Rotman Commerce
UNIVERSITY OF TORONTO

Course Outline

RSM 270 H1S
Operations Management
Summer 2021
Course Meets: Tuesday & Fridays 6:00 PM- 8:00 PM EST (please see note regarding July 27 and July 30)

> Course Delivery: This course will be offered online through a combination of synchronous and asynchronous lectures, as well as assignments and the case posted in advance.

Instructor: Dror Hermel,

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	Please start subject with **RSM270**
Webpage:	https://q.utoronto.ca/ (QUERCUS for RSM270H1)
	Make sure you **always read all online Announcements**!
Office Hours:	Tuesday, 4:00 PM-6:00 PM, by appointment and through email coordination
Teaching Assistants:	Mahsa Hosseini, Mahsa.Hosseini17@Rotman.Utoronto.Ca
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Course Scope and Mission

Operations is the term that refers to the process by which an organization converts inputs (e.g., labor, material, knowledge, equipment) into outputs (goods and/or services) for both internal and external markets. In this course, we will study how to manage this process. We will study strategic issues related to how firms determine the way in which they will compete as well as tactical and operational decision making. Topics include: Operations Strategy, Processes in Manufacturing and Services, Waiting-Line Management, Scheduling, Capacity Planning, Inventory Management and Revenue Management.
The objectives of this course are:
• to develop your decision-making skills.
• to expose you to the main concepts of operations management in manufacturing and service
  organizations.
• to provide you with useful tools for problem solving in business and government environments.

Course Prerequisites

RSM100H1/MGT100H1/RSM100Y1Y

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

This course is 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

Optional Readings

Operations Management, RSM270, by McGraw-Hill/Irwin. ISBN-13: 9781260068115, ISBN-10 :1260068110: A tailored text book to our needs, based on Operations and Supply Chain Management, 15th Edition by Jacobs, Chase, 2018, 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 he or she has command of the course materials.

Work		Due Date
Case Study	10%	August 10
Mid Term Exam	40%	(tentative date: July 22nd, 10AM-12PM EST)
Assignments	8%	Ongoing (roughly weekly)
Class Participation	2%	
Final Exam	40%	Examination Period

COURSE FORMAT AND EXPECTATIONS

Class Participation

Class participation will be mostly determined on the basis of your comments in each class session. Some of the criteria that we will use to judge effective class participation include: Is there a willingness to participate? Is the participant a good listener? Is the participant concise and articulate? Are the points made relevant to the current discussion? Are they linked to the comments of others?

Assignments and Case Study

A total of 4 **individual** online assignments will be given. Individual assignments will be posted and are to be handed in online through UTORSubmit (https://submit.utm.utoronto.ca/utorsubmit/).

Please note that clear, concise, and correct writing will be considered in the evaluation of the assignments as well as the case studies. That is, you may lose points for writing that impedes communication: poor organization, weak paragraph development, excessive wordiness, hard-to-follow sentence structure, spelling mistakes and grammatical errors. Students who require additional support and/or tutoring with respect to their writing skills are encouraged to visit the Academic Success Centre (www.asc.utoronto.ca) or one of the College Writing Centers (www.writing.utoronto.ca/writing-centres). These centers are teaching facilities – not editing services, where trained staff can assist students in developing their academic writing skills. There is no charge for the instruction and support.

Group Work

The case study requires students to work in teams of 2-3. The groups and the case assignment will be posted on Quercus and only one report per group should be submitted. An **electronic copy of all requested material** is to be handed in online through Quercus.

Learning to work together in teams is an important aspect of your education and preparation for your future careers. That said, project-based teamwork is often new to students; to work well in teams, it helps to follow a set of core expectations to best succeed at your team projects.

1. Read the document entitled, "Working in Teams: Guidelines for Rotman Commerce Students" which is available on the RC portal under the Academic Services tab.

