

ECON 2040 – QUANTITATIVE METHODS IN ECONOMICS (A01, A02 & A03)

FALL 2018

Instructor: Dr. Janelle Mann (janelle.mann@umanitoba.ca)

Office Hours: Tuesdays from 8:30 AM – 9:30 AM, 556 Fletcher Argue Building

Course Description

The University of Manitoba Undergraduate Calendar describes this course as follows:

“An introduction to statistical methods relevant to Economics, which include: descriptive statistics; probability and probability distributions; hypothesis testing; and ordinary least squares regression. The use of contemporary econometric software is required. Students may not hold credit for both ECON 2040 and the former ECON 3170 (018.317). Prerequisite: a grade of "C" or better in six credit hours of 1000 level Economics.”

Course Goals

- Explore and describe data used to inform decisions in economics
- Review basic concepts of probability and random variables
- Understand behaviour and conditions of counts and proportions
- Draw conclusions about a population or process from sample data
- Model a response based on one or several explanatory variables
- Perform quantitative analysis in the econometric software program `gretl`

Textbook

This course **requires** the following resources:

- Textbook: *The Practice of Statistics for Business and Economics*, Fourth Edition, by Moore, McCabe, Alwan, and Craig. The University of Manitoba Bookstore sells a customized version for the University of Manitoba at a reduced price.
- Online homework system: LaunchPad by Macmillan Education (A six-month access code for LaunchPad is included with the purchase of the customized version of the textbook.)
- Software: [gretl](#) (This econometric software program is free and available for PC and Mac users.)
- Calculator: Casio HS-8VA or Sharp 240. Note that the University of Manitoba Bookstore sells the Casio HS-8VA for less than \$10. No other calculator will be allowed at the midterm or final examination.

Grading and Assessment

Mark Allocation:	LearningCurve	20 points
	Assignments	20 points
	Midterm Examination	15 points
	<u>Final Examination</u>	<u>45 points</u>
	Total	100 points

LearningCurve: LearningCurve is a component of units two through thirteen. Points for each LearningCurve range between 0.5 and 2. For example, LearningCurve 3.1 is worth 0.5 points, LearningCurve 6.3 is worth 1 point, and LearningCurve 2.3 is worth 2 points.

NOTE 1: Late and incomplete LearningCurves will be assigned a grade of zero.

NOTE 2: There will be no make-up for LearningCurve. If you miss an assignment for a documented medical or compassionate reason the weight will be added to the final examination.

Assignments: There are five assignments that include a combination of multiple choice, short-, and long-answer questions. Assignments will be posted on UM Learn two weeks prior to the assignment deadline. Assignments are submitted through LaunchPad and a UM Learn Assignment Submission Folder.

NOTE 1: Late assignments will be assigned a grade of zero.

NOTE 2: UM Learn submissions not submitted as a PDF will be assigned a grade of zero.

NOTE 3: There will be no make-up assignments. If you miss an assignment for a documented medical or compassionate reason the weight will be added to the final examination.

NOTE 4: Assignments are to be completed individually. Students are not allowed to discuss or share their assignment answers with any person (whether face-to-face or virtually) until after the assignment deadline has passed.

Midterm Examination The midterm examination is in class during your regular timeslot. The date of the midterm examination is:

- November 6, 2018 (students with even student numbers)
- November 8, 2018 (students with odd student numbers)

NOTE 1: You will be assigned a seat number in advance and must write on the assigned date. If you cannot write on the assigned date for a medical or compassionate reason the weight will be added to the final examination.

NOTE 2: There will be no make-up midterm examination. If you miss the midterm examination for a documented medical or compassionate reason the weight will be added to the final examination.

Final Examination: The date and time of the final examination will be scheduled by the Registrar's Office. You will be assigned a seat number in advance.

Academic Dishonesty

Students should acquaint themselves with the University's policy on plagiarism, cheating, exam personation, ("Personation at Examinations" (Section 5.2.9) and "Plagiarism and Cheating" (Section 8.1)) and duplicate submission by reading documentation provided at the Arts Student Resources web site at <http://www.umanitoba.ca/faculties/arts/student/index.html>. Ignorance of the regulations and policies regarding academic integrity is not a valid excuse for violating them.

Topics and Assignment Due Dates

Unit One Read course syllabus
 Access LaunchPad
 Install gretl

Practice Assignment due on Wednesday, September 26th, 2018 by 9:30 AM CST.

Unit Two Producing Data (Sections 3.1, 3.2, 3.3, and 3.4)
 Data (Section 1.1)

Unit Three Displaying Distributions with Graphs (Section 1.2)
 Scatterplots (Section 2.1)
 Correlation (Section 2.2)

LearningCurve Unit Two, LearningCurve Unit Three, and Assignment One due on Wednesday, September 26th, 2018 at 9:30 AM CST

Unit Four Describing Distributions with Numbers (Section 1.3)
 Density Curves and Normal Distributions (Section 1.4)

Unit Five Randomness (Section 4.1)
 Probability Models (Section 4.2)
 The Binomial Distributions (Section 5.1)

LearningCurve Unit Four, LearningCurve Unit Five, and Assignment Two due on Wednesday, October 3rd, 2018 by 9:30 AM CST

Unit Six General Probability Rules (Section 4.3)
 The Poisson Distributions (Section 5.2)

Unit Seven Toward Statistical Inference (Section 5.3)

LearningCurve Unit Six, LearningCurve Unit Seven, and Assignment Three due on Wednesday, October 17th, 2017 by 9:30 AM CST

