



UNIVERSITY OF MANITOBA
CLAYTON H. RIDDELL FACULTY OF ENVIRONMENT, EARTH, AND RESOURCES
DEPARTMENT OF ENVIRONMENT AND GEOGRAPHY

GEOG 3810 A01: QUANTITATIVE RESEARCH METHODS IN GEOGRAPHY

COURSE SYLLABUS: WINTER 2024

Territory Acknowledgement

The University of Manitoba campuses are located on original lands of Anishinaabeg, Cree, Oji-Cree, Dakota and Dene peoples, and on the homeland of the Métis Nation. We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration.

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Course Details

Course Title & Number:	GEOG 3810 A01
Number of Credit Hours:	3 credit hours
Class Times & Days of Week:	TTH 1:00 – 2:20 pm
Prerequisites:	ENVR 2810 or the former GEOG 2530 or STAT 1000 or STAT 1001, or permission of department head.

Instructor Contact Information

Instructor(s) Name:	Dr. John Iacozza
Preferred Form of Address:	John or Dr. Iacozza
Office Location:	250 Wallace Building
Office Hours or Availability:	Monday 11:00 am – 12:00 pm
Office Phone No.	204-474-8483
Email:	John.Iacozza@umanitoba.ca
Contact:	I will respond to emails or phone calls between 9 am and 4 pm, Monday to Friday. All efforts will be made to respond within 48 hours, excluding weekends.

Course Description

Calendar Description: This course focuses on the quantitative analytical methods available for the interpretation on physical and human geography applications.

Extended Description: The primary objective of this course is to provide students with a broad foundation in statistical thought by introducing the rationale, methods and interpretation of statistical data in geographic research. Emphasis will be placed on applying statistical techniques (for both qualitative and quantitative data) in the fields of geography and environmental sciences. These principles will be discussed in lectures, as well as assignments. Students will be exposed to the various stages of conducting valid and reliable research in any field.

Course Goals

The goal of this course is to provide students with a basic of understanding of the research method, from developing a hypothesis to statistical analysis of geographical/environmental situations.

At the conclusion of this course, students will be able to:

- demonstrate an understanding of the basic research methods including sampling, descriptive and inferential statistical analysis;
- apply the methods discussed in class to real-world situations and data to draw conclusions regarding a hypothesis related to the situations; and
- demonstrate a number of academic skills required for upper-level university courses, including active listening, note taking, testing, reading, and research paper composition.

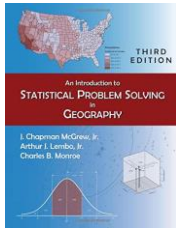
What You Can Expect From Me

- I will listen actively and be respectful ([Respectful Work and Learning Environment Policy.](#))
- I will keep conversations confidential, sharing ideas but not specific stories or names.
- I will be punctual for all class times and meetings.
- I will be available for meetings outside of class times to discuss course material and assignments/tests. Please feel free to make an appointment through email if you are not available during office hours.
- I will have assignments (normally) graded within 2 weeks of submission. Grades are provided through UMLearn, and will consist of both formative (i.e. comments) and summative (i.e. grade) assessment.

What I Can Expect From You

- You will treat me, and other students with respect ([Respectful Work and Learning Environment Policy.](#))
- You will accept that it is OK not to know, both for yourselves and others, and ask questions when you need to.
- You will attend lectures and take notes, as well as participating in class discussions.
- You will make every effort to read the assigned chapters of the textbook *prior to the unit*. Not all the textbook will be covered in the lectures but may be covered on the quiz or exam.
- You will complete the necessary sections of the assignments individually and on time, unless otherwise stated. Students may consult with other students; however, it is expected that all assignments will be submitted in the student's own words. (See section of course outline on Academic Integrity).
- You will be asked to work in groups to complete sections of the assignments. It is expected that you will treat each other with respect.

Textbook



McGrew Jr., J.C., A.J. Lembo Jr., and C.B. Monroe. 2014. An Introduction to Statistical Problem Solving in Geography (3rd edition), Waveland Press

Class Schedule

The following table lists the anticipated dates for each unit and associated readings for this course. The schedule is subject to change at the discretion of Dr. Iacozza and/or based on the learning needs of the students (changes are subject to Section 2.8 of the – [ROASS](#)- Procedure).

<i>WEEK</i>	<i>LECTURE TOPIC</i>	<i>READINGS</i>
JAN. 8 – 12	UNIT 1: Introduction	pp. 3-20; 21-35
JAN. 15 - 26	UNIT 2: Sampling	pp. 101-116
JAN. 29 – FEB. 9	UNIT 3: Descriptive Statistics	pp. 39-61; 62-74
FEB. 12 – MAR. 1	UNIT 4: Probability	pp. 77-100; 117-138
FEB. 19 – 23	WINTER BREAK	
MAR. 4 – 29	UNIT 5: Inferential Hypothesis Testing	pp. 141-235
APR. 1 - 5	UNIT 6: Relationship Testing	pp. 239-285

Voluntary Withdrawal Date

The voluntary withdrawal date is the last date for withdrawing from this course without academic penalty. The voluntary withdrawal date for this course is **March 20, 2024**. Evaluative feedback will be provided prior to this date.