2. When working in a team, Rotman Commerce students are expected to:

   - Treat other members with courtesy and respect.
   - Honour the ground rules established by the team.
   - Contribute substantially and proportionally to the final project.
   - Ensure enough familiarity with the entire contents of the group project/assignment so as to be able to sign off on it as original work.
   - Meet the project timeline as established by the team.

3. Resolving conflicts:

   Working as a team is challenging. This is true both in the real world and in your academic classes. However, learning to work together in teams is an important aspect of your education and preparation for your future careers. You are encouraged to review the teamwork resources available to all Rotman Commerce students at https://rotmancommerce.utoronto.ca/teamwork-resources while navigating these challenges, but keep in mind that supports are also available for when you think you may need extra help.

   New in the 2020-2021 academic year, the Rotman Commerce Centre for Professional Skills (RC-CPS) will offer appointments with Teamwork Mentors for any teams encountering challenges in their teamwork. Some possible reasons you might book an appointment with a Teamwork Mentor include:
   - Team members have identified constraints on their time, work or accommodations they require that conflict with necessary timelines for the team.
   - Teams are unsure how to divide their workload for a team project.
   - Teams are concerned about how to integrate the individual contributions of each member and how to ensure team members are contributing equally.
   - Teams are concerned about how to ensure all group members are aware of academic integrity guidelines (e.g., properly attributing sources) and follow them.
   - Teams would like to be able to communicate more effectively with each other, particularly when navigating a remote work academic environment.
   - **Upon each group-project submission, each group must determine the contribution of each group member and each group member must sign the report.**

To book a meeting with a Teamwork Mentor, send an email to rotmancommerce.teamworkhelp@utoronto.ca with the course code RSM270 and team number (if available) in the subject line of the email. Any member of the team may reach out individually to book an appointment, but we also encourage teams to book their appointments as a team. You will normally receive a response within 24-36 hours but note that during busy times of the semester the waiting period may be longer. Be proactive in booking your meeting and do so as soon as challenges arise!

If you are a student registered with Accessibility Services, and extensions are one of your academic accommodations, you should consult with your Accessibility Advisor about this course. For considerations pertaining to teamwork and accessibility, please see information in the section on Accessibility Needs below under the Policies and Procedures heading.

Weekly Schedule

Session	Date	Topic	Readings	Individual Assignments	Group Assignment
1	July 6	Introduction & Overview	Chapter 1 & 2, Jacobs, Chase	1-page intro	
2	July 9	Process Analysis	Chapter 11, Jacobs, Chase		
3	July 13	Little's Law and Inventory Build-up	Chapter 11, Jacobs, Chase	Assignment 1	Finalize Groups
4	July 16	Queueing Analysis	Chapter 10, Jacobs, Chase		
5	July 20	Queueing Models	Chapter 10, Jacob, Chase	Assignment 2	
6*	July 22	**Midterm (tentative date) Thursday, July 22, 2021, 10am-12pm** Notes sheet + calculator!		"notes sheet" Calculator	
7	July 23	Forecasting	Chapter 18, Jacobs, Chase		
8	July 27	Inventory Management I+II THIS CLASS WILL BE 5pm-8pm!	Chapter 20 Jacobs, Chase		
9	July 30	Inventory Management II+III THIS CLASS WILL BE 5pm-8pm!	Chapter 20 Jacobs, Chase	Assignment 3	
10	August 3	Linear Programming I	Chapter 20 Jacobs, Chase		
11	August 7	Linear Programming II	Appendix A, Jacobs, Chase	Assignment 4	
12	August 10	NO CLASS			**Case Tentative Due Date: August. 16, by 11:59pm**
Final Exam	TBA	**Final Exam (2 hrs)**		"notes sheet" Calculator	

Please note that the last day you can drop this course without academic penalty is August 2, 2021.

