

**Faculty of Environmental and Urban Change
York University**

COURSE SYLLABUS

EU/ENVS 5122: Skills for Planning Research and Practice (To be titled Quantitative Research for Planners)

Term: Winter 2025

Time and Location: Tuesdays 10:00am

Course Director

Dr. Mahtot Gebresselassie, mahtote@yorku.ca

Office Hours: Fridays 11:00am, Zoom link in eClass

Calendar Description

This course introduces students to quantitative research, data gathering using survey techniques, basic concepts in statistics, and elementary GIS for visualizations for inquiries relevant to planning.

Prerequisite

ENVS5121

Detailed Course Description

Quantitative research is used to answer questions important to planning and planning-adjacent fields in academic research and professional practice. This course is developed to equip you with relevant knowledge and skills. You will learn philosophical assumptions associated with research approaches, research ethics, data collection, and analysis. You will also learn basic statistical skills and introductory Excel to conduct quantitative analysis and introductory GIS for visualization. If you are interested in a quantitative approach for the major research paper, you are encouraged to use the course assignments to develop your research.

The course has two modules.

Module - 1: This module will introduce you to the philosophical viewpoints that differentiate quantitative methodologies from other approaches. It will then teach you how to define research questions that can be answered using quantitative investigation. You will learn how to design and develop a survey instrument for quantitative research. The course is structured to help you produce research questions, develop survey questionnaire, and collect data. This will form the primary assessment for module 1.

Module – 2: The second module focuses on skills building. You will be introduced to basic statistical concepts and descriptive statistical approaches as well as introductory Excel for statistical computation. The second module has an introductory GIS

component for spatial visualization. You will use secondary data from publicly available sources (e.g., the City of Toronto's data portal) or primary data you will have collected during the first half of the course to learn these skills. This exercise will constitute one of course assessment for the second module.

Objectives of the Course

- Identify appropriate methods of investigation for research questions
- Describe philosophical assumptions appropriate to different research methods
- Develop a survey instrument to collect data
- Understand research ethics, including work that involves human subjects
- Apply basic statistics concepts to summarize data
- Conduct spatial visualization using GIS

Organization of the Course

This course follows a mix of seminar and lab formats.

The course evaluation is based on the following items weighted as indicated:

Purpose statement	5%
GIS exercise	5%
Survey instrument	10%
Research Presentation	10%
Report of findings	10%
Problem set - 1	10%
Problem set - 2	10%
Problem set - 3	10%
Visualization in ArcGIS Pro	15%
Class Participation	15%

Assignments Submission

Due dates will be posted in eClass. You will submit all assignments via e-class unless specified otherwise, and graded papers will be returned to you via e-class. Proper academic performance depends on you doing your work not only well, but on time. My expectation for you is that you submit your work on the due date specified for the assignment. If you need extension, let me know ahead of time. I will not consider any request for extension on the due date or past it as it will not be fair to your classmates who work hard to submit on time.

ADDITIONAL INFORMATION

Religious Observance Days

York University is committed to respecting the religious beliefs and practices of all members of the community and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for in-class test or examination pose such a conflict for you, contact me within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact me immediately.

Academic Honesty

The use of generative AI such as ChatGPT for writing purposes is **strictly prohibited** in this course. Any use of AI technology would be considered a **breach of academic honesty** and will be handled accordingly.

As a student at York University, you have a responsibility to not only understand, but also play an important part in upholding the integrity of the academic experience. The Faculty of Environmental and Urban Change supports the International Center for Academic Integrity's **definition of academic integrity**. That is, you will be committed to acting in all academic matters, even in the face of adversity, with honesty, trust, fairness, courage, respect and responsibility.

How can you demonstrate academic integrity in the completion of your course?

