

## **BRESCIA UNIVERSITY COLLEGE**

SCHOOL OF FOOD AND NUTRITIONAL SCIENCES  
Graduate Program in Foods and Nutrition

**FALL 2023**

### **FN 9711A - NUTRITIONAL EPIDEMIOLOGY AND STATISTICS**

**Day/time:** Monday 10:30am - 1:30pm

**Room:** UH 26

Office Hours: By appointment

**Dr. Jamie Seabrook**

Chair and Professor

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#### **COURSE DESCRIPTION:**

This course will introduce principles of epidemiology as applied to nutrition. Students will learn about study design, conduct, analysis, and interpretation of epidemiologic studies related to nutritional status, diet, and disease relationships. Emphasis will be placed on population-level dietary and nutritional status assessment, and the influence of methods, study designs, and statistical analysis on the interpretation of, and conclusions from research. Using IBM SPSS Statistics, students will learn how to enter and analyze their own data and will develop an understanding of multivariate statistics.

#### **COURSE OBJECTIVES:**

This course provides graduate students in the Master of Science in Foods and Nutrition program with an understanding of the theoretical and practical considerations in the conduct of epidemiologic studies related to diet, nutrition, and chronic diseases.

#### **LEARNING OUTCOMES:**

Upon completion of the course, students will be able to:

1. Select the most appropriate epidemiologic study design for specific nutrition-related research questions, considering the strengths and limitations of various designs.
2. Describe the data analysis and interpretation of nutritional epidemiology studies.
3. Understand statistical techniques used in nutritional epidemiology.
4. Enter and analyze nutritional epidemiological data using IBM SPSS statistical software.
5. Evaluate the methodological and statistical quality of nutrition-related research.

#### **APPROACHES:**

Lectures, discussions, experiential learning, self-directed learning, reading reflections, and qualitative and quantitative study proposals. Active participation in classroom discussion is required.

#### **COURSE/REFERENCE MATERIALS:**

Weekly reading assignments - students will be required to locate the posted assigned readings.

**ADDITIONAL REFERENCES (available at Brescia's Beryl Ivey library):**

Drummond KE, Murphy-Reyes A. 2017. Nutrition Research: Concepts & Applications. Jones & Bartlett Learning.

Simon SD. 2006. Statistical Evidence in Medical Trials: What do the Data Really Tell Us? Oxford University Press.

**EVALUATION:**

- **Participation: Contributions to class discussions (10%)**

Active engagement in class discussion. The students will be evaluated on the quality of their contribution to class discussion. The students will receive up to 1% per lecture for a maximum 10% of the overall course grade.

- **Assignment 1: Reading Reflections (30%)**

Each student will write a maximum 1.5-page, single-spaced, 1-inch margins, 12-point Times New Roman text reflection on the readings assigned for each lecture. The reflection should NOT be a summary of the readings. The reflection should answer the following questions:

1. What surprised you the most about the readings?
2. What did you learn from the readings?
3. What did you agree with and why? - This cannot be a direct conclusion from the readings.
4. What did you disagree with and why? - This cannot be a direct "limitation" from the readings.
5. Has your personal approach to your profession changed based on what you read and, if so, how has it changed?

For the reflection, make sure that you integrate ALL the readings assigned for the specific lecture. You do not need to answer every question for each article, but you do need to answer each question once and use different articles as the basis for your answers. Each reflection is worth 5%. **Please hand in your assignment via your OWL Drop Box.**

- **Assignment 2: Study proposal (25%)**

A 2-3 page write-up to propose a study protocol based on a given topic. The study must follow a qualitative study design. The write-up must include study objectives, study design, study population, sampling procedures, data collection methods, timelines, and data analytic techniques. Each student will have one week from the time the student receives their topic. You will be able to choose a topic from a list provided. Please **hand in** your write-up **via OWL Drop Box before the start of class on Oct 16**. The purpose of this assignment is to provide you the opportunity to utilize

qualitative study designs to create a research project. You will be evaluated on your ability to adequately design and justify your study in writing.