Additional Recommended Readings

- [S&H]: *Operations Management 4th Canadian Edition* by Stevenson & Hojati, McGraw-Hill Ryerson, 2011.
- *Managing Business Process Flows: Principles of Operations Management* by Anupindi, Chopra, Deshmukh, Van Mieghem, and Zemel (2nd edition, Pearson Prentice Hall).
- *The goal: a process of ongoing improvement* by Eliyahu M. Goldratt and Jeff Cox.
  Note: This is a fictional story about a manager dealing with operational challenges in his job.
  The book is written like a novel, but it is also used as textbook in some operations management courses.

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 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 Absence Declaration on ACORN (please read the instructions on how to use the Absence Declaration in 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.

Students who miss the midterm must write a "make-up" test.

Exams

Students are responsible for making sure they appear for the exams on time. No latecomers will be admitted. Both exams will be closed book. However, you will be allowed to bring in one "notes sheet" (A4: 21.0cm × 29.7cm (8.3in × 11.7in) – you can write on both sides). While the "notes sheet" can be of some help to you during the exam, its real value is that it helps you prepare for the exams. You are encouraged to prepare your own "notes sheet" (either independently or in collaboration with study partners). Do not use a "notes sheet" someone else has prepared.

The second exam will not be cumulative. For example, I won't ask you to do a calculation to determine some queue length, but I expect you to know Little's Law and to be able to do some basic things like drawing a Gantt chart (to mention two examples).

Late Assignments

Please note that all assignments are due by the specified deadlines. **The exact date and time will be announced on Quercus.** No late assignments will be accepted, except for 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 Services

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
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 scholarships at the University of Toronto. Participating honestly, respectively, 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 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 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 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.

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.

Record Proctoring: Online exam(s) within this course [may] use online invigilation provided by ProctorU®, an online proctoring service that allows completion of the assessment from an off-campus location. ProctorU will support an automated onboarding process using your webcam and photo identification to verify your identity. ProctorU will also record the exam session for review by a highly trained human proctor after it is complete. The recordings made will be held for a limited period of time in order to ensure academic integrity is maintained. The University of Toronto has an institutionally endorsed agreement with ProctorU that protects the privacy of the recordings, and other personal information.

Requirements: Students taking their examinations online will be proctored by ProctorU® throughout the duration of the exam. Access to a computer that can support remote recording is your responsibility as a student. You will need to ensure that you can complete the exam using a reliable computer with a webcam and microphone available, as well as a high-speed internet connection. Please note that you will be required to show your T-Card prior to beginning to write the exam.

Detailed information and an opportunity to test your setup will be provided prior to the exam date. For additional information about online proctoring please see course information in Quercus, or visit UofT Online Proctoring Guidelines.

General Process Description: Students must first confirm their identity via an automated process with a webcam picture and photo ID. ProctorU will then initiate a recording of you taking your exam using webcam, mic and desktop capture via high-speed internet connections. All components of proctoring must be maintained for the duration of the exam Non-compliance with exam protocols flagged during the subsequent review of the recording by the Proctor U trained proctor will be investigated to determine whether an academic offence has been committed as per the University of Toronto Governing Council Code of Behaviour on Academic Matters. At the completion of the exam, a report of student exam-taking behaviours is generated and reviewed by the instructor and IT staff. Exam grades will not be released to students until the integrity of the exam has been verified through ProctorU®, Rotman staff, and the instructor(s).

Privacy and Information Security: The University of Toronto has a contract with ProctorU® that protects the privacy of the recordings, and other personal information. However, as you will be video recorded while writing the exam, please consider preparing the background (room / walls) so that personal details you would not want visible are removed, or take your exam in a room that you are comfortable showing on camera. It is recommended that students using ProctorU services remove the Chrome or Firefox extension after completion of the exam.
Retention of Video Content: Recordings captured via the ProctorU® system are available to the University and the instructor for sixty days after a recording is made. Recordings flagged for review will

be archived for 12 months. After these time periods have passed, recordings are purged. For more information see [ProctorU: Privacy and Security Information Notice for Students](#).