



Course Outline – FN3390W: Research Methods and Statistics

School of Food and Nutritional Sciences

General Information

Course #: FN3390W
Section #: Section 530
Term: Fall
Year: 2021-22
Delivery: In-person/Online – As directed by the university
Course Day and Time: Monday and Wednesday, 10:30am–12:30pm
Course Location: UH250
Tutorials: Section 531, Monday, 12:30-1:30pm, UH27
Section 532, Wednesday, 12:30-1:30pm, UH27

Instructor Information

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Office hours for students: Virtually by appointment
Office location: UH 344

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Office hours for students: Virtually by appointment
Office location: UH 317

Special Circumstances

In the event of a COVID-19 resurgence during the course that necessitates the course moving away from in-person delivery, course content may be delivered 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). There may also be changes to any remaining assessments at the discretion of the course instructors. In the event of a COVID-19 resurgence, detailed information about the impact on this course will be communicated by the Office of the Dean and by the course instructors.

Course Description

This course will cover quantitative and qualitative research methods and statistics specific to food and nutrition.

Prerequisite: Registration restricted to students in the Honors Specialization in Nutrition and Dietetics.

Optional Course Materials

Drummond KE, Murphy-Reyes A. 2018. Nutrition Research: Concepts and Applications. Jones and Bartlett Learning, Burlington, MA.

Wilson, JH, Joye SW. 2016. Research Methods and Statistics: An Integrated Approach. SAGE.

Learning Outcomes

Upon successful completion of this course, students will be able to demonstrate the Brescia Competencies of Communication, Critical Thinking, Inquiry and Analysis, Problem Solving, Self-Awareness and Development, and Social Awareness and Engagement by:

1. describing and interpreting the results of hypothetical or published research data (Communication, Critical Thinking, Problem Solving);
2. identifying the appropriate statistical test for a variety of research designs (Communication, Critical Thinking, Inquiry and Analysis, Problem Solving);
3. formulating objectives, hypotheses, and independent and dependent variables (Communication, Critical Thinking, Inquiry and Analysis, Problem Solving);
4. demonstrating the ability to gather, review, interpret, evaluate, and utilize appropriate peer-reviewed journal articles and reference materials to support a research hypothesis (Communication, Critical Thinking, Inquiry and Analysis, Problem Solving, Self-Awareness and Development);
5. presenting a research project to the class utilizing a research communications approach (Communication, Critical Thinking, Inquiry and Analysis, Problem Solving, Self-Awareness and Development, and Social Awareness and Engagement).

Brescia Competencies

Communication

The ability to exchange information and meaning across cultures, space, and time appropriately and correctly. This competency includes oral, written, and interpersonal communication, and the ability to use current or innovative media.

Critical Thinking

The ability to engage in thinking characterized by the rational, informed, independent, and open-minded exploration of issues, ideas, and events before accepting or formulating a conclusion.

Inquiry and Analysis

The ability to ask questions, examine issues, and reach informed conclusions by breaking down complex issues, exploring evidence, and describing relationships among persons, things, or events.

Problem Solving

The ability to create and execute a strategy to answer a question or achieve a goal. Includes being able to anticipate the consequence of a potential solution, select a strategy among several alternatives, and decide when an acceptable outcome has been reached.

Self-Awareness and Development

The ability to draw meaning, knowledge and value from honest and fair reflection and self-evaluation. Students are able to recognize their emotions and patterns of thinking, their impact on others, and make a commitment to personal growth.

Social Awareness and Engagement

The ability to respect and be open to diversity (e.g. cultural, religious, political) and social justice. Students take personal responsibility to actively engage in and contribute to creating positive change in local, regional, national, or global communities and societies.

Valuing

The ability to make decisions or choose actions based on the consistent application of principles expressing fundamental values that are accepted on account of reason or spiritual insight.

ICDEP Competencies

The ICDEP were created by The Partnership for Dietetic Education and Practice (PDEP), a network of professionals from education, regulatory, and professional bodies/associations across Canada. There are 7 inter-related Domains (areas) of Practice Competencies: Food and Nutrition Expertise, Professionalism and Ethics, Communication and Collaboration, Management and Leadership, Nutrition Care, Population Health Promotion, and Food Provision.

For more information on ICDEP competencies please visit the [UWO OWL FN UNDERGRADUATE RESOURCES AND INFORMATION](#) site.

Teaching Methodology and Expectations of Students

1. In-person lectures, class discussions and activities on study design, research methods, and statistical analysis.

Specific Course Policies are as follows:

1. Assignments are due at time and date noted. The mark will be reduced by 20% for assignments submitted late. Assignments submitted more than seven days late will NOT be accepted for marking, except with documentation for a confirmed personal illness or a death in the student's immediate family.
2. Assignments assigned in groups must be completed as a group. Individual submissions will be automatically reduced by 20%.

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.