- **Assignment 3: Study proposal (35%)**

A 4-5 page write-up to propose a study protocol based on a given topic. The study must follow a quantitative study design. The write-up must include study objectives, hypothesis(es), study design, study population, sampling procedures, variables and their levels of measurement, data collection methods, timelines, data analytic techniques, results, and discussion. The student must **MAKE UP** the results. Please use tables and/or figures only (i.e., no text for results). Each student will have one week from the time the student receives their topic. You will be able to choose a topic from a list provided. Please **hand in** your write-up **via OWL Drop Box before the start of class on Dec 4**. The purpose of this assignment is to provide you the opportunity to put together a study (from start to finish) using the tools that you learned in this class. You will be evaluated on your ability to adequately design and communicate your study in writing.

**COURSE SCHEDULE – Fall 2023**

<b>Sept 11</b>	Course Overview Introduction to Epidemiology <ul style="list-style-type: none"> <li>• Study designs</li> <li>• Methodological and statistical considerations</li> </ul>
<b>Sept 18</b>	Qualitative Research Methods <b>DUE: Assignment #1 – Reading reflection</b>
<b>Sept 25</b>	Exclusions, Refusals, and Dropouts
<b>Oct 2</b>	Practical and Clinical Importance <b>DUE: Assignment #1 – Reading reflection</b> <b>Assignment #2 topics released at the end of class</b>
<b>Oct 9</b>	Brescia Statutory Holiday - Thanksgiving
<b>Oct 16</b>	Inferential statistics – estimation procedures, research questions about one group and two independent (separate) groups <b>DUE: Assignment #2</b>
<b>Oct 23</b>	Inferential statistics – research questions about three or more groups and about relationships among variables <b>DUE: Assignment #1 – Reading reflection</b>

<b>Oct 30</b>	Reading week
<b>Nov 6</b>	Introduction to multivariate statistics: multiple regression
<b>Nov 13</b>	Introduction to multivariate statistics: logistic regression <b>DUE: Assignment #1 – Reading reflection</b>
<b>Nov 20</b>	Research Articles as assigned – in class discussions Integration of Nutritional Epidemiology and Statistics <b>DUE: Assignment #1 – Reading reflection</b>
<b>Nov 27</b>	Research Articles as assigned – in class discussions Integration of Nutritional Epidemiology and Statistics <b>DUE: Assignment #1 – Reading reflection</b> <b>Assignment #3 topics released at the end of class</b>
<b>Dec 4</b>	<b>DUE: Assignment #3</b>

## Brescia Graduate Course Academic Policies and Regulations

### Enrolment Restrictions

Enrolment in this course is restricted to graduate students in the MScFN program with the possible exception to include a student that has obtained special permission to enroll in this course from the course instructor as well as the Graduate Chair (or equivalent) from the student's home program.

### 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, at the following website [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_grad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf)

Additionally;

A) When written work is assigned, 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>).

B) 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 Intellectual Property

PowerPoint lecture slides and notes, lists of readings, in-class activities, assignment guidelines, and other components of the course materials are typically the intellectual property of the instructor. Unauthorized reproduction through audio-recording, video-recording, photographing, sharing on social media, or posting on course-sharing websites is an infringement of copyright and is prohibited. Such action may be considered a Code of Conduct violation and lead to sanctions.

### Use of Generative AI

The use of generative Artificial Intelligence (AI) tools, including but not limited to writing assistants (e.g., ChatGPT, QuillBot) and translation services (e.g., Google translate), in university courses is subject to the Brescia Policy on the Use of Generative AI in Course Assessment. Use of generative AI tools when prohibited or in a way not specifically allowed is a scholastic offence and subject to the penalties for a scholastic offence outlined in the Academic Calendar.

For this course, students may not use AI tools.

