Rotman Commerce
UNIVERSITY OF TORONTO

Course Outline

Course Code	**RSM 470 H1 S**
Course Name	Management Science Modelling with Spreadsheets
Term, Year	Winter 2025
Course Meets	Tuesday, 3-5pm in UC (room information on Acorn) Friday, 11am-1pm in RT (room information on Acorn)
Web page URL	https://q.utoronto.ca

Instructor Details

Name	Email	Phone	Office Hours
Adam Saunders	adamr.saunders@rotman.utoronto.ca	416-978-3386	TBA

Course Scope, Mission and Learning Outcomes

This course covers decision-making situations, including discussions of problem definitions, objectives, constraints, model construction and verification, development of solutions, sensitivity analysis, and interpretation. Topics included are: Linear Programming, Nonlinear Programming, Transportation and Assignment Problems, Goal Programming, Network Optimization Problems, Decision Analysis, and Computer Simulation.

The course will consist of classes and assignments, which will sometimes require the use of personal computers/laptops. Spreadsheet packages (e.g., Microsoft Excel) will be used to implement the techniques discussed and bring timely decision-making information.

Course Prerequisites

Completion of 9.0 credits; ECO220Y1/ ECO227Y1/(STA220H1, STA255H1)/(STA237H1, STA238H1)/(STA257H1, STA261H1)

Course Materials

Required Readings

F.S. Hillier, M.S. Hillier, Introduction to Management Science A Modeling and Case Studies Approach with Spreadsheet, 7th Edition, McGraw-Hill/Irwin. (Note: You can use either the 6th edition or the 7th edition. You can use either the electronic or print version.)

Electronic Course Materials

This course will be using the following electronic course materials:

Microsoft Excel is provided at no cost to U of T students.

These materials will cost a total of $0. The use of these materials complies with all University of Toronto policies which govern fees for course materials.

Evaluation and Grades

Grades are a measure of the knowledge and skills developed by a student within individual courses. Each student will receive a grade on the basis of how well they have command of the course materials, skills and learning objectives of the course.

Work	Percentage of grade	Due Date
Class Participation	5%	Ongoing
Poll Everywhere Questions	15%	Ongoing
In-Class Exercises	40%	Weekly
Final Exam	40%	TBA

Course Format and Expectations

Students will fully immerse themselves in the classroom experience. Classes will be held in-person once per week, and to maximize participation and learning, we'll be keeping all electronic devices (including laptops and phones) powered off during certain lectures. That means students will need to come prepared to engage with the material and join in on discussions - we'll be diving into the reading, so students should come to class ready to lend their thoughts and ideas. To make sure they are well-equipped for class, students should be sure to do their pre-reading as listed in the course schedule.

In other lectures, students will be using their laptops where the session will include interactive use of Excel with the instructor.

Most lectures will be followed by in-class exercises which students will work on in small groups together, and students will submit their own answers before the next week's class.

Class Participation (5%)

Students are expected to prepare thoroughly and make every effort to attend every class. As class participation is a graded component of the course, a student's participation level (quality and quantity) will be recorded in every lecture. Students may receive verbal participation marks for asking questions of the course instructor and/or answering questions posed by the course instructor. Only the best 10 out of 12 classes will be used to calculate a student's final course grade.

Poll Everywhere Questions (15%)

Poll Everywhere questions typically test a student's understanding of the material, and may be spread throughout the lecture. Students may set up a free Poll Everywhere account and can use either a laptop or smart phone to participate. Only the best 10 out of 12 lectures will be used to calculate a student's final course grade. Although students will receive partial marks for merely attempting the questions, full marks will be awarded for answering the questions correctly.

In-Class Exercises (ICEs) (40%)

Approximately one in-class exercise will be assigned each week, during the latter part of lecture. The two lowest scores will be dropped from the final course grade. Students can work individually or in groups of any size. Students who work in groups must still submit their own responses in Quercus.

Final Exam (40%)

The time and location of the final exam will be announced later in the term. The final exam will take place in the April 9-30th exam period.

Missed Tests and Assignments

Students who miss a test or assignment for reasons entirely beyond their control (e.g. illness) may request special consideration **within 2 business days** of the missed midterm/test/assignment due date.

In such cases, students must:

1. Complete the Request for Special Consideration form: https://uoft.me/RSMConsideration
2. Provide documentation to support the request, eg. Absence Declaration from ACORN, medical note etc.

Please note: As of September 2023, students may use the Absence Declaration on ACORN ***one time per term*** to report an absence and request consideration. **Any subsequent absence will require a Verification of Illness form or other similar relevant documentation.**

Students who do not submit their requests and documentation within 2 days may receive a grade of 0 (zero) on the missed course deliverable.

In the cases of valid academic concession requests regarding other assessments, the instructor will reweight the final grade towards other comparable course components. Concessions will be reweighted towards materials within the same assessment category (e.g., participation, Poll Everywhere, or in-class exercises).

Final Exams: If you miss the final exam in this course for a legitimate reason (illness, etc) you will need to contact your College Registrar to file a petition for a deferred exam. This deferred exam will be written at a later date as established by the Faculty of Arts & Science. Instructions can be found here: https://www.artsci.utoronto.ca/current/faculty-registrar/petitions-appeals/preparing-petition

Late Assignments

Students are given a one-hour grace period after the due date for all assessments (except the final exam). **During this extra hour, submissions are considered late, but no penalty is assessed.** After that, late submissions will normally be penalized by 20% for the first day (or fraction of a day). A further penalty of 10% will be applied to the next day, after which a grade of 0 will be given for the missed course deliverable.

Students who, for reasons beyond their control, are unable to submit an assignment by its deadline must obtain approval from the instructor for an extension. Supporting documentation will be required as per the policy on missed tests and assignments.

