

**Econ 2030 A01: Mathematical Economics 1**  
Fall 2018  
T/R 2:30 – 3:45 pm; 237 University College

Prof. Troutt  
550 Fletcher Argue, 474-6325  
[Elizabeth.troutt@umanitoba.ca](mailto:Elizabeth.troutt@umanitoba.ca)

**Office hours and appointments** (You do not need an appointment to attend office hours.)

TA office hours will be added to this document as soon as they are known; check back.

R 11:00 am - noon                      Prof. Troutt                      550 Fletcher Argue

To request an appointment, email Prof. Troutt. Your message should satisfy the requirements on page 7 and include all the dates and time ranges that you are available for the next full week. I will look for the earliest match between our schedules and assign you an appointment slot.

### Course overview and objectives

- This course is intended to familiarize you with how economists use foundational mathematical tools to examine economic relationships. If you plan to pursue graduate studies in Economics, you should take Econ 3030 after completing Econ 2030. The objectives of this course are: (1) to equip students with the ability to apply beginning mathematical techniques to explore basic economic relationships; and (2) to prepare continuing students for Econ 3030.
- This course will move quickly with students responsible for practicing and mastering a large amount of material independently outside of class. Learning mathematical economics requires regular and frequent study and practice. You should plan to spend at least 30 minutes on this course every day outside of class.
  - Read assigned material prior to class sessions.
  - Participate in class by attempting the examples, asking questions, and making a good effort on the in-class practice questions.
  - Plan to learn, study, and practice the material for this course every day.
  - If your math skills are rusty or weak, plan to spend extra time on this course.

### Required text, readings, and materials

1. **Required course bundle:** available for purchase at the UM Bookstore; it is called Econ 2030 Mathematical Economics 1 Bundle; contains required readings and essential notes that you should bring to all class sessions.
2. **Required textbook:** Dowling, Edward T. 2012. *Introduction to Mathematical Economics, Third Edition*. (Schaum's outline series.) New York: McGraw-Hill. You will use this text as an additional source of practice problems.

## Evaluation

Day 1 in-class work	in class on R Sept. 6 make up by deadline if you miss day 1	see notes 1 & 2
In-class practice questions	submitted in class; see below	10% (see notes 1 & 2)
Term tests	in class on T Oct 23 & T Nov 20	40% (20% each)
Exam	2 hours; cumulative	50%

## Notes about evaluation

- Day 1 in-class work:** This is not something you need to study or prepare for. This will be completed and submitted at the first class session. Students who miss the first class session should use the appointment sign-up sheet posted outside 550 Fletcher Argue to schedule a 15-minute appointment with Prof. Troutt to complete this work as soon as possible. Dates for September 19 – 27 will be reserved for students who registered for the course on or after September 17-19. Students who registered for the course prior to September 17 should make up the day 1 in-class work on or before September 14. You should bring your UM student ID when you make up this work. The last available appointments for making up this work will be the morning of September 27. Please note that I will download the class list daily so that I know when each student was registered in the course. I will also remind the class about these rules and provisions at each class session and through an email reminder sent to your UM email account. Note that students are responsible for checking their UM email accounts regularly. Do not leave this until the last minute.
  - Important:** This work has a triggering effect on your in-class practice mark when calculating your course grade. Students who complete this work at the first class session or by the September 27 deadline can receive a maximum of 10 out of 100 marks for their in-class practice, depending on their performance on the in-class practice. Students who do not complete this work according to the rules and deadlines stated above can receive a maximum of 5 out of 100 marks for their in-class practice even if they receive grades of 1 on each in-class practice question. (I.e., failure to complete the day 1 in-class work is equivalent to receiving a grade of zero on half of the in-class practice questions.)
- In-class practice questions:** Students will submit in-class practice questions at many class sessions throughout the term. There will be multiple in-class practice questions at some class sessions. Each in-class practice question will be marked according to the apparent level of the attempt. Work that is not submitted or that does not show clear signs of being a valid attempt to answer the question will receive a score of 0. Work that is sloppy, illegible, or fails to show the steps involved to reach an answer will also receive a score of 0. Work that shows a valid level of attempt in terms of neatness and legibility, sufficient steps/work shown, and a good level of effort will receive a score of 1, *even if the answer given is incorrect*. At the end of the term, I will calculate your percentage score on in-class practice questions. The maximum score on the in-class practice questions will be 10 out of 10 for students who completed the day 1 in-class work and 5 out of 10 for students who did not complete the day 1 in-class.
- Tests:** Tests will take place in class and will be 65-70 minutes long. They are likely to be challenging to complete within the allotted time. They will be closed book (no notes, books, etc.). They may contain computational, brief verbal answer, graphical, and/or analytical

questions. I will announce the coverage for each test about one week prior to the test date. Both tests will be cumulative. Please note that there is a policy on washroom breaks during tests described later in this syllabus.