Course Evaluation Methods

The final grade will be evaluated based on the following assessments: assignments, class participation, and a take home exam. The breakdown of the marks is provided below:

<i>EVALUATION</i>	<i>PERCENTAGE</i>
Assignments (5 in total; 12% each)	60%
Class Participation	10%
Take Home Final Exam	30%
TOTAL	100%

Assessment Descriptions

Assignments

Students are required to complete five assignments throughout the course, each covering a specific unit of the course (units 1-5). The assignments are designed to promote engagement with social issues; therefore, a part of each assignment will involve an aspect of research species to the social issue assigned at the start of the term. The assignments will involve application of the knowledge gained through the lectures, and will involve calculations as well as qualitative discussion on the principles discussed in the lectures. Students will be asked to work in groups to answer specific sections of the assignments. You will be assigned a group at the beginning of the course. Please work within those groups, as students will not be able to change groups once assigned. Only one member of the group needs to submit the answer to the questions involving group work. Assignments must be submitted through UMLearn; emailed assignment WILL NOT be accepted at any time for any reason. Students can submit multiple versions of the assignment, however only the most recent document will be graded. Assignment must be completed independently (see section on academic integrity).

Format:

- Assignments must be submitted as a **SINGLE MS WORD DOCUMENT**. Submission of the assignment in any other format (including Excel, PDF or Pages) will be given a grade of 0.
- Handwritten answers will not be accepted for any reason and thus will be given a grade of 0. This includes photos of handwritten answers.
- Answers to questions must be provided in complete sentences and double-spaced; 10% will be deducted for improper format
- Questions involving calculations must have a concluding statement that provides the answer to the question (i.e. The probability of a snowfall greater than 75cm is 6.75%). Failure to do so will result in a deduction of 0.5 mark for each question.

At the conclusion of each assignment (except assignment #3), you will be required to assess each student's contribution (including yourself) to the group work portion of the assignment. This will be completed using the evaluation rubric found in UMLearn. Your assignment grade will not be posted until the evaluation is completed and submitted in UMLearn. The total mark for your assignment will be based in part by the contribution assessment of your peers and yourself. Ask the Instructor for more information if you have any questions.

Class Participation

The knowledge and skills you will gain in this course depend on your participation in class learning activities. Participation grade will be based on class attendance and participation in class discussions. The grade will be assessed through the Mentimeter website (menti.com), with an access code provided in class. Students will be prompted to enter their UM email address at the beginning of each class (do not use another email – it will not be accepted). If login page is not available, students are required to restart the web browser. No grade will be given if student is late for class or did not enter their UM email in menti.com at beginning of class. If you are ill or have another valid reason for missing class, please contact Dr. Iacozza by email in advance of the absence and include the reason for missing the class. This will be taken into consideration when assessing participation grade.

Take Home Final Exam

The April test will be a take home test that will cover all material in this course. The test format will consist of an applied question. This question will be an individual scenario and the student will have to apply all the major components/topics discussed in the course (i.e. sampling, descriptive statistics, inferential analysis, etc.). **Students will be required to pass the take home exam in order to pass the course.** Students will have up to a week to complete the take home exam. The take home exam will be due by **NOON** on the assigned date. Late submissions (after 12:01 pm) will be assigned a grade of 0. More information on the test will be provided during a class prior to the distribution of the exam question. Students are not permitted to work together on this take-home exam.

Assessment Due Dates

The following table lists the tentative dates for the assessments for this course. Please note that the dates may change if required, and students will be advised of any changes, both in class and in UMLearn.

<i>ASSIGNMENT</i>	<i>DUE DATE</i>
Assignment #1: Introduction and Sampling	January 26, 2024
Assignment #2: Descriptive Statistics	February 9, 2024
Assignment #3: Probability	March 1, 2024
Assignment #4: One and Two Sample Testing	March 15, 2024
Assignment #5: Three or More and Categorical Sample Testing	April 1, 2024 (Monday)
Take Home Exam	April 12, 2024 @ NOON

Extension and Late Submission Policy

Assignments must be submitted in UMLearn, by **11:59 pm** on the due date. Late assignments will be assessed a penalty of 10% per day unless the student has obtained approval 48 hours in advance of the deadline from Dr. Iacozza. It is the student's responsibility to contact Dr. Iacozza through email at least 48 hours prior to the deadline. Any request after this time period or after the deadline will not be accommodated.

Students will be provided a week to complete the take home exam, therefore no extensions will be provided for any reason.

Reasons for granting an extension: a death in your immediate family, an illness in either yourself or in a dependent, and student is required to travel for work.

Reasons for not granting an extension: having another assignment or midterm on the same day, being away from the university for a personal reason (i.e. personal vacation), being too busy with other course work, not attending the lectures, computer is not working properly and you lost the assignment, or any other reason deemed inappropriate by Dr. Iacozza. This is not an exhaustive list. If you will be away, the assignment must be submitted before due date to not be assessed a late penalty.

