

SUSM 702 – Research Methods – Fall 2018

Course Instructor: Juan Moreno-Cruz
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Office Hours: After class and by appointment

Class Meetings: F 11:30 - 2:20 EV1 132

Course Description: This course lays the foundations of relevant empirical research in the social and environmental sciences. It deals with the assumptions and the logic underlying social research. It also covers some of the tools available for doing research, but not in detail. Students develop their own research projects and learn to evaluate empirical research.

Course Main Goal: When students are done with this course, they should be able to plan and execute their own research projects. To achieve this, students will be able to:

- Describe the conceptual aspects of research methods
- Describe the process of conducting a literature review
- Compare and contrast the use of theory in qualitative, quantitative, and mixed methods research
- Recognize the elements of an introduction to a research study
- Draft a purpose statement
- Draft research questions and hypotheses
- Apply critical thinking skills to write the key elements of a quantitative research proposal
- Apply critical thinking skills to write the key elements of a qualitative research proposal
- Identify ethical concerns to anticipate in research
- Integrate knowledge of qualitative, quantitative, and mixed methods approaches into developing a research design

Expectations: In order to gain maximum benefits from this course, you should

1. Participate fully in class by
 - reading assigned material prior to class sessions
 - always attending class
 - contributing meaningfully to class discussions
2. Take responsibility for your own learning by
 - relating course content and projects to your own professional interests
 - monitoring your own understanding
 - seeking clarification and assistance when necessary
3. Demonstrate respect and consideration for others by
 - listening when others are speaking
 - being present for the entire class period

Required Textbooks:

- J.W. Creswell and J. D. Creswell, *Research Design: Qualitative, Quantitative and Mixed Methods*, 5th Edition, Sage Publishing, 2018 **(C&C)**

Other books:

- J. Angrist and J.S. Pischke, *Mastering 'Metrics: The Path from Cause to Effect*, Princeton University Press, 2014 **(A&P)**.
- M. Alvesson and J. Sandberg, *Constructing Research Questions: Doing Interesting Research*, 5th Edition, Sage Publishing, 2013 **(A&S)**
- S.L. Morgan and C. Winship, *Counterfactuals and Causal Inference*, Cambridge University Press, 2010 **(M&W)**

Course Requirements and Grading:

Students will work in groups to design and carry out a small research project. Group results will be presented orally to the class at various points during the semester, with a final presentation that will be open to the SEED community. A group written report is due at the end of the semester.

The final project will be presented during class on November 30, 2018

Grade determination:

Deliverables are each worth 10% (total 80%). Class participation is worth 20%.

Grade scale:

A's	Above 90%
B's	Between 80%-90%
C's	Between 60%-80%
D's	Between 50%-60%
F's	Below 50%

University Requirements

Academic Integrity: To create and promote a culture of academic integrity, the behaviour of all members of the University of Waterloo is based on honesty, trust, fairness, respect and responsibility Check www.uwaterloo.ca/academicintegrity/ for more information. Students who are unsure what constitutes an academic offence are requested to visit the on-line tutorial at: <http://www.lib.uwaterloo.ca/ait/>

Consequences of Academic Offences: Within ENV, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties which may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion.

ENV students are strongly encouraged to review the material provided by the university's Academic Integrity office (see: <http://uwaterloo.ca/academicintegrity/Students/index.html>).

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Graduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties, check Guidelines for Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.html>

Research Ethics: Please note that the University of Waterloo requires all research conducted by its students, staff, and faculty which involves humans as participants to undergo prior ethics review and clearance through the Director, Office of Human Research and Animal Care (Office). The ethics review and clearance processes are intended to ensure that projects comply with the Office’s Guidelines for Research with Human Participants (Guidelines) as well as those of provincial and federal agencies, and that the safety, rights and welfare of participants are adequately protected. The Guidelines inform researchers about ethical issues and procedures which are of concern when conducting research with humans (e.g. confidentiality, risks and benefits, informed consent process, etc.). If the development of your research proposal consists of research that involves humans as participants, the please contact the course instructor for guidance and see: www.research.uwaterloo.ca/ethics/human/

Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term. Once registered with OPD, please meet with the course instructor, in confidence, to discuss your needs.

Religious Observances: Please inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Tentative Course Schedule

Date	Topics we learn	Readings and Organization	Deliverables
Sep 7	Introduction to the course	Part 1: Introductions Welcome Discuss syllabus Ground rules and expectations	
Sep 14	Research approach	Readings: C&C Chapter 1 Part 1: Research Approach Part 2: Class discussion Part 3: Group writing exercise: Research Approach	
Sep 21	Research questions	Readings: C&C Chapters 6 and 7 and A&S Chapters 1 and 2 Part 1: Choosing a research question Part 2: Class discussion Part 3: Group writing exercise: Write a research question	Deliverable 1: Research Approach
Sep 28	The use of theory	Readings: C&C Chapter 3 Part 1: Quantitative Theory Use Part 2: Qualitative and Mixed Methods Theory use Part 3: Group writing exercise: Theoretical perspective	Deliverable 2: Purpose of the Study and Research question
Oct 5	Causal Inference	Readings: M&W Chapters 1, 2 and 3 Part 1: Causality and observational research Part 2: Counterfactual Model Part 3: Causal Graphs and Conditioning	Deliverable 3: Theoretical Perspective
Oct 12	No class		Thanksgiving/ Reading week
Oct 19	Quantitative Methods	Readings: C&C Chapters 8 Part 1: Surveys and Experiments Part 2: Observational data Part 3: Group writing exercise: Research method	
Oct 26	Qualitative Methods	Readings: C&C Chapter 9 Part 1: Qualitative designs Part 2: Data collection, recording, and analysis Part 3: Writing exercise: Research method	Deliverable 4: Literature Review
Nov 2	Mixed Methods	Readings: C&C Chapter 10 Part 1: Components and Types of Mixed Methods Part 2: Examples Part 3: Writing exercise: Research Method	

Nov 9	Randomized trials	Readings: A&P Introduction and Chapter 1 Part 1: Randomized trials Part 2: Randomized trials example Part 3: Numerical exercise	
Nov 16	Regression Matching	Readings: A&P Chapter 2 Part 1: Regression Part 2: Regression example Part 3: Regression exercise	Deliverable 5: Research Method
Nov 23	Panel Data and Difference-in-Differences	Readings: A&P Chapter 5 Part 1: Panel data theory Part 2: Difference-in-differences theory Part 3: Diff-in-Diff example	Deliverable 6: Introduction
Nov 30	Presentations	Part 1: Groups 1, 2, 3 Part 2: Groups 4, 5, 6 Part 3: Groups 7, 8	Deliverable 7: Research Proposal and Preliminary Results. Deliverable 8: Presentation.

Note: I will generally follow the above sequence. I may add or subtract topics.