4. **Exam:** The exam will be during the examination period. It will be two hours long and cumulative. It may contain computational, brief verbal answer, graphical, and/or analytical questions. The University expects students to be available for the full examination period. I will not entertain requests to change your exam date. Please direct all such requests to the appropriate University authorities.
5. You will need a simple calculator for in-class practice questions, tests, and the exam. Your calculator must not part of any personal electronic device of any kind. It must not possess any programmable or graphing capabilities. Nor should it possess any features that make it capable of solving or checking the solutions to systems of equations, mathematical models, and the like. You must not use your calculator to perform any mathematical techniques covered in the course (e.g., calculating the determinant of a matrix, taking a derivative, solving for roots, etc.). Being in possession of a calculator with prohibited capabilities or features at a test or the exam is grounds for an academic dishonesty investigation.
6. You should have all your own materials and supplies for this course, including your own copy of the course bundle and a permitted and working calculator.
7. You should bring all your own materials to the tests and exam. Invigilators will not allow you to share or borrow any materials from anyone during tests or the exam. If you ask to do so, the answer will be to do the best you can with your own materials regardless of any calculator issues, forgotten supplies, mishaps with pens, pencils, erasers, or other supplies, or any other issues that arise with respect to your materials and supplies.
8. **Make-up policies:**
  - a) Tests: There will be no make-up tests. If you miss a test for a valid medical or compassionate reason, you must provide me with written documentation that is verifiable by me excusing your absence as soon as possible. I will then move the weight of the test to your final exam weight. Please note that I am likely to call physician offices, etc. to confirm the veracity of submitted documentation. If you do not submit acceptable verifiable documentation excusing your absence, you will receive a grade of zero for the test.
  - b) In-class practice questions: Each student gets a grace of one missed class session's worth of in-class practice questions. If you miss one class session at which in-class practice questions were submitted, you do not need to speak with me. If you miss more than that, you will need to provide me with written documentation excusing your absence in order to receive credit for that day's in-class practice question(s). The documentation you submit must be verifiable by me. Please note that I am likely to call physician offices, etc. to confirm the veracity of submitted documentation. If you do not submit acceptable verifiable documentation for an excusable absence, you will receive a grade of zero for your missed in-class practice question(s).
9. **Grading scale:** A+ ( $\geq 93\%$ ); A (86-92%); B+ (79-85%); B (72-78%); C+ (65-71%); C (58-64%); D (51-57%); F ( $\leq 50\%$ ). You will know your grades for your day 1 in-class work, some of your in-class practice questions, and your first test by the voluntary withdrawal deadline. Course grades are subject to departmental review.

10. Informal or formal appeals of term work must be submitted within 10 days of receiving marks. It is your responsibility to appeal your mark by the deadline; I will not consider late requests.
11. Any unclaimed term work will be held for four months from the end of the final examination period for the term in which the work was assigned, then destroyed according to FIPPA guidelines.

### **Washroom break policy during tests**

- a) Only 1 student at a time will be allowed to leave the room to use the washroom during a test.
- b) An invigilator will escort you to the washroom.
- c) You will be required to leave your test paper and cell phone on the desk at the front of the classroom while outside the classroom.
- d) I will put a note on your test paper to indicate that you left the classroom during the test. I will also make note of the length of time you were absent from the test room.
- e) During marking, your test will be more closely scrutinized for evidence of dishonesty.

### **Technology use in the classroom**

**Calculators:** You should have a simple calculator for this course. It should not have graphing or programmable features, and it should not be in any way capable of checking for solutions to math models, systems of equations, or other types of work we will do in this course. Being in possession of a calculator that possesses any such features at a test or exam for this course will be grounds for an academic dishonesty investigation. You should bring your calculator to class sessions to use on in-class practice questions.

**Cell phones:** Cell phones should be off/silenced and out of sight during class. This should not even need to be stated. If your cell phone is visible during class time, the professor can confiscate it until the end of the class session. If you have special circumstances that may require you to use your phone, you should speak to me privately right away. Absent this, I may confiscate any cell phones I observe in use during our class sessions. For in-class practice requiring calculations, you must use your calculator (not an app in any of your digital devices).

**Laptops and tablets (etc.):** Laptops, electronic tablets, and the like should not be out during class. If you want to use a computer or tablet (etc.) in the classroom for notetaking purposes, you will need to see me in person in my office (during office hours or by appointment) before being allowed to do so. At our meeting, I will ask you to sign an agreement committing you to sit in the front two rows of the classroom when using your laptop or tablet (etc.) and allowing me to randomly ask you to turn your screen around without touching the keyboard or other parts of the device. Once you have signed the agreement, then you must sit in the front two rows of the classroom at any sessions at which you wish to use your laptop or tablet (etc.). I may at any time ask you to turn your screen around to see what you are doing. If I detect that you were using the device for purposes unrelated to taking notes for this course, then your permission to use a laptop or tablet (etc.) during class will be considered revoked.