- Respect the ideas of others: Your course work should represent your own knowledge and ideas. You should not falsely claim credit for ideas that are not your own, by presenting another's work as yours. If you are quoting, paraphrasing, or summarizing another person's work in order to support your own ideas, identify the work and the author through proper citation practices. For more information about how to cite properly, use the **Student Papers and Academic Research Kit** (SPARK). You can improve your writing, research, and personal learning abilities through the **Learning Commons**.
- Respect your peers: Know when you are allowed to collaborate. Ask your instructor about what group work entails when it comes to the sharing of work. In test situations and assignments, do not steal or give answers to your peers. Cheating and aiding are a breach of academic honesty and are both against York University's academic honesty policy.
- Respect your course instructor: Understand what the instructors are asking of you in class, in assignments, and in exams. If you are unsure, ask your professor. We are committed to making you feel supported and want to assess you fairly and with integrity. Please do not submit the same piece of work for more than one course without your instructor's permission.
- Respect yourself: When you act with integrity, you know that your work is yours and yours alone. You do not allow others to impersonate you, or you do not yourself impersonate another person during a test or exam. You do not buy or otherwise obtain term papers or assignments. You do the work. As a result, you know that you *earned* the grades that you receive, so you can be proud of your York degree. By acting with integrity in your course work, you are also practising a valuable professional skill that is important in all workplaces.

- Take responsibility: If you have acted in an academically dishonest way, you can demonstrate courage and take responsibility for your mistake. You can admit your mistake to your course instructor as soon as possible.

Students who engage in academic dishonesty can be subject to disciplinary action under the **Senate Policy on Academic Honesty**. Your lack of familiarity with the Senate Policy and Guidelines on Academic Honesty does not constitute a defense against their application. Some academic offences can also constitute offences under the Criminal Code of Canada, which means that you may also be subject to criminal charges.

Intellectual property notice

All materials prepared for this course are the intellectual property of the Course Director or otherwise stated. Course materials should only be used by students enrolled in this course. This can include but is not limited to the following material: lecture notes, handouts, and recordings; assignment handouts and instructions; spoken and written presentations; audio and video recordings; PowerPoint slides; and questions and/or solution sets for assignments, quizzes, tests, and final exams. You are also not allowed to record (audio and video) presentations, lectures, in-class discussion, and any and all activities that take place in the classroom without the instructor's permission.

As a student in this course, you may not publish, post on an Internet site, sell, or otherwise distribute any of this work without the instructor's express permission. Unauthorized or commercial use of these materials is strictly prohibited. Third party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian copyright law. Copying this material for distribution (e.g. uploading material to a commercial third-party website, or online sharing of course material with people outside of the course) may lead to a charge of misconduct under York's **Code of Student Rights and Responsibilities** and the **Senate Policy on Academic Honesty**. In addition, you may face legal consequences for any violation of copyright law.

Ethical Review of Research Involving Human Participants in Undergraduate Courses

York students are subject to the York University Policy for the **ethics review process** for research involving Human Participants. All research activity with human participants must undergo ethical review.

Student Conduct

Students, course instructors and staff have a joint responsibility to create and maintain a welcoming and inclusive learning environment. All students are expected to conduct themselves in accordance with the **Code of Student Rights and Responsibilities**.

Whether online or in-person, students and course instructors are expected to cultivate and sustain a professional relationship characterized by mutual respect and courtesy. In all classrooms, any **disruptive and/or harassing behavior** will not be tolerated. To ensure that you adhere to the rules of the virtual classroom, please review what counts as proper 'netiquette' (the basic rules for communicating with others in online spaces) by consulting the **student guide to e-learning**.

Please respect the privacy of your peers and instructors. Never share private information about your peers and instructors without their permission. Remember, no aspect of your courses should be recorded or distributed without everyone's consent.

Accessibility

While all students are expected to satisfy the requirements of their program of study and to aspire to achieve excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to perform at their best. For more information about this policy, please refer **Academic Accommodation for Students with Disabilities** guidelines and procedures.

The university encourages students with disabilities to register with **Student Accessibility Services (SAS)** to discuss their accommodation needs as early as possible in the term. An Accessibility Counsellor will help you establish recommended academic accommodations, which will then need to be communicated to your course instructor(s) as necessary. **Please let me know as early as possible in the term if you anticipate requiring academic accommodation, so that your accommodation needs can be discussed and considered within the context of this course.**

Support

Student Counselling & Development (SCD) aims to help York students realize, develop and fulfill their personal potential in order to maximally benefit from their university experience and manage the challenges of university life. You can get support for a wide range of concerns including, but not limited to depression, anxiety, abuse, stress, self-esteem, relationship issues, eating and body image as well as issues related to sexuality.