Statement on Equity, Diversity and Inclusion

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.

Commitment to Accessibility

The University is committed to inclusivity and accessibility, and strives to provide support for, and facilitate the accommodation of, individuals with disabilities so that all may share the same level of access to opportunities and activities offered at the University.

If you require accommodations for a temporary or ongoing disability or health concern, or have any accessibility concerns about the course, the classroom or course materials, please email Accessibility Services or visit the Accessibility Services website for more information as soon as possible. Obtaining your accommodation letter may take up to several weeks, so get in touch with them as soon as possible. If you have general questions or concerns about the accessibility of this course, you are encouraged to reach out to your instructor, course coordinator, or Accessibility Services.

Generative AI / ChatGPT

Students are encouraged to make use of technology, including generative artificial intelligence tools, to contribute to their understanding of course materials. Students may use artificial intelligence tools, including generative AI, in this course as learning aids or to help produce assignments. However, students are ultimately accountable for the work they submit. Additionally, students may not use artificial intelligence tools for taking tests or answering Poll Everywhere questions in this course, but students may use generative AI tools for other assignments such as in-class exercises.

Academic Integrity

Academic Integrity is a fundamental value essential to the pursuit of learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously.

The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic misconduct, the process for addressing academic offences and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In papers and assignments

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes collaborating with others on assignments that are supposed to be completed individually).

On test and exams

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) medical notes.

All suspected cases of academic dishonesty will be investigated by the procedures outlined in the *Code of Behaviour on Academic Matters*. If you have any questions about what is or is not permitted in the course, please do not hesitate to contact the course instructor. If you have any questions about appropriate research and citation methods, you are expected to seek out additional information from the instructor or other U of T or RC resources such as the RC Centre for Professional Skills, the College Writing Centres or the Academic Success Centre.

Email

At times, the course instructor may decide to communicate important course information by email. As such, all U of T students are required to have a valid UTmail+ email address. You are responsible for ensuring that your UTmail+ email address is set up and properly entered on ACORN. For more information visit the Information Commons Help Desk.

Forwarding your utoronto.ca email to a Gmail or other type of email account is not advisable. In some cases, messages from utoronto.ca addresses sent to Gmail accounts are filtered as junk mail, which means that important messages from your course instructor may end up in your spam or junk mail folder.

Recording Lectures

Lectures and course materials prepared by the instructor are considered by the University to be an instructor's intellectual property covered by the Canadian Copyright Act. Students wishing to record a lecture or other course material in any way are required to ask the instructor's explicit permission and may not do so unless permission is granted. Students who have been previously granted permission to record lectures as an accommodation for a disability are excepted. This includes tape recording, filming, photographing PowerPoint slides, Quercus materials, etc.

If permission for recording is granted by the instructor (or via Accessibility Services), it is intended for the individual student's own study purposes and does not include permission to "publish" them in any way. It is forbidden for a student to publish an instructor's notes to a website or sell them in any other form without formal permission.

Weekly Schedule *(tentative)*

Session	Date	Topic	Readings
1	Jan. 7/10	Course Introduction Introduction to Linear Programming (LP)	Chapter 1.4, 5
2	Jan. 14/17	LP formulation (I)	Chapter 5, 6.1
3	Jan. 21/24	LP formulation (II)	Chapter 6.2-6.5
4	Jan. 28/31	LP formulation (III)	Chapter 6.6-6.7
5	Feb. 4/7	Sensitivity Analysis	Chapter 8
6	Feb. 11/14	Network Models (I)	Chapter 9.1-9.3
Reading Week – No class Feb 18/21			
7	Feb. 25/28	Network Models (II)	Chapter 9.4
8	Mar. 4/7	Integer Programming (I)	Chapter 10
9	Mar. 11/14	Integer Programming (II)	Chapter 10
10	Mar. 18/21	Decision Analysis (I)	Chapter 12.1-12.5
11	Mar. 25/28	Decision Analysis (II)	Chapter 12.6-12.10
12	Apr. 1/4	Final Review and Farewell	

Please note that the last day you can drop this course without academic penalty is March 10, 2025.

Other Useful Links

- Become a volunteer note taker
- Accessibility Services Note Taking Support
- Credit / No-Credit in RSM courses
- Rotman Commerce Academic Support

URL links for print

- ACORN: http://www.acorn.utoronto.ca/
- Email Accessibility Services: accessibility.services@utoronto.ca
- Accessibility Services website: http://studentlife.utoronto.ca/as
- University's Plagiarism Detection Tool FAQ: https://uoft.me/pdt-faq
- The University of Toronto's Code of Behaviour on Academic Matters: http://www.governingcouncil.utoronto.ca/policies/behaveac.htm
- Information Commons Help Desk: http://help.ic.utoronto.ca/category/3/utmail.html
- Become a volunteer note taker: https://studentlife.utoronto.ca/program/volunteer-note-taking/
- Accessibility Services Note Taking Support: https://studentlife.utoronto.ca/service/note-taking-support/
- Credit / No-Credit in RSM courses: https://rotmancommerce.utoronto.ca/current-students/degree-requirements/credit-no-credit-option/
- Rotman Commerce Academic Support: https://rotmancommerce.utoronto.ca/current-students/academic-support/
- Book an appointment with a writing or presentation coach: http://uoft.me/writingcentres
- Writing and Presentation Coaching academic support page: https://rotmancommerce.utoronto.ca/current-students/academic-support/writing-and-presentation-coaching/
- Centre for Professional Skills Teamwork Resources page: https://rotmancommerce.utoronto.ca/teamwork-resources
- Book an appointment with a Teamwork Mentor: http://uoft.me/writingcentres