



Rotman Commerce UNIVERSITY OF TORONTO

Course Outline

RSM 470 H1F **Management Science Modelling with Spreadsheets** **Fall 2019**

Session L0101 Meets on Tuesday, 11:00 – 1:00 p.m. WO 25

Session L0201 Meets on Tuesday, 3:00 – 5:00 p.m., RT 142

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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: Decision Analysis, Linear Programming, Integer Programming, Transportation Problems, Goal Programming, Waiting Line Models and Computer Simulation.

The course will consist of lectures and assignments 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

ECO 220/227Y/([STA220H1](#),[STA255H1](#))/([STA257H1](#),[STA261H1](#)).

Textbook:

The text 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. (Students that have the 4 or 5 edition can use them.)

Alternatively the students can buy the online version of the book at coursesmart.com (cheaper by about \$100 than the hardcopy textbook).

It is not necessary to buy any digital material (Assuming that all of you have an excess to a spreadsheet package like EXCEL).

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 he, they or she has command of the course materials.

<u>Work</u>		<u>Due Date</u>
Mid Term Exam	30%	OCT 17, 18-20 room TBA
4 Assignments	3.75% each	Every 2 to 3 weeks
Attendance	5%	Attendance
Final Exam	50%	During Final Examination period

COURSE FORMAT AND EXPECTATIONS

The course will be graded based on a Midterm Test on October 17 (30 points) a Final Exam (50 points), 4 assignments (15 points total), to be done individually and attendance (5 points). An assignment will be out every 2-3 weeks. For attendance, missing 2 classes, one less point; missing 3 classes, 2 less points; missing 4 classes or more, 5 less points).

TENTATIVE COURSE OUTLINE

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. Case will be either discussed in class or given as part of assignments

Session	Topic	Info
#1 September 10	Introduction. Course overview. Intro to Linear Programming. Basic Concepts. Graphical Analysis.	Read Ch. 1, 2
#2 September 17	Intro to Linear Programming. Basic Concepts. Graphical Analysis. Using Excel to solve LPs.	Read Ch. 2
#3 September 24	Sensitivity Analysis for LP. Parametric Analysis.	Read Ch. 5
#4 October 1	Sensitivity Analysis for LP. Parametric Analysis. LP Formulation Techniques.	Read Ch. 3,4
#5 October 8	LP Formulation Techniques, Network Models	Read Ch. 3,4,6
#6 October 15	Network Models, Goal Programming	Read Ch. 6,17

#7 October 25	Goal Programming, Integer Programming (extra class)	Read Ch. 17, 7
#8 October 29	Integer Programming. Decision Analysis.	Read Ch. 7 and Notes
#9 November 12	Decision Analysis.	Read Ch 9
#10 November 19	Decision Analysis. Simulation modeling.	Read Ch. 9
#11 November 26	Simulation modeling.	Read Ch. 12
#12 December 3	Simulation modeling.	Read Ch. 12

POLICY AND PROCEDURE

Missed Tests and Assignments (including midterm examinations)

Students who miss a test or assignment for reasons entirely beyond their control (e.g. illness) may submit a request for special consideration. The Request for Special Consideration Form and supporting documentation must be submitted in a timely manner in order for the request to be reviewed.

In such cases, students must notify the Rotman Commerce Program Office on the date of the course deliverable such as a missed test, or assignment missed class (in the case of participation marks), or due date. They must then complete a [Request for Special Consideration Form](#) and submit it along with supporting documentation (e.g. [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.

Documentation submitted in support of petitions for missing tests and assignments must be original; no faxed or scanned copies will be accepted.

Note that the physician's report must establish that the patient was examined and diagnosed at the time of illness, not after the fact. Rotman Commerce will not accept a statement that merely confirms a later report of illness made by the student to a physician.

There will be no make-ups for the tests. The weight of a (justified) missed test will be transferred to the Final Exam.

Late Assignments

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 disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: accessibility.services@utoronto.ca or <http://www.studentlife.utoronto.ca/as>

Academic Integrity

Academic Integrity is a fundamental value essential to the pursuit of learning and scholarships at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT 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

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm> 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 UofT 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 UofT 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 the ROSI system. For more information please visit <http://help.ic.utoronto.ca/category/3/utmail.html>

Forwarding your utoronto.ca email to a Hotmail, Gmail, Yahoo or other type of email account is not advisable. In some cases, messages from utoronto.ca addresses sent to Hotmail, Gmail or Yahoo 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 q.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 ROSI, 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 (note: students who have been previously granted permission to record lectures as an accommodation for a disability are, of course, excepted). This includes tape recording, filming, photographing PowerPoint slides, Quercus materials, etc.

If permission 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 anyway. It is absolutely forbidden for a student to publish an instructor's notes to a website or sell them in any other form without formal permission.