

University of Guelph
College of Social and Applied Human Sciences
Department of Family Relations and Applied Nutrition
COURSE OUTLINE
Quantitative Research Methods
FRAN*6000

Course description:

This course includes critical appraisal of the research literature. Research ethics, subject selection, measurement issues, survey design, experimental and quasi-experimental designs, cross-sectional and longitudinal designs, scale development, questionnaire development and sampling strategies are discussed.

Instructor:

Robin Milhausen, PhD

Room 227C MINS Building

Please email rather than call rmilhaus@uoguelph.ca

Office Hours: Wednesday 1pm or by appointment

Course schedule:

Wednesday 8:30am to 11:30am MACS 331

Course Objectives:

My aims, as the instructor of this course are to:

- To equip students with a basic understanding of the underlying principles of quantitative research
- To equip students with a basic understanding of the ethical principles underlying quantitative research
- To introduce students to the key data generation methods of current use in the fields of applied human nutrition, family relations, and human development
- To enable students to choose the most appropriate research method to address a particular research question
- To provide students with the knowledge and skills to be critical consumers of academic research
- To enable students to develop the skills required to conduct their own research and to participate in the community of scholarship

Learning Outcomes:

At the end of this course, a student should be able to:

1. develop conceptual and operational definitions of constructs commonly used in research
2. describe a range of quantitative research designs used in their field of research and identify the advantages and disadvantages associated with these designs.
3. conduct a literature search to determine relevant research in a given field of study, in support of developing a research project.
4. identify the role of theory in research design and seek out appropriate theories to guide their research activities, through.
5. identify and assess ethical issues in empirical research, including principles of inclusivity, through
6. develop sound and feasible research objectives or hypotheses to guide research, through
7. critique and develop survey questions based on principles of survey design, validity, and reliability, through
8. develop specific research designs appropriate for examining various research objectives or hypotheses, through
9. develop a well-conceptualized ethics proposal for a quantitative study suitable for submission for consideration to a Research Ethics Board
10. critically appraise research described in peer-reviewed journal articles based on knowledge of research methodologies and principals of reliability and validity, through
11. understand the dynamic relationships between their chosen research questions and their research methodology.
12. make connections between research designs learned in this course and analytic approaches covered in Introductory Applied Statistics (FRAN*XXXX)
13. identify strategies for successfully navigating aspects of academia and professional life (publishing, grant-writing, successful applications for jobs and scholarships)

Course Resources

Required:

Gliner, G. A., Morgan, George, A., & Leech, N. L. (2016). *Research Methods in Applied Settings*. New York, NY: Routledge Taylor & Francis Group.

https://www.amazon.ca/Research-Methods-Applied-Settings-Integrated/dp/113885297X/ref=sr_1_2?ie=UTF8&qid=1471004097&sr=8-2&keywords=research+methods+in+applied+settings

Additional readings uploaded to Courselink or available from the University of Guelph Library.

Useful Resources

Creswell, John W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th Ed). Thousand Oaks, CA: Sage Publications.

Palys, T. & Atchison C. (2014). *Research Decisions: Quantitative, Qualitative, and Mixed Methods Designs* (5th Ed). Toronto, ON: Nelson Education.

Course Content

This course is designed to provide tools for students to develop as independent researchers, and incorporates resources at Guelph students can readily access to support them in their thesis or dissertation research. Class time will be divided between instructor lecture, guest speaker, and student-facilitated presentation/discussion.

Methods of Assessment

Form of Assessment	Weight of Assessment	Due Date Wednesday 8:30am	Course Content /Activity
TCPS 2 Course on Research Ethics Module	3%	September 27	Online activity
Reflections	2 x 4% = 8%	September 20 November 30	Individual Written
Quizzes	8 x 3% = 24%		
Group Research Project			
Preliminary Research Ideas Presentation (Group)	10%	October 4	Group Presentation
Ethics Application (Group)	20%	November 15	Group Written
Final Article Evaluation (Individual)	35%	December 4 In-class exam	Individual Written

Grading

Late assignments: Late assignments will be accepted up to 5 days following the due date and will receive a penalty of 10% per day EXCEPT under documented grounds for compassionate consideration. Assignments submitted more than one week late without documented grounds will receive a grade of zero.

Submission of assignments: Assignments are all due Wednesdays at 8:30am on the dates indicated in the Assessment Table and the Course Schedule. Assignments are to be submitted on Dropbox.

Course Website

There is a course website at <http://courselink.uoguelph.ca>. All components of this course will be housed on the CourseLink site including this course outline, links to further resources, and discussion forums. Your assignments will be submitted through the dropbox function. Marks and feedback will also be released on the site. Please familiarize yourself with this website as soon as possible and visit it regularly throughout the semester.

Course and University Policies

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the graduate calendar for information on regulations and procedures for [Academic Consideration](#).

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services (formerly the Centre for Students with Disabilities) as soon as possible. For more information, contact [Student Accessibility Services](#) at 519-824-4120 ext. 56208 or email csd@uoguelph.ca.

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The [Academic Misconduct Policy](#) is detailed in the Undergraduate Calendar.

E-mail Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

Drop Date

The last date to drop one-semester courses, without academic penalty, is the 40th class day (Nov. 4th).

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Campus Resources

If you are concerned about any aspect of your academic program:

Make an appointment with a your advisor or the Graduate Coordinator for our department (Scott Maitland; smaitlan@uoguelph.ca).