## Academic integrity

- Be sure to acquaint yourself with UM policies on academic integrity, including plagiarism, cheating, and exam personation. These are covered in the University's on-line Calendar at: <http://crscalprod1.cc.umanitoba.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=320&chapterid=3995&topicgroupid=21576> .
- Ignorance of the rules and policies about academic integrity is not accepted as a valid excuse for violating them.
- The *minimum* penalty in Arts for academic dishonesty in a test or final examination is F for the test/exam and F-DISC in the course plus a suspension from the Faculty of Arts for a period of 1 year. The F grade and disciplinary note appear on the student's transcript. For repeat violations, the penalty may include suspension from the Faculty of Arts for a period of up to five years.

## Accessibility Services

Students with disabilities are entitled to accommodation through Accessibility Services. If you believe that you qualify for accommodations, go to 520 University Centre to inquire about registering for their services. If you are already registered with Accessibility Services, please feel free to consult with me privately regarding your accommodations with respect to this course.

## Important dates

- R Sept. 6                    Day 1 in-class work; Sept. 27 deadline if you missed day 1 class
- R Sept. 27                    deadline for completing day 1 in-class work in person with Prof. Troutt
- M Oct. 8                      Happy Thanksgiving!
- R Oct. 23                      Test 1
- M-F Nov. 12-16              Remembrance Day & Fall Break
- M Nov. 19                      VW deadline
- T Nov. 20                      Test 2

## Some important information

- To maintain a classroom setting that is conducive to learning, I expect students to conduct themselves respectfully. This includes turning off cell phones and other devices and putting them away. If you engage in actions that are disruptive to me or to any classmates, I may ask you to leave the classroom for the duration of the class session.
  - **Note:** Communication devices should be silenced and put away during class time. If I see your device and/or you using your device, I may exercise my right under UM policies to send you from the classroom for the duration of the class period. As stated above, I may also confiscate your device for the duration of the class session. Note that research has found device activity of any kind to be disruptive to the learning of other students seated within about 15 feet of the activity.
- You must obtain my written permission prior to recording (audio or video) any aspect of class sessions with any kind of device. *This includes photographing projected images during class, which you shouldn't do anyway because your devices should be put away!*
- In an attempt to encourage you to keep up to date in this course, I will not schedule appointments or hold additional office hours two weekdays or less before tests. Likewise, I may not reply to content questions posted to the UMLearn discussion forum two weekdays or less before a test.
  - You are responsible for managing your time, for working on course material regularly throughout the term, and for attending office hours, asking questions in class, and/or posting questions in the discussion forums on a regular basis throughout the term.
- I *will* hold regularly scheduled office hours if they fall two or less weekdays prior to a test. Note that the typical pattern I experience with office hours is that they are empty all term long except for right before a test, when they are often packed to the extent that I have to turn students away. I will not extend office hours just because there is a line left at the time they are scheduled to end. Do not leave things until the last minute. Do not count on getting to see me at the last office hours prior to a test. Seek help as soon as you have a question or confusion.

## Asking questions electronically

- **Discussion forums:** You should post any questions about administrative matters or course content in the appropriate discussion forum within the course UMLearn site. Anyone can post in the forums, and anyone can respond to forum posts.
  - Post questions about course content in the “Content questions” forum (example: Could someone please explain how we got transition matrix A in class on Thursday?).
  - Post questions about administrative matters or course logistics in the “Administrative questions” forum (example: Will chapter 9 be covered on the test?).
- **Emailing:** You should *only email me about matters that are personal/private or that are not relevant to the whole class* (e.g., to request an appointment; if you missed a test; etc.). Before sending your email message, please ensure it satisfies the following requirements. Otherwise, you may not receive a reply from me.
  1. Sent from your University of Manitoba account.
  2. Includes “2030” or “Econ 2030” in the subject field.
  3. Is written in a professional manner. This means starting with a salutation (example: Dear Prof. Troutt,); writing out words and spelling them conventionally (no text-type abbreviations); using a formal tone, as you would use with an employer; ending with your name and student number (example: Sincerely, Susan Lee UM #####).
- I will check student email and course discussion forums once per weekday, usually before 10:00 am. I will not check these on weekends. I will reply to email and discussion forum posts within 2 business days, aiming for one business day. Please do not send or post a follow-up until: (1) you have verified that your message or post complied with the necessary requirements stated above, and (2) you have allowed two full business days to pass since sending or posting your initial inquiry.

## **Some additional important information**

### ***a. Academic supports***

#### **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/1tJObB4>. 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](http://www.umanitoba.ca/libraries).

### ***b. Mental health supports***

**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](mailto: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>

## ***c. Copyright requirements***

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.

#### *d. Institutional policies, procedures, and supplemental on-line information*

##### **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) <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](http://umanitoba.ca/admin/governance/governing_documents/community/230.html)

##### **Student Discipline**

[http://umanitoba.ca/admin/governance/governing\\_documents/students/student\\_discipline.html](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](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](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](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](mailto:student_advocacy@umanitoba.ca)