

Faculty Faculty of Environmental and Urban Change
Course **GEOG 2420: Quantitative Analysis**
Credits 3.00
Term Fall 2023

Course Director **Instructor** Dr. Tarmo K. Remmel
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eClass <http://eclass.yorku.ca>
Office Hour Tuesday 1300-1400h



Zoom Currently, this **course is scheduled to be in-person**. Should the situation change, and this course be forced to pivot to a virtual format, lectures will be provided as pre-recorded videos (accessible via eClass) with additional weekly discussions and office hours with the TA and me via Zoom. Details on how to connect will be distributed only if this scenario were to happen.

eClass This course will be actively managed through eClass. As a student enrolled in this course, you will be guided through this course on a weekly basis. Pre-recorded lectures and labs, assessments, calendars, discussion forms, and all necessary interactivity will be coordinated through this platform. You are encouraged to log in regularly and to keep on top of requirements.

Course: <https://eclass.yorku.ca/course/view.php?id=94479>

Mobile App: <https://lthelp.yorku.ca/mobile-app>

Calendar Description This introductory course aims to provide a working knowledge of several statistical techniques which are widely used in many branches of geography. Some attention is also given to broader questions concerning the nature of the scientific method. **Prerequisites:** 24 credits successfully completed. This course is intended primarily for students majoring in geography and is normally taken during the second-year of study. **Course credit exclusions:** AP/ECON 2500 3.00, AP/POLS 3300 6.00, AP/SOCI 3030 6.00, HH/KINE 2050 3.00, HH/KINE 3150 3.00, HH/PSYC 2020 6.00, HH/PSYC 2021 3.00, SC/BIOL 2060 3.00, SC/MATH 2560 3.00, SC/MATH 2565 3.00, SC/MATH 2570 3.00.

Textbook Bluman, A.G. 2022. Elementary statistics: a step by step approach (11th ed.). McGraw-Hill Education: New York. 912 p.

Meetings **Lecture** (Remmel) Lectures are held in-person on Tuesdays 1630-1830h in ACW 006. **You are expected to complete the readings prior to the weekly lecture. Come prepared to discuss, ask, and contribute – your engagement is critical for success in this class.**

Labs (TA) Labs are held in-person on Wednesdays OR Thursdays (see below for dates, times, and locations for your assigned lab section). Labs are held in undergraduate teaching computer labs. Access to Microsoft Excel is required for this course. THERE WILL BE NO LABS DURING THE WEEK OF SEPTEMBER 6-8; WE CANNOT EXPECT YOU TO DO LABS PRIOR TO HAVING COME TO CLASS. **You are expected to complete weekly readings and any additional requirements prior to the weekly lab session. Come prepared to discuss, ask, and contribute – your engagement is critical for success in this class.**

Lab 01: 1230-1430h Ross N302 (Wednesday) – Nadia Keshmiri
 nadiakm@yorku.ca Office Hours: TBD
 Lab 02: 1230-1430h HNE 253 (Wednesday) – Ayesha Shahid
 ayesharshahid@gmail.com Office Hours: TBD
 Lab 03: 1230-1430h HNE 253 (Thursday) – Leonardo Furtado
 leofurtadomcf@gmail.com Office Hours: TBD
 Lab 04: 1230-1430h Ross N302 (Thursday) – TBA
 tba@yorku.ca Office Hours: TBD

Learning Objectives Students will...

1. **describe** key components and methods required by statistics by using core terminology.
2. **summarize** data and results of statistical analyses to **illustrate** important aspects of data.
3. **perform** core computations in statistics.
4. **evaluate** competing arguments by quantitative and visual means.
5. **apply** logical workflows and statistical tests to answer statistical questions.

Evaluation	Description	Weight (%)	Due	Submission Format
	Assignment 1	10	04/04 October	eClass
	Assignment 2	10	24/25 October	eClass
	Assignment 3	10	07/08 November	eClass
	Assignment 4	15	21/22 November	eClass
	Assignment 5	15	06 December	eClass
	Midterm Test	15	25/26 October	eClass
	Final Exam	25	Exam Period	eClass (take-home)

Missed Assessments You are encouraged to fully partake in all course activities. There are no make-up assessments; with appropriate documentation and approval, weights of missed assessments *might* be added to the final exam. With course instructor approval assessment *might* be granted extensions.

- Penalties**
- Late submission of course work will be penalized 15% of the total assignment value per calendar day. The first 15% penalty is applied once the deadline has passed; subsequent penalties are then applied every 24 hours thereafter that the work is not submitted.
 - Penalties accumulate until the work is submitted or a grade of zero is reached.
 - Upon reasonable grounds and with individual consultation with the course instructor, extensions *might* be granted for course work.

Schedule

Month	Date	Week	Lecture	Tuesday		Tuesday OR Wednesday		Assignments	
				Lecture: 0830-1030h		Scheduled Lab Section (2h)	Readings		
September	12	1	1	Introduction	The Nature of Probability and Statistics	Excel Basics & Introduction	Chapter 1	A1 ↓	
	19	2	2	Frequency Distributions and Graphs		Frequency Distributions and Graphs	Chapter 2		
	26	3	3	Data Description		Data Description	Chapter 3		
October	3	4	4	Probability and Counting Rules		Probability and Counting Rules	Chapter 4	A2 ↓	
	10	5	Winter Reading Week						
	17	6	5	Discrete Probability Distributions		Discrete Probability Distributions	Chapter 5	A3 ↓	
	24	7	6	The Normal Distribution		Midterm	Chapter 6		
	31	8	7	Confidence Intervals and Sample Size		Normal Distribution, CI, Sample Size	Chapter 7		
November	7	9	8	Hypothesis Testing		Hypothesis Testing	Chapter 8	A4 ↓	
	14	10	9	Hypothesis Testing		Hypothesis Testing	Chapter 9	A5 ↓	
	21	11	10	Correlation and Regression		Correlation and Regression	Chapter 10		
	28	12	11	Chi-Square Tests		Chi-Square Tests	Chapter 11		
December	5	13	12	ANOVA		ANOVA (Video)	Chapter 12	↓	

Notice In the best interest of the course, the instructor reserves the right to modify delivery and scheduling of course content.

Academic Honesty and Integrity York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty. The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.
<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senatepolicy-on/>

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students’ research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at:
<http://www.yorku.ca/academicintegrity/>

Ethics Review Process York students are subject to the York University Policy for the Ethics Review Process for Research Involving Human Participants. In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an Application for Ethical Approval of Research Involving Human Participants at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

Religious Observance 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 an in-class test or examination pose such a conflict for

you, contact the Course Director 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 the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at:

http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf

Access & Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Student's in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services: <https://counselling.students.yorku.ca/>

Counselling & Disability Services at Glendon: <https://www.glendon.yorku.ca/counselling/>

York Accessibility Hub: <http://accessibilityhub.info.yorku.ca/>

Student Conduct in Academic Situations

Student Conduct in Academic Situations Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at:

<http://secretariat-policies.info.yorku.ca/policies/disruptiveandor-harassing-behaviour-in-academic-situations-senate-policy/>

Important Dates and Links

Please refer to <https://registrar.yorku.ca/enrol/dates/2023-2024/fall-winter> for important dates pertaining to the academic term. Last date to drop a course without receiving a grade is 8 November (see also Financial Deadlines).

For details on grading schemes, assignment submissions, lateness Penalties, missed tests, group work, inclusivity in EUC, religious observance days, academic honesty, intellectual property notices, student conduct, student support and student accessibility services, see <https://euc.yorku.ca/academic-policies-procedures-petitions/> and go to "Undergraduate Courses Common Instructions".