If you are struggling to succeed academically:

There are numerous academic resources offered by the [Learning Commons](#) including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist.

If you are struggling with personal or health issues:

[Counselling services](#) offers individualized appointments to help students work through personal struggles that may be impacting their academic performance.

[Student Health Services](#) is located on campus and is available to provide medical attention.

For support related to stress and anxiety, besides Health Services and Counselling Services, [Kathy Somers](#) runs training workshops and one-on-one sessions related to stress management and high performance situations.

If you have a documented disability or think you may have a disability:

[Student Accessibility Services](#) (SAS) formerly Centre for Students with Disabilities can provide services and support for students with a documented learning or physical disability. They can also provide information about how to be tested for a learning disability.

Assignments:

Reflections (4% x 2 = 8%)

You will write two short reflective papers (2 pages each, double spaced), throughout the course of the semester. Each of these papers will be worth 4% and will be marked out of 10.

Reflection 1: Your values and research (4%, Due Sept 20, Dropbox on Courselink)

The first paper is a critical self-reflective analysis of what you bring to the study of research methods in FRAN. Some questions to think about while you write: What are your values/beliefs/expectations/assumptions about research in your content area? What past experiences have you had that might influence the way you perceive research? What fears do you have going into this class? What expectations do you have?

Reflection 3: Course Experience & Personal Journey (4%, Due November 30, Dropbox on Courselink)

The final reflection will focus on your experience and personal journey throughout the semester, relative to the issues you highlighted on your first reflection. How has your learning changed/evolved over the term? What hopes/aims do you have for the future of your research in FRAN?

Tri-Council Policy Statement Tutorial (3%)

The TCPS-2 Tutorial Course on Research Ethics (CORE) is a great overview of the TCPS-2. The TCPS-2 applies to all researchers who receive funding from tri-council agencies (SSHRC, CIHR, NSERC) and many Research Ethics Boards (REBs) require researchers to complete the tutorial prior to conducting research with human participants, as part of their ethical approval process. You will complete the online tutorial prior to class on Sept 27. The time it takes to complete the tutorial varies, approximately 2-3 hours. The website will take you through the tutorial and tell you how to complete it. When you have finished, please save your certificate and bring it to class as proof of completion. If you bring your certificate in on the day it is due (Sept 27), you will receive 10/10 for this assignment. If you hand it in late, 10% will be deducted each day (including weekends-see policy on late assignments). If you have completed this already, please do so again (my apologies! But it's possible the first time through you moved quickly with the aim of completion – at this time we hope that students will invest time in considering the material more deeply).

This tutorial can be found at the following website: <http://tcps2core.ca/welcome>

Online Quizzes (24%)

We will have 9 weekly quizzes with questions about content from the textbook. These quizzes will be conducted online, on Courselink. These quizzes are to help keep you current on your readings and to provide you, and me, a general idea of the degree to which you are learning key terms and ideas related to research methods. These are not designed to be onerous – chapters are short and material is presented concisely. Each quiz is worth 3% and you may drop your lowest quiz score (or skip completing one).

Group Research Proposal Project (30%)

Consistent with the course goal of developing critical thinking and applying course learning to the construction of your own research project, you will work in groups of three to create/design a research project. This process will include a brief literature review that provides the background/rationale for a specific research question, followed by a discussion of the research design and methodology (all of this will be presented in the Ethics Application). The project will include a discussion of ethical considerations related to the proposed study. To allow for feedback and processing opportunities, an outline of the proposed study will be presented in class for feedback from the group:

1. Groups will present a general outline of their proposed study early in the term (oral presentation in class October 4th with written outline submitted for feedback).
2. Groups will then complete an Ethics Application later in the term (November 15th). This assignment requires further elaboration on the initial proposal outline (because the Ethics Application requires more specific detail).

Research Project Outline Presentation (10%) GROUP: You will present an overview/outline of your proposed research study orally to your instructor and class peers. You will have 15 minutes for the presentation on October 4. Take the first 10 minutes to address the following: a general overview of the theoretical and empirical literature that supports your rationale for the study (3-4 mins), a statement of your research question (1 min), and a general overview of your proposed design and methodology (5-6 mins). The next 5 minutes will be devoted to questions, comments, feedback. Please come prepared with specific questions you might like the audience to address. Please submit a hard-copy of your slides (containing research question and proposed design & methodology) - I will provide written feedback for you on your proposal outline.

Class Members: You should be prepared to ask critical questions and provide constructive feedback to the presenters. A feedback sheet will also be provided.

Ethics Application Form (20%) GROUP: Each group will complete an Application for Ethics Review (based on the University of Guelph's Research Ethics Board, REB, ethics review process, I will make this available to you).

Final Article Evaluation (35%) – In Class December 4

Students will be provided with an article and apply the principles in the course, and specifically those reviewed in Chapters 23 and 24, to evaluate the quality of the research. Key dimensions of research validity assessed are: 1) measurement reliability and statistics; 2) internal validity; 3) measurement quality of the constructs; and 4) external validity. Also assessed will be: 5) adequacy of peer review; 6) link between literature and/or theory and research questions; 7) clarity and accuracy of interpretation of findings. Students will be provided with the questions in advance, and will be able to use their textbooks and notes in the completion of this "exam."