School of Health Studies

Western HealthSciences



HS2801A: Research Methods in Health Sciences

Fall | 2024

Prerequisite(s):
Minimum of 60% [mandatory] in each of Health Sciences 1001A/B and Health Sciences 1002A/B

Course Information

Instructor Name: Dr. Afshin Vafaei
Email: avafaei2@uwo.ca
Office Hours Day / Time: TBA
Location: TBA
Lectures Day / Time: TBA
Tutorials Day / Time: TBA

Land Acknowledgement

We acknowledge that Western University is located on the traditional territories of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Chonnonton Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. This land continues to be home to diverse Indigenous Peoples whom we recognize as contemporary stewards of the land and vital contributors of our society.

Accessibility Acknowledgement

Meaningful ways to incorporate equity into the student experience are important to the School of Health studies. To that end, we honour all manner of differences inherent within the student population and incorporate accessible options for inclusion to the best of our abilities in each course offering

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.

Course Format and Timetable

DATE	TOPICS	READINGS	TUTORIAL
	Construction of a research project		
Sep 6	Course Outline Review & Expectations The Health Research Process, Selecting a Topic/Research Question, Theory in Research	Chapters 1, 2, 4	None
Sep 13	Data collection, Sampling, Questionnaire Design	Chapters 19, 20, 21	
	Methods of conducting health research		
Sep 20	Measurement, Reliability, Validity **Quiz 1**	Chapter 21.9 EXTRA, On OWL Brightspace	
Sep 27	Random Sampling Error, Bias	EXTRA, On OWL Brightspace	
Oct 4	The role of the 3rd factor: Confounding, Interaction (Effect Modification) **Quiz 2**	EXTRA, On OWL Brightspace	
Oct 11	**MIDTERM TEST**		
	FALL TERM READING WEEK (Oct 14-18, 2024)		
Oct 25	Research Study Designs (1): Overview, Case Series, Ecological and Cross-sectional Studies	Chapters 7, 8,9	
Nov 1	Research Study Designs (2): Case-Control, Cohort Studies	Chapters 10, 11	
Nov 8	Research Study Designs (3): Experimental Studies	Chapter 12	
Nov 15	Research Study Designs (4): Qualitative Studies **Quiz 3**	Chapters 13, 23	
Nov 22	Descriptive statistics, Introduction to Comparative Statistics	Chapters 29, 30	
	Communicating research ideas and results		
Nov 29	Collaboration, Community Partnerships, Knowledge Translation Wrap up	Chapters 5, 6, 34, 39, 40	
	Chapters refer to the required textbook (Jacobson 2021) **All extra readings are also mandatory**		

Required Course Material:

1. **REQUIRED TEXTBOOK**: Jacobsen, Kathryn H. (2021). Introduction to Health Research Methods: A Practical Guide (3rd edition). Burlington, MA: Jones & Bartlett. Bookstore link:https://bookstore.uwo.ca/textbooksearch?campus=UWO&term=B2024&courses%5B0%5D=001_UW/HTH2801A
2. A scientific calculator
3. Additional mandatory course readings on OWL Brightspace

Evaluation

Assessment	**Weight of Final Mark**	**Due Date**
Three (3) in-class short quizzes	15% (5% each)	Sep 20, Oct 4, Nov 15, 2024
Midterm	25%	Oct 11, 2024
Final Exam (cumulative)	40%	During the exam period
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 **9-10** tutorials throughout the term - students must attend (exclusively in-person) **at least 8 tutorials**) to get a full mark.

In-class Quizzes: 15% of the overall grade
Three short and open-book in-class quizzes containing straightforward questions will evaluate students' basic understanding of topics. The goal is to review the content and to clarify any ambiguity before they jammed for the midterm and final exam.

Midterm and Final Exams: 25% and 40% of the overall grade
Midterm exam will be held on Oct 11, 2024. The goal is assessment of understanding topics covered in weeks 1 to 7. The **cumulative** **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 9-22, 2024). **All materials** covered in the classes are **testable**.

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. 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) and then request academic consideration. 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 of **Oct 21-25, 2024. TENTATIVE final examination common make-up dates** in January 2025 will be provided when the Final Exam schedule is released.

Course/University Policies

The website for the Registrar Services is http://www.registrar.uwo.ca

In accordance with policy, the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

Support Services

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

1. Academic Support and Engagement - http://academicsupport.uwo.ca
2. Wellness and Well-being - https://www.uwo.ca/health/
3. Registrar's Office -- http://www.registrar.uwo.ca/
4. Ombuds Office -- http://www.uwo.ca/ombuds/

The websites for Registrarial Services (http://www.registrar.uwo.ca), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: http://westernusc.ca/services/) and the Student Development Services, should be provided for easy access.

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.

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

Student Code of Conduct

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at Western University, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed and set out the disciplinary procedures that the University will follow. For more information, visit https://www.uwo.ca/univsec/pdf/board/code.pdf

Absence from Course Commitments

Students must familiarize themselves with the Policy on Academic Consideration – Undergraduate Students in First Entry Programs

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term **without**

supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes), when there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period), or when timed assessments (e.g., quizzes) are available over an extended period of time (e.g., when you are given a 72 hour time period to start – and finish – the assessment).

Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course syllabus. Supporting documentation for academic considerations for absences due to illness should use the Student Medical Certificate or, where that is not possible, equivalent documentation by a health care practitioner.

Accommodation for Religious Holidays

Students should review the policy for Accommodation for Religious Holidays. Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examination dates. The Faculty of Health Sciences has set School-specific dates for these Special Examinations. Please speak with your instructor about the date on which the Special Examination for this course will be held.

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, in the Academic Calendar (westerncalendar.uwo.ca).