Schedule of Topics and Readings

Required readings are available in York University Libraries, and you will be provided with Permalink in appropriate section. Scanned copies of non-electronic book chapters will be provided as an attachment with the university's Fair Dealing Guidelines. Please note that I may change the readings if I come across materials or add to the weekly readings. I will notify you of these changes through eClass announcements. I may decide to change due dates of assignments to give you more flexibility in the course work.

Week & Date	Topic	Required Reading/Learning Resources
Class begins on Jan. 14, a week later than schedule.		
1. Jan. 14	Introduction, syllabus review, co-creation of community guidelines, discussion about plagiarism	Course syllabus
Module 1 – Research Design		
2. Jan 21	Methodologies, philosophical assumptions, and key concepts, seminar	<p><i>The Selection of a Research Approach</i> – Chapter 1 Creswell, J. W., & Creswell, J. D. (2023). <i>Research design: qualitative, quantitative, and mixed methods approach</i> (Sixth edition.). SAGE Publications, Inc.</p> <p><i>What are Methods? What is Methodology?</i> – Chapter 2 MacCallum, D., Babb, C., & Curtis, C. (2019). <i>Doing Research in Urban and Regional Planning: Lessons in Practical Methodology</i> (Sixth edition.). Routledge. https://doi.org/10.4324/9781315818894</p> <p>Additional/optional reading: <i>The Big Divide? Quantitative vs Qualitative Approaches</i> - Chapter 1 MacCallum, D., Babb, C., & Curtis, C. (2019). <i>Doing Research in Urban and Regional Planning: Lessons in Practical Methodology</i> (Sixth edition.). Routledge. https://doi.org/10.4324/9781315818894</p>

3. Jan 28	Designing quantitative research, seminar	<p><i>Designing Research</i> - Chapter 5, 6, 7 Creswell, J. W., & Creswell, J. D. (2023). <i>Research design: qualitative, quantitative, and mixed methods approaches</i> (Sixth edition.). Sage Publications, Inc.</p> <p>Additional/optional reading: <i>Designing Research</i> – Chapter 1, <i>Research Questions</i> – Chapter 1 Huntington-Klein, N., ProQuest - York University, & ProQuest University. (2022). <i>The effect: an introduction to research design and causality</i>. Chapman and Hall/CRC Press.</p> <p><i>Research Design</i> - Page 61 - 71 Silva, E. A., Healey, P., Harris, N., Van den Broeck, P., Van den Broeck, P., Healey, P., Harris, N., & Silva, E. A. (2015). <i>The Routledge Handbook of Planning Research Methods</i> (1st ed.). Routledge. https://doi.org/10.4324/9781315851884</p>
4. Feb. 4	Survey techniques, seminar	<p><i>Components of a Survey Study Method Plan – Page 159 – 166</i> Creswell, J. W., & Creswell, J. D. (2023). <i>Research design: qualitative, quantitative, and mixed methods approach</i> (Sixth edition.). Sage Publications, Inc.</p> <p><i>The Social Context of Question Asking – Chapter 1</i> Bradburn, N. M., Sudman, S., & Wansink, B. (2004). <i>Asking Questions: The Definitive Guide to Questionnaire Design -- For Market Research, Political Polls, and Social and Health Questionnaires</i> (3rd Aufl.). Jossey-Bass.</p>
5. Feb 11	Survey techniques, seminar	<p><i>Asking and Recording Open-Ended and Closed-Ended Questions – Chapter 5</i> Bradburn, N. M., Sudman, S., & Wansink, B. (2004). <i>Asking Questions: The Definitive Guide to Questionnaire Design -- For Market Research, Political Polls, and Social and Health Questionnaires</i> (3rd Aufl.). Jossey-Bass.</p>

