants in the process must act in good faith, and fulfil their respective obligations, if it is to succeed.

Students who experience an extenuating circumstance (illness, injury, or other extenuating circumstance) sufficiently significant as to temporarily render them unable to meet academic requirements, may submit a request for academic consideration through the following routes:

(i) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner, in order to be eligible for Academic Consideration; or

(ii) For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to academic advising office in their Faculty of registration, in order to be eligible for academic consideration.

**Students seeking academic consideration**

- Are advised to consider carefully the implications of postponing tests or midterm exams or delaying handing in work;
- Are encouraged to make appropriate decisions, based on their specific circumstances, recognizing that minor ailments (e.g., upset stomach) or upsets (e.g., argument with a friend) are not normally an appropriate basis;
- **Must communicate with their instructors no later than 24 hours** after the end of the period covered by SMC, or immediately upon their return following a documented absence;
- **Are advised that all necessary documentation, forms, etc. are to be submitted to academic advising office within two business days after the date specified for resuming responsibilities**

**Support Services**

There are various support services around campus and these include, but are not limited to:

1. Student Development Centre -- http://academicsupport.uwo.ca/
2. Student Health -- https://www.uwo.ca/health/
3. Registrar's Office -- http://www.registrar.uwo.ca/
4. Ombudsperson Office -- http://www.uwo.ca/ombuds/

**Health and Wellness**

The undergraduate experience is rewarding and challenging socially, emotionally, and intellectually. Finding ways to balance scholarly life with our personal lives can be tough, but it's important to learn how to manage stress. Western provides several health and wellness-related services to students, which may be found at http://www.health.uwo.ca/. You can also check out the Campus Recreation Centre or the McIntosh Gallery (http://www.mcintoshgallery.ca/), for alternative spaces to reconnect with your bodies and restore your spirit. You may also want to access local resources that are closer to where you are living during the school year. Recalibrating ourselves emotionally begins with slowing down, reminding ourselves that we are ok, and taking a few deep, slow breaths. This remarkably effective strategy brings the body from stress mode into a more relaxed state.

If you are in emotional or mental distress should refer to Mental Health@Western Mental Health Support - Health & Wellness - Western University (uwo.ca)for a complete list of options about how to obtain help or Thames Valley Family Services (https://www.familyservicethamesvalley.com/), a trusted provider within the community. To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: Health & Wellness - Western University (uwo.ca). It's also advisable to have a wellness safety plan if you don't want to reach out to formal services. Having the numbers of a few trusted individuals is another strategy.

## Common Concerns Guidelines

The table below summarizes a list of common student concerns and how they are to be resolved. If you have a concern that is not listed here, then please email your instructor.

| Concern | How to address concern |
|---|---|
| Course administrative matters | Read through the course outline or **email instructor if question *cannot be answered* from information in the course outline** |
| Course content questions | Refer to the OWL Resources (notes, calendar, etc). Email the instructor. |
| Grade disputes and requests for appeals | A student requesting an appeal to a specific course with respect to a grade for an assignment or examination much first contact their instructor to discuss such manners.<br><br>Visit the following website for guide on submitting an appeal: https://uwo.ca/fhs//policies/appeals.html |