Students who are unable to meet a course requirement due to medical circumstances are currently not required to submit medical notes.

Grade Distribution

<i>LETTER GRADE</i>	<i>PERCENTAGE RANGE</i>	<i>DESCRIPTION</i>
A+	90-100	Exceptional
A	80-89.9	Excellent
B+	75-79.9	Very Good
B	70-74.9	Good
C+	65-69.9	Satisfactory
C	60-64.9	Adequate
D	50-59.9	Marginal
F	0-49.9	Failure

NOTE: All final grades are subject to departmental review.

Referencing Style

Students must use the APA reference style as outlined in the text:

American Psychological Association. (2009). Information on this referencing style can be found on the UM Libraries website: <http://libguides.lib.umanitoba.ca/c.php?g=298394>. If you use the course lectures to answer any questions in the assignments, you must properly cite the course notes. This can be found in the APA reference style guide through the UM Libraries.

Course Technology

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. The student can use all technology in classroom setting only for educational purposes approved by Dr. Iacozza and/or the University of Manitoba Accessibility Services. Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g., Facebook), online and offline “gaming”) during scheduled class time. If student is on call (emergency) the student should switch his/her cell phone on silent mode and leave the classroom before using it. Your computer or device, and internet connection must meet the UM minimum requirements. You should be familiar with Zoom, the video conferencing system, as well as UMLearn, the course management software used by the University of Manitoba. You can access online resources for UMLearn through [Centre For The Advancement Of Teaching & Learning](#).

All students have access to Office365 through the university. You are encouraged to save your assignments to the Cloud using this program to ensure material is not lost through technological issues. This will not be considered a reason for granting an extension.

Class Communication

Ensure that the course name and number are included in the subject line for all emails. Please make sure emails are written in a professional manner, including complete sentences and do not use text language. Emails must be sent from University of Manitoba email accounts; emails from other accounts (such as gmail) will not be responded to.

Electronic Communication with Student Policy:

http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html.

Using Copyrighted Material

Dr. John Iacozza and the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without written permission by Dr. Iacozza. This includes taking pictures of the slides during the lectures or quiz questions. Course materials (both paper and digital) are for the participant's private study and research. If recording needs to be done for accessibility or accommodation reasons, please contact Dr. Iacozza.

Please respect copyright. I will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and University guidelines. Copyrighted works, including those created by me, are made available for private study and research and must not be distributed in any format without permission. For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright/> or contact um_copyright@umanitoba.ca.

Academic Integrity

Academic Integrity: Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Manitoba.

Plagiarism or any other form of cheating in examinations, quizzes or academic work is subject to serious academic penalty (e.g., suspension or expulsion from the faculty or university).

Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones).

Exam cheating can also include exam personation (see below). A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty, including a grade of zero on the assignment/exam, a final grade of F in the course or expulsion from the University (based on severity of offense).

To plagiarize is to take ideas or words of another person and pass them off as one's own. In short, it is stealing something intangible rather than an object. Plagiarism applies to any written work, in traditional or electronic format, as well as orally or verbally presented work. Obviously, it is not necessary to state the source of well-known or easily verifiable facts, but students are expected to appropriately acknowledge the sources of ideas and expressions they use in their written work, whether quoted directly or paraphrased. This applies to diagrams, statistical tables and the like, as well as to written material, and materials or information from Internet

sources. **Students must use APA style to properly reference work. Students will be penalized 20% if another style or footnotes are used.**

To provide adequate and correct documentation is not only an indication of academic honesty but is also a courtesy, which enables the reader to consult these sources with ease. Failure to provide appropriate citations constitutes plagiarism. It will also be considered plagiarism and/or cheating if a student submits an assignment or exam written in whole or in part by someone other than him/herself, or copies the answer(s) of another student in any assignment or exam.

Working with other students on assignments, when not permitted by Dr. Iacozza, can constitute Inappropriate Collaboration and may be subject to penalty under the Student Discipline By-Law.

An assignment that is prepared and submitted for one course should not be used for a different course. This is called “duplicate submission” and represents a form of cheating because course requirements are expected to be fulfilled through original work for each course.

Please familiarize yourself with the University policy on academic dishonesty found on the following website: <https://umanitoba.ca/student-supports/academic-supports/academic-integrity>. When in doubt about any practice, ask Dr. Iacozza.

Students are encouraged to review the University policy on Responsibilities of Academic Staff with Regards to Students (ROASS):

<https://catalog.umanitoba.ca/undergraduate-studies/policies-procedures/responsibilities-academic-staff-regard-students-policy/>

UM Policies and Resources

Students should familiarize themselves with the policies and resources at the University of Manitoba under ROASS (Responsibilities of Academic Staff with Regard to Students). A document has been prepared and is available in UMLearn under the Content Tab. If you have any questions about the policies or resources, please contact Dr. Iacozza. I would be happy to help guide you through anything listed in the document.