		<p>Additional/optional Reading: <i>Organizing and Designing Questionnaires</i> (Chapter 10) <i>Questionnaires from Start to Finish</i> (Chapter 11) <i>Asking Questions FAQs</i> (Chapter 12) Bradburn, N. M., Sudman, S., & Wansink, B. (2004). <i>Asking Questions: The Definitive Guide to Questionnaire Design -- For Market Research, Political Polls, and Social and Health Questionnaires</i> (2nd Aufl.). Jossey-Bass.</p> <p><i>Designing Questions to Gather Factual Data – Chapter 2</i> Fowler, F. J. (1995). <i>Improving survey questions: design and evaluation</i>. Sage Publications.</p>
Module 2 – Quantitative Skills		
7. Feb 25	Introduction to basic concepts of statistics, lab	<p><i>Data and Data Presentation</i> – page 11 – 18 Wang, X., & Hofe, R. (2008). <i>Research methods in urban and regional planning</i>. Springer Science & Business Media.</p> <p>Descriptive Statistics – Chapter 1 Healey, J. F., Prus, S. G. (Steven G., & Lieflander, R. (2019). <i>Statistics: a tool for social research</i> (Fourth Canadian edition.). Nelson.</p> <p>Additional reading: <i>Describing Variables</i> - Chapter 3 Huntington-Klein, N., ProQuest - York University, & ProQuest - York University. (2022). <i>The effect: an introduction to research design and causality</i>. Chapman and Hall/CRC Press.</p> <p>Introduction to Excel</p>
8. March 4	Research presentation	Students present research work
9. March 11	Introduction to basic concepts of statistics, Basic Excel functions, lab	<p><i>Data and Data Presentation</i> – pages 41 - 49 Wang, X., & Hofe, R. (2008). <i>Research methods in urban and regional planning</i>. Springer Science & Business Media. Chapter 2</p>

		<p><i>Descriptive Statistics</i> – chapter 1 Healey, J. F., Prus, S. G. (Steven G., & Lieflander, R. (2019). <i>Stat</i> a tool for social research (Fourth Canadian edition.). Nelson.</p>
10. March 18	Introduction to basic concepts of statistics, Basic Excel functions, lab	<p><i>Data and Data Presentation</i> - Chapter 2 Wang, X., & Hofe, R. (2008). <i>Research methods in urban and regional planning</i>. Springer Science & Business Media.</p> <p><i>Descriptive Statistics</i> – Chapter 1 Healey, J. F., Prus, S. G. (Steven G., & Lieflander, R. (2019). <i>Stat</i> a tool for social research (Fourth Canadian edition.). Nelson.</p>
11. March 25	Introduction to GIS - key terms, maps, ArcGIS Pro, lab	<p><i>Introducing GIS</i> – chapter 1 Law, M. & Collins, A. 2018. <i>Getting to Know ArcGIS Desktop</i>, 5th edition, Redlands, CA: ESRI Press</p> <p><i>Getting started with Maps and Data</i> – Chapter 3 Law, M. & Collins, A. 2018. <i>Getting to Know ArcGIS Desktop</i>, 5th edition, Redlands, CA: ESRI Press</p>
12. April 1	Introduction to GIS - understanding GIS data structures, lab	<p><i>Vector Data Model</i> – Chapter 3 <i>Raster Data Model</i> – Chapter 4 Chang, Kang-tsung, 2015. <i>Introduction to Geographic Information Systems</i>, 8th edition. New York City, NY: McGraw Hill Education</p>
Informal session: April 8	Introduction to GIS – Projections, coordinate systems, lab	<p><i>Coordinate Systems</i> – Chapter 2 Chang, Kang-tsung, 2015. <i>Introduction to Geographic Information Systems</i>, 8th edition. New York City, NY: McGraw Hill Education</p> <p><i>Working with Coordinate Systems and Projections</i> – Chapter 6 Law, M. & Collins, A. 2018. <i>Getting to Know ArcGIS Desktop</i>, 5th edition, Redlands, CA: ESRI Press</p>