### Policy for Accommodation for Illness or Other Exceptional, Extenuating Circumstances

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by physical or mental illness, or other exceptional, extenuating circumstances. The University recognizes and respects the need for privacy and confidentiality in these matters. However, to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's overall grade in the course shall be considered only in those cases where there is documentation indicating that the student was seriously affected by illness or other exceptional, extenuating circumstances and could not reasonably be expected to meet their academic responsibilities.

**When Seeking Accommodation for Work Representing 10% or More of the Overall Grade:** The course instructor should be notified in advance of deadlines and documentation shall be submitted as soon as possible in accordance with the below guidelines. Students should submit documentation to the Graduate Program Coordinator in the School of Food and Nutritional Sciences. For students enrolled in a graduate program outside of the School of Food and Nutritional Sciences, contact the Graduate Program Office in your program for accommodation and have them notify the School of Food and Nutritional Sciences instructor(s).

Once the supporting documents have been received and assessed, appropriate academic accommodation shall be determined by the student's home Graduate Program office in consultation with the course instructor(s). Academic accommodation may include an extension of deadlines, waiver of attendance

requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, reweighting course requirements, or granting late withdrawals without academic penalty. Academic accommodation shall be considered and granted only where the proper documentation is received, using the guidelines noted below, and the severity of the illness/condition is such that the student could not reasonably be expected to complete their academic responsibilities. The medical professional providing the documentation must be able to make a reasonable assessment of the student's physical or mental state during the period for which accommodation is sought. Minor ailments typically treated by over-the-counter medications will not normally be accommodated. Note that there is no expectation that a student must be in optimum condition to carry out their academic responsibilities.

**When Seeking Accommodation for Work Worth Less Than 10% of the Overall Grade in a Course:** the student must contact the instructor in advance of missing the deadline. In arranging accommodation, instructors will use good judgment and ensure fair treatment for all students. Instructors must indicate whether documentation will be required for absences, late assignments or essays, missed tests, laboratory experiments or tutorials, etc. Where medical or other documentation is required, the guidelines for accommodation for 10% or more should be followed. Students who have been denied accommodation by an instructor may appeal this decision to the Chair of the School of Food and Nutritional Sciences.

**Non-medical / Non-emergency Need to Miss a Class or Course Responsibility:** If a student will need to miss a class or a course requirement for non-medical or other non-emergency reasons, the Course Instructor must be notified a minimum of two weeks prior to missing the class and/or deadline. It is the student's responsibility to obtain and review material for any classes they have missed. For graded course requirements, it is the student's responsibility to ensure accommodation arrangements are approved by the course instructor well in advance of missed deadlines. Relevant documentation may be required.

**Medical (Or Other) Documentation Required for Accommodation:** must be sought immediately, indicate a timeline including when the student should be able to resume academic responsibilities and include the professional person's name, qualifications, the professional office name and contact details, the student name, and the date. Documentation will be retained in the student's file within their home Graduate Program Office and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy.

**Related Student Resources:**

**Academic Advising:** Please contact the Graduate Program Coordinator in your home Graduate Program Office for academic advising and support.

Students who are in emotional/mental distress or are worried about the emotional health of a peer should refer to Mental Wellbeing @Western <https://www.uwo.ca/health/> and <https://www.uwo.ca/health/psych/index.html> for a complete list of options about how to obtain appropriate help. Crisis contact details can be found at <https://uwo.ca/health/crisis.html>

**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 programs.

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.

**Sexual Violence:** All members of the Western University community have a right to work and study in an environment that is free from any form of sexual violence. Western University recognizes that the prevention of, and response to, Sexual Violence is of particular importance in the university environment. Sexual Violence will not be tolerated. The university is committed to preventing Sexual Violence and creating a safe space for anyone who has experienced Sexual Violence. If you or someone you know has experienced any form of Sexual Violence, you may access resources at [https://safecampus.uwo.ca/sexual\\_violence/](https://safecampus.uwo.ca/sexual_violence/)

**Health and Wellness Services:** As part of a successful graduate 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 graduate degree. Information regarding health- and wellness-related services available to students may be found at <http://www.health.uwo.ca>