Plagiarism

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to a zero on the assignment in question, a zero in this course, or your expulsion from the university. You are plagiarizing if you insert a phrase, sentence or paragraph taken directly from another author without acknowledging that the work belongs to him/her. Similarly, you are plagiarizing if you paraphrase or summarize another author's ideas without acknowledging that the ideas belong to someone else. All 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 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 Western University and Turnitin.com (www.turnitin.com)

Use of Artificial Intelligence for the Completion of Course Work
Within this course, you may only use artificial intelligence tools (e.g., "ChatGPT") in ways that are specifically authorized by the course instructor. All submitted work must reflect your own thoughts and independent written work.

Re-submission of Previously Graded Material
Without the explicit written permission of the instructor, you may not submit any academic work for which credit has been obtained previously, or for which credit is being sought, in another course or program of study in the University or elsewhere.

Use of Statistical Pattern Recognition on Multiple Choice Exams
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.

Accessibility Statement
Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review The policy on Accommodation for Students with Disabilities

Correspondence Statement
The centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. Students are further expected to attend to announcements presented through Brightspace, and to read emails generated in this way.

Use of Electronic Devices
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. **These devices MUST either be left at home or with your belongings at the front of the room. They MUST NOT be at your test/exam desk or in your pocket. Any student found with a prohibited device will receive an automatic grade of zero on the test or exam.**

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.

Personal Response Systems: ("clickers") may be used in some classes. For those classes in which we use this technology, it is your responsibility to ensure that the device is activated and functional. You must speak with the course instructor immediately, if you have any concerns about whether or not your clicker is malfunctioning. You must use only your own clicker. For all components of this course in which clicker records are used to compute a portion of the grade:

- The use of somebody else's clicker in class constitutes a scholastic offence;
- The possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offense.

Academic Considerations and Absences from Lectures and Assessments

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request (in writing) any necessary academic considerations at least two weeks prior to the holiday to the academic counsellors in their Home Department. Additional information is provided in the Western Multicultural Calendar.

Academic Accommodation

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. Students with ongoing accommodation needs within this course are also encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found here.

Academic Consideration

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by extenuating circumstances that are medical or compassionate in nature. These extenuating circumstances may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. In all cases, students are advised to consult with the academic counsellors in their home units, at their earliest opportunity. Academic counsellors may refer students to Accessible Education for ongoing academic accommodations.

Most forms of academic consideration require documentation, and this documentation is to be submitted to academic counsellors within five (5) business days of their return to academic responsibilities. Any such documents will be retained in the student's file, and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy. Once the petition and supporting documents have been received and assessed, appropriate academic considerations shall be determined by academic counseling, in consultation with the student's instructor(s). Academic considerations may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty. Academic considerations shall be granted only where the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete their academic responsibilities. (Note – it will not be sufficient to provide documentation indicating simply that the student "was seen for a medical reason" or "was ill.").

Whenever possible, students who require academic considerations should provide notification and documentation in advance of due dates, examinations, etc. Under no circumstances are students expected to submit rationales for (or documentation of) any absences, to course instructors. Students are, however, required to follow-up with course instructors, in a timely fashion, to identify the ways in which the academic consideration will be implemented.

Examination Conflicts

A student completing tests or examinations with flexible submission times (e.g., where one or more evaluation is a take-home assessment) cannot request alternative arrangements unless a conflict cannot be avoided by rescheduling writing the exam to a different time within the window specified by the instructor. This applies to direct conflicts as well as "heavy load" conflicts (e.g., three exams within a 23-hour period). The student should discuss any concerns about a potential conflict and/or request academic considerations with their academic counselling unit prior to the deadline to drop a course without academic penalty. In the case of

online tests and examinations, use of a "Conflict Room," wherein student can write two proctored exams concurrently, will be interpreted as arrangements for continuous proctoring.

Contingency Plan for an In-Person Class Pivoting to 100% Online Learning
In the event of a situation that requires this course to pivot to online content delivery, 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.

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.

Online Proctoring
Tests and examinations in this course may 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

Grades
Where possible assignment objectives and rubrics will be posted on OWL. Generally, students can expect some form of feedback on their performance in a course before the drop date.

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

Rounding of Grades (for example, bumping a 79 to 80%):
This is a practice some students request. The final grade documented is the grade that you have achieved. There is no rounding to the next grade level, or 'giving away' of marks. Please don't ask me to do this for you; the response will be "please review the course outline where this is presented".

Appealing a Grade Within this Course
You have the right to appeal any grade within this course. The grounds for a grade appeal may be one or more of: medical or compassionate circumstances, extenuating circumstances beyond the student's control, bias, inaccuracy, or unfairness. All grounds advanced in a request for relief must be supported by a clear and detailed explanation of the reasons for the request together with all 10 supporting documentation.

Appeals generally proceed in this order:

1. Course instructor (informal consultation)
2. Department Chair (submission of written request)
3. The Dean of the Faculty (submission of written request)

In the case of perceived procedural unfairness, steps 2 and 3 are carried out within the Department and Faculty offering the course. In the case of extenuating medical or compassionate circumstances that impact on a grade, steps 2 and 3 are carried out within a student's Home Department and Faculty.

A request for relief against a mark or grade must be initiated with the instructor as soon as possible after the mark is issued. In the event that the instructor is not available to the student, or fails to act, or if the matter is not resolved satisfactorily with the instructor, a written request for relief must be submitted to the Chair of the Department within three weeks of the date that the mark was issued. In the case of a final grade in a course, the written request for relief must be submitted to the Chair of the department by January 31st (for first-term half courses) or June 30th (for second-term half courses or full-year courses)

Health and Wellness

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

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

There are various support services around campus and these include, but are not limited to:
Student Development Centre -- http://www.sdc.uwo.ca/ssd/
Ombudsperson Office -- http://www.uwo.ca/ombuds/