Unit Eight Continuous Random Variables (Section 4.4)
 Means and Variances of Random Variables (Section 4.5)

- Unit Nine The Sampling Distribution of a Sample Mean (Section 6.1)
 Estimating with Confidence (Section 6.2)
- LearningCurve Unit Eight and LearningCurve Unit Nine due on Wednesday, October 31st, 2017 by 9:30 AM CST
- Unit Ten Tests of Significance (Section 6.3)
 Using Significance Tests (Section 6.4)
 Power and Inference as a Decision (Section 6.5)
- Unit Eleven Inference for the Mean of a Population (Section 7.1)
 Comparing Two Means (Section 7.2)
- LearningCurve Unit Ten, LearningCurve Unit Eleven, and Assignment Four due on Wednesday, November 14th, 2017 by 9:30 AM CST
- Unit Twelve Least Squares Regression (Section 2.3)
 Cautions about Correlation and Regression (Section 2.4)
- Unit Thirteen Inference about the Regression Model (Section 10.1)
- LearningCurve Unit Twelve, LearningCurve Unit Thirteen, and Assignment Five due by Wednesday, November 28th, 2017 by 9:30 AM CST

Additional Information Specific to ECON 2040

- Please demonstrate respect for others at all times. During lectures this includes: arriving on time, turning off your cell phone, and refraining from talking to other students.
- Written permission of the instructor is required prior to recording the lectures with any kind of device, including cell phones.
- Effective August 2013, all University of Manitoba correspondence will be via your University of Manitoba e-mail account. Please include ECON 2040 in the subject line and follow “How to e-mail a Professor”: <http://mleddy.blogspot.ca/2005/01/how-to-e-mail-professor.html>
- This course uses UM Learn. It is your responsibility to check UM Learn for course announcements, handouts, and the like.
- Students appealing any term work, whether it be an informal or formal appeal, must appeal their term work within 10 working days of receiving their mark.
- All final grades are subject to departmental approval.
- Any term work that has not been claimed by students will be held for four (4) months from the end of the final examination period for the term in which the work was assigned. At the conclusion of this time, all unclaimed term work will become property of the Faculty of Arts and be destroyed according to FIPPA guidelines and using confidential measures of disposal.
- Please refer to Schedule “A” (attached) for information on academic supports, mental health support, copyright, and other supplemental information.

Schedule “A”

The following information may be used to fulfill the requirement of Schedule “A.” Such information is to be provided to students within the first week of classes, either through a paper copy and/or a University student information system (including Aurora or UM Learn).

Section (a) sample re: A list of academic supports available to Students, such as the Academic Learning Centre, Libraries, and other supports as may be appropriate:

Writing and Learning Support

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor’s feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at: <http://umanitoba.ca/student/academiclearning/>

You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 201 Tier Building.

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: <http://bit.ly/WcEbA1> or name: <http://bit.ly/1tJ0bB4>. In addition, general library assistance is provided in person at 19 University Libraries, located on both

the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: <http://bit.ly/1sXe6RA>. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries' homepage: www.umanitoba.ca/libraries.

Section (b) sample: re: A statement regarding mental health that includes referral information:

For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

Student Counselling Centre

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. *Student Counselling Centre:*

<http://umanitoba.ca/student/counselling/index.html>

474 University Centre or S207 Medical Services
(204) 474-8592

Student Support Case Management

Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

Student Support Intake Assistant <http://umanitoba.ca/student/case-manager/index.html>

520 University Centre
(204) 474-7423

University Health Service

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service <http://umanitoba.ca/student/health/>

104 University Centre, Fort Garry Campus
(204) 474-8411 (Business hours or after hours/urgent calls)

Health and Wellness

Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault.

Health and Wellness Educator <http://umanitoba.ca/student/health-wellness/welcome.html>

Katie.Kutryk@umanitoba.ca

469 University Centre

(204) 295-9032

Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site:

<http://umanitoba.ca/student/livewell/index.html>

Section (c) sample: re: A notice with respect to copyright:

All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office provides copyright resources and support for all members of the University of Manitoba community.

Visit <http://umanitoba.ca/copyright> for more information.

Section (d) sample: re: A statement directing the student to University and Unit policies, procedures, and supplemental information available on-line:

Your rights and responsibilities

As a student of the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The [Academic Calendar](#)

<http://umanitoba.ca/student/records/academiccalendar.html> is one important source of information. View the sections *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- If you have questions about your grades, talk to your instructor. There is a process for term work and final **grade appeals**. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form

<http://umanitoba.ca/registrar/>

- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/> View the **Student Academic Misconduct** procedure for more information.
- The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected to conduct yourself in an appropriate respectful manner. Policies governing behavior include the:

Respectful Work and Learning Environment

http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline

http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html and,

Violent or Threatening Behaviour

http://umanitoba.ca/admin/governance/governing_documents/community/669.html

- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at: http://umanitoba.ca/admin/governance/governing_documents/community/230.html More information and resources can be found by reviewing the Sexual Assault site <http://umanitoba.ca/student/sexual-assault/>
- For information about rights and responsibilities regarding **Intellectual Property** view the policy http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy_-_2013_10_01.pdf

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school web site <http://umanitoba.ca/faculties/>

Contact an **Academic Advisor** within our faculty/college or school for questions about your academic program and regulations <http://umanitoba.ca/academic-advisors/>

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

<http://umanitoba.ca/student/advocacy/>

520 University Centre

204 474 7423

student_advocacy@umanitoba.ca