Evaluation

Evaluation Breakdown:

| Component | Weight | Date/ Deadline | Learning Outcome | Brescia Competencies |
|---|--------|--------------------------------------|---------------------|---|
| Research Topic/Objectives/Hypotheses | 10% | Feb 9 – before start of class | 3 | Communication, Critical Thinking, Inquiry and Analysis, |
| Assignment – SPSS | 15% | Mar 7 – before start of class | 1,2 | Communication, Critical Thinking, Inquiry and Analysis, Problem Solving |
| Assignment – Database and Analysis | 10% | Mar 21 – before start of class | 2 | Communication, Critical Thinking, Inquiry and Analysis, Problem Solving |
| Research Project | 25% | Apr 4 – before start of class | 1,2,3,4 | Inquiry and Analysis, Communication, Critical Thinking, Problem Solving |
| Project Presentation | 10% | Apr 4 – before start of class | 5 | Communication, Critical Thinking |
| Final Exam | 30% | TBD | 1,2,3 | Inquiry and Analysis, Communication, Critical Thinking, Problem Solving |

Academic Accommodation

For course components worth 10% or more of the total course grade, please see the Academic Policies and Regulations section at the end of this course outline or consult the Academic Calendar.

Course Content

Topics will be covered in the order listed and any dates listed are meant as a guideline.

Tentative weekly **LECTURE** Organizer:

| Class | Date | Description | Tutorial |
|-------|-----------|--|--|
| 1 | Jan 10 | Overview of course outline Introduction to Research | Meet Your Team Members and Discuss Topics for Mini-Manuscript Assignment |
| 2 | Jan 12 | Introduction to Research | |
| 3 | Jan 17 | Information Literacy | Information Literacy |
| 4 | Jan 19 | Ethics in Nutrition Research | |
| 5 | Jan 24 | Generation of objectives and hypotheses; Independent and dependent variables | Objectives and Hypotheses |
| 6 | Jan 26 | Qualitative Study Approaches and Data Analysis | |
| 7 | Jan 31 | Indigenous Research Methodologies | Qualitative Data Analysis |
| 8 | Feb 2 | Quantitative research – Study Design | |
| 9 | Feb 7 | Sampling and Sample Size Considerations | SPSS – obtaining Descriptive Stats |
| 10 | Feb 9 | Quantitative research - types of variables DUE: Research Topic/Objectives/Hypothesis at the beginning of lecture | |
| 11 | Feb 14 | Categorical data and sample size calculation | SPSS –Chi Square |
| 12 | Feb 16 | One-way and two-way chi square tests | |
| | Feb 21/23 | Reading Week | NO TUTORIALS |
| 13 | Feb 28 | Examining relationships between continuous variables | SPSS – Pearson Correlation coefficient |

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|----|--------|--|---|
| 14 | Mar 2 | Scale Development | |
| 15 | Mar 7 | Grouped design with independent groups DUE: Assignment – SPSS at the beginning of lecture | SPSS – Independent Samples T-test and one way ANOVA |
| 16 | Mar 9 | Sample size calculations | |
| 17 | Mar 14 | Prediction and correlation | SPSS – Linear Regression and Multiple Linear Regression |
| 18 | Mar 16 | Multiple linear regression | |
| 19 | Mar 21 | Grouped designs with related samples Due: Assignment – Database and Analysis at the beginning of lecture | Communication |
| 20 | Mar 23 | One variable with repeated measures | |
| 21 | Mar 28 | Research communication and professional writing | Group Work |
| 22 | Mar 30 | Putting it All Together | |
| 23 | Apr 4 | Presentations DUE: Research Project and Presentation at the beginning of lecture | Review Period |
| 24 | Apr 6 | Presentations | |

2021-22 BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING ACADEMIC ACCOMMODATION

The complete policy regarding [Accommodation for Illness - Undergraduate Students](https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12) can be found at https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12 .

Students who have long-term or chronic medical conditions which may impede their ability to complete academic responsibilities should seek Academic Accommodation through Student Accessibility Services (https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_10).

Personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are **not** grounds for academic accommodation.

Students who experience an illness or extenuating circumstance sufficiently severe to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

1. Submitting a **Self-Reported Absence** form provided that the conditions for submission are met;
2. For medical absences, submitting a **Student Medical Certificate (SMC)** signed by a licensed medical or mental health practitioner;
3. For non-medical absences, submitting **appropriate documentation** (e.g., obituary, police report, accident report, court order, etc.) to their Academic Advisor. Students are encouraged to contact their Academic Advisor to clarify what documentation is acceptable.

Requests for Academic Consideration Using the Self-Reported Absence Portal

Students who experience an unexpected illness or injury or an extenuating circumstance of 48 hours or less that is sufficiently severe to render them unable to meet academic requirements should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours. Note that the excused absence includes all courses and academic requirements within the up to 48 hours, it is not intended to provide an excused absence from a single course while students fulfill their academic responsibilities in other courses during that time.

