

Course Outline

RSM470H1F

Management Science Modeling with Spreadsheets

Fall 2020

Course Meets: Tuesday, 11:00 am-1:00 pm

Course Delivery: This course will be offered online synchronously at the specified course meeting times.

Instructor: Sinem Kinay Savaser
Email: sinem.savaser@rotman.utoronto.ca
Webpage: <https://q.utoronto.ca>
Office Hours: TBD, online
Teaching Assistant: Setareh Farajollahzadeh
TA Email: setareh.farajollahzadeh@rotman.utoronto.ca
TA Office Hours: TBD

Course Scope and Mission

Introduction to Management Science approaches dealing with 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, Integer Programming, Transportation Problems, Goal Programming, Decision Analysis, and Computer Simulation.

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

Course Prerequisites

Prerequisite: [ECO220Y1](#) / [ECO227Y1](#) / ([STA220H1](#), [STA255H1](#)) / ([STA237H1](#), [STA238H1](#)) / ([STA257H1](#), [STA261H1](#))

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.

Required Technology

For Fall-Winter 2020-21, this course may be conducted entirely online. To participate fully and to complete the course successfully, you must ensure you have a computer with a working webcam, microphone and reliable access to an internet connection. For further details, please visit this link: [Recommended Technology Requirements for Remote/Online Learning](#)

Required Readings

The required textbook for the course is: F.S. Hillier, M.S. Hillier, Introduction to Management Science A Modeling and Case Studies Approach with Spreadsheet, 6th Edition, McGraw-Hill/Irwin.

Evaluation and Grades

Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well they have command of the course materials.

<u>Work</u>		<u>Due Date</u>
Class Participation/Attendance	10%	Ongoing
6 Assignments	24%	Ongoing
2 Cases	16%	Ongoing
Midterm Test	20%	7 th Week (Tentative)
Final Test	30%	Final Assessment period

Course Format and Expectations

The course will be graded based on a midterm test in the 7th week (20 points), a final test (30 points) and individually done 8 assignments (40 points). 6 of them will be shorter assignments with 2 questions (4 points each) and 2 of them will be longer and more detailed cases (8 points each). Class participation will be graded based on the interest shown in the material, participation in the easy quizzes during lecture hours (10 points).

Assignments:

Please note that you are expected to show all the steps of your analyses clearly in the assignments. In the cases, you are expected to support your arguments with mathematical and logical reasons.

Weekly Schedule (*Tentative*)

Please note that 'tentative' is the key word here. The progress and interests of the class will dictate the actual material covered more than any pre-set schedule.

Date	Topic	Reading Material	Assignment Announced	Assignment Due
15-Sep	Course outline, Introduction, LP Introduction	Chapter 1, 2.3		
22-Sep	LP Formulations, Modeling Examples	Chapter 3	HW1, Case 1	
29-Sep	Graphical Solution Method, Excel Solver I	Chapter 2.4, 2.5	HW2	HW1
6-Oct	Sensitivity (What-if) Analysis	Chapter 5		HW2
13-Oct	Network Optimization Problems	Chapter 6	HW3	Case 1
20-Oct	Multi-Objective Models	Chapter 17	Study Set 1	HW3
27-Oct	Midterm Week, Review Lecture			
3-Nov	Integer Optimization, Logical Constraints	Chapter 7	HW4	
10-Nov	Reading Week (Nov 9-13)		Case 2	
17-Nov	Integer Optimization Examples, Branch and Bound	Chapter 7 + Notes	HW5	HW4

24-Nov	Decision Analysis	Chapter 9		HW5
1-Dec	Decision Analysis, Simulation	Chapter 9, 12	HW6	Case 2
8-Dec	Simulation Examples	Chapter 12	Study Set 2	HW6

Please note that the last day you can drop this course without academic penalty is November 9, 2020.

Policies and Procedures

Missed Tests and Assignments (including mid-term and final-term examinations)

Students who miss a test or assignment for reasons entirely beyond their control (e.g. illness) may request special consideration.

In such cases, students must:

1. Notify the instructor AND the Rotman Commerce Program Office **on the date** of the missed course deliverable, e.g. missed test, final assessments, assignment or class (in the case of participation marks).
2. Complete a [Request for Special Consideration Form](#) and submit it along with supporting documentation this may include either your Self-Declaration of Absence on ACORN, or [Verification of Student Illness or Injury form](#) to the Rotman Commerce Office within **2 business days** of the originally scheduled course deliverable.

Students who do not provide appropriate or sufficient supporting documentation will be given a grade of 0 (zero) for the missed course deliverable.

Note that documentation must clearly establish that you were ill or had other circumstances that prevented you from attending on the date in question. After-the-fact reports are not sufficient.

There will be no make-ups for the tests. If appropriate or sufficient supporting documentation is provided, the weight of a missed midterm test will be transferred to the final test.

Late Assignments

All assignments are due on the date and at the time specified in Quercus. Late submissions will normally be penalized by 50% if the assignment is not received on the specified date, at the specified time. A further penalty of 25% will be applied to each subsequent day.

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.

Accessibility Needs

The University of Toronto is committed to accessibility. 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 contact Accessibility Services as soon as possible at accessibility.services@utoronto.ca or studentlife.utoronto.ca/as.

For courses with deliverables that require you to work in teams, please note the following. If you are a student registered with Accessibility Services, and extensions are one of your academic accommodations, requests for extensions impact everyone in the group. As a result, requests for late submissions of any component of teamwork will require compelling reasons, advance notice, and must work for everyone in the team. You are encouraged to discuss with your course instructor, Accessibility Advisor, and other team members what you need in order to successfully complete your coursework. Additionally, the Rotman Commerce Centre for Professional Skills offers Teamwork Mentors (see section above) who can help you and your team discuss how to support you effectively and how to develop a work plan that meets the needs and constraints of all team members.

Volunteer Notetaking

If you're interested in helping to make our classroom more accessible, volunteer to be a notetaker!

Accessibility Services needs dependable volunteer notetakers to assist students living with a disability to achieve academic success. All you have to do is attend classes regularly and submit your notes consistently.

1. Register online as a Volunteer Note-Taker at:
<https://clockwork.studentlife.utoronto.ca/custom/misc/home.aspx>
2. Follow the link that says "Volunteer Notetakers"
3. Select your course and upload a sample of your notes
4. Once you have been selected as a notetaker, you'll get an email notifying you to upload your Notes.

If you have any questions or require assistance, please email as.notetaking@utoronto.ca or call 416-978-6186.

Volunteers may receive co-curricular credit or a certificate of appreciation.

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 following procedures outlined in the *Code of Behaviour on Academic Matters*. If you have any question 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 resources such as 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 help.ic.utoronto.ca/category/3/utmail.html.

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.

Quercus and the Course Page

The online course page for this course is accessed through Quercus. To access the course page, go to g.utoronto.ca and log in using your UTORid and password. Once you have logged in, you will be at the Quercus Dashboard. On this page you will see all of the courses you are presently enrolled in. If you don't see the course listed here but you are properly registered for the course in ACORN, wait 48 hours.

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.

FIPPA Language

Notice of video recording and sharing (Download and re-use prohibited)

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation, and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.

For questions about recording and use of videos in which you appear please contact your instructor.