



# **Rotman** Commerce UNIVERSITY OF TORONTO

## **Course Outline**

### **RSM 470 H1 F**

#### **Management Science Modeling with Spreadsheets**

**Fall 2014**

**Session L0101** Meets on Tuesday, 11:00 – 1:00 p.m., WW 121

**Session L0201** Meets on Tuesday, 3:00 – 5:00 p.m., WW 121

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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).

### **Course Exclusions**

MGT475H1

### **Required Readings**

The required text for the course is: F.S. Hillier, M.S. Hillier, *Introduction to Management Science: A Modeling and Case Studies Approach with Spreadsheets*, 5<sup>th</sup> Edition, McGraw-Hill/Irwin. Alternatively the students can buy the online version of the book at [cousesmart.com](http://cousesmart.com) (cheaper by about \$100 than the hardcopy textbook).

## Evaluation and Grades

### 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 or she has command of the course materials.

<u>Work</u>		<u>Due Date</u>
Mid Term Exam	35%	16-OCT-14, TBA , 18:00 20:00
4 Assignments	3.75% each	Every 2 to 3 weeks
Final Exam	50%	During Final Examination period

### COURSE FORMAT AND EXPECTATIONS

The course will be graded based on a Midterm Test on October 16 (35 points) a Final Exam (50 points) and 4 assignments (15 points total) to be done individually. An assignment will be out every 2-3 weeks. There will be a bonus of 3% for high quality and continuing participation.

### 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

<b>Session</b>	<b>Topic</b>	<b>Info</b>
#1 September 9	Introduction. Course overview. Intro to Linear Programming. Basic Concepts. Graphical Analysis.	Read Ch. 1, 2
#2 September 16	Intro to Linear Programming. Basic Concepts. Graphical Analysis. Using Excel to solve LPs. Case 3-4.	Read Ch. 2
#3 September 23	Sensitivity Analysis for LP. Parametric Analysis.	Read Ch. 5
#4 September 30	Sensitivity Analysis for LP. Parametric Analysis. Case 5-2. LP Formulation Techniques.	Read Ch. 3,4
#5 October 7	LP Formulation Techniques, Goal Programming.	Read Ch. 3,4,17
#6 October 14	Goal Programming. Integer Programming.	Read ch.17, 7
#7 October 21	Integer Programming. Case 7-1.	Read Ch. 7
#8 October 28	Integer Programming. Decision Analysis.	Read Ch. 7, 9 and Notes
#9 November 4	Case 9-1. Decision Analysis.	Read Ch 9

#10 November 11	Decision Analysis. Simulation modeling.	Read Ch. 9, 12.
#11 November 25	Queuing, Inventory Models. Simulation modeling.	Read Ch. 12
#12 December 2	Queuing, Inventory Models. 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. Provided that notification and documentation are provided in a timely manner, and that the request is subsequently approved, no academic penalty will be applied.

In such cases, students must notify Rotman Commerce on the date of the missed test (or due date in the case of course work) and submit supporting documentation (e.g. [Verification of Student Illness or Injury form](#)) to the Rotman Commerce Program Office within **48 hours** of the originally scheduled test or due date. Students who do not provide Rotman Commerce or the instructor with appropriate or sufficient supporting documentation will be given a grade of 0 (zero) for the missed test or course deliverable.

**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 report of illness made by the student and documented by the 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: [disability.services@utoronto.ca](mailto:disability.services@utoronto.ca) or <http://www.accessibility.utoronto.ca/>.

### **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.

### **Blackboard and the Course Page**

The online course page for this course is accessed through Blackboard. To access the course page, go to the UofT Portal login at <https://portal.utoronto.ca/> and log in using your UTORid and password. Once you have logged in, look for the My Courses module where you'll find the link to all your course websites. If you don't see the course listed here but you are properly registered for the course in ROSI, wait 48 hours. If the course does not appear, go to the Information Commons Help Desk in Robarts Library, 1st floor, for help, or explore the Portal Information and Help at [www.portalinfo.utoronto.ca/students](http://www.portalinfo.utoronto.ca/students) and review the Frequently Asked Questions.

### **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, Blackboard materials, etc.