The following conditions are in place for self-reporting of medical or extenuating circumstances:

1. Students will be allowed **a maximum of two self-reported absences** between September and April and one self-reported absence between May and August;
2. The duration of the absence will be for a maximum of 48 hours from the time the Self-Reported Absence form is completed through the online portal, or from 8:30 am the following morning if the form is submitted after 4:30 pm;
3. The excused absence will terminate prior to the end of the 48 hour period if the student undertakes significant academic responsibilities (writes a test, submits a paper) during that time;
4. Self-reported absences will **not** be allowed for scheduled final examinations; midterm examinations scheduled during the December examination period; or for final lab examinations scheduled during the final week of term;
5. Self-report absences may **not** be used for assessments worth more than 30% of any course;
6. Any absences in excess of 48 hours will require students to present a Student Medical Certificate (SMC), or appropriate documentation;
7. Students **must** communicate with their instructors **no later than 24 hours after the end of the period covered by the Self-Reported Absence form** to clarify how they will fulfil the academic expectations they may have missed during the absence.

Request for Academic Consideration for a Medical Absence

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide

acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation.

Academic accommodation for illness will be granted only if 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. Minor ailments typically treated by over-the-counter medications will not normally be accommodated.

The following conditions apply for students seeking academic accommodation on medical grounds:

1. Students must submit their Student Medical Certificate (SMC) along with a request for relief specifying the nature of the accommodation being requested no later than two business days after the date specified for resuming responsibilities. An SMC can be downloaded from http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf ;
2. In cases where there might be an extended absence or serious issue, students should submit their documentation promptly and consult their Academic Advisor for advice during their recovery period;
3. Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, scheduled tests or examinations, and other academic requirements;
4. Students **must** communicate with their instructors **no later than 24 hours** after the end of the period covered by the SMC to clarify how they will fulfil the academic expectations they may have missed during the absence;
5. Appropriate academic accommodation will be determined by the Dean's Office/Academic Advisor in consultation with the course instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements, arranging Special Exams (make-ups), re-weighting course requirements, or granting late withdrawal without academic penalty.

The [full policy on requesting accommodation due to illness](http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12) can be viewed at:

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal challenge that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds are not normally considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult your Academic Advisor (https://www.brescia.uwo.ca/enrolment_services/academic_advising/index.php). If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines; please refer to <http://brescia.uwo.ca/academics/registrar-services/> or the list of official sessional dates in the Academic Calendar (<http://www.westerncalendar.uwo.ca/SessionalDates.cfm?SelectedCalendar=Live&ArchiveID=>).

You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. *Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.*

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Please note that for asynchronous online courses, attendance or participation requirements may be different than for synchronous or in-person courses.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work, and arrange academic accommodations if appropriate and warranted.

It is important to note that the Academic Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory (http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#SubHeading_68).

4. SCHOLASTIC 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:

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20.

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Scholastic Discipline for Undergraduate Students in the Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Academic Dean's Office, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence.

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 Tests/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. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal is to be sent to the School Chair. If the response of the Chair is considered unsatisfactory to the student, they may then submit a written appeal to the Office of the Dean. If the student is not satisfied with the decision of the Dean, they may appeal to the Senate Review Board Academic (SRBA), if there are sufficient grounds for the appeal and if the matter falls within the jurisdiction of the SRBA. For information on academic appeals consult your Academic Advisor or see the Student Academic Appeals – Undergraduate in the Academic Calendar

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_14.

Note that final course marks are not official until the Academic Dean has reviewed and signed the final grade report for the course. If course marks deviate from acceptable and appropriate standards, the Academic Dean may require grades to be adjusted to align them with accepted grading practices.

6. PREREQUISITES

Unless you have either the prerequisites for a course or written Special Permission from the Dean to enroll in it, you will be removed from the 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 prerequisite(s).

7. SUPPORT

Support Services

The Brescia University College Registrar's website, with a link to Academic Advisors, is at <http://brescia.uwo.ca/academics/registrar-services/> . Students can access supports through Brescia's Student Life Centre (<http://brescia.uwo.ca/life/student-life/>) and Learning Skills Services at Western (<https://www.uwo.ca/sdc/learning/>)

Mental Health and Wellness

Students may experience a range of issues that can cause barriers to your learning, such as increased anxiety, feeling overwhelmed, feeling down or lost, difficulty concentrating and/or lack of motivation. Services are available to assist you with addressing these and other concerns you may be experiencing. You can obtain information about how to obtain help for yourself or others through **Health & Wellness at Brescia** (https://brescia.uwo.ca/student_life/health_and_wellness/index.php) and **Health and Wellness at Western**, http://uwo.ca/health/mental_wellbeing/index.html.

Sexual Violence

All members of the Brescia University College community have a right to work and study in an environment that is free from any form of sexual violence. Brescia University College recognizes that the prevention of, and response to, Sexual Violence is of particular importance in the university environment. Sexual Violence is strictly prohibited and unacceptable and will not be tolerated. Brescia is committed to preventing Sexual Violence and creating a safe space for anyone in the Brescia community who has experienced Sexual Violence.

If you or someone you know has experienced any form of Sexual Violence, you may access resources at https://brescia.uwo.ca/safe_campus/sexual_violence/index.php .

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy, and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.
