

**MBA O650: Operations Management
Course Outline
Spring/Summer 2024
Operations Management Area
DeGroot School of Business/McMaster University**

COURSE OBJECTIVE

- Obtain an understanding of the fundamental issues in the operations functional area and their interface with other functional areas in an organization.
- Do a broad review of decision areas within the operations function in manufacturing, distribution, and service organizations.
- Introduce quantitative tools available for analysis and decision support in various decision areas.
- Obtain an understanding of real-life applications of operations management concepts and techniques in various disciplines using case studies, projects, guest lectures, etc.

INSTRUCTOR AND CONTACT INFORMATION

Role	Instructor	TA
Name	Dr. Chandrashekar Yegnaraman (Chandra Raman)	TBA
Affiliation	Adjunct Professor / Operations Management Area	
Email	yegnarac@mcmaster.ca	
Office	Virtual	
Office Hours	TBD	

COURSE ELEMENTS

Credit Value: 3	Leadership: No	IT skills: Yes	Global view: Yes
Avenue: Yes	Ethics: Yes	Numeracy: Yes	Written skills: Yes
Participation: Yes	Innovation: Yes	Group work: Yes	Oral skills: Yes
Evidence-based: Yes	Experiential: Yes	Final Exam: No	Guest speaker(s): No

COURSE DESCRIPTION

Operations management is the set of activities that create value in the form of goods and services by transforming inputs into outputs. Operations managers plan, direct, and control activities related to the production of goods and provision of services. Examples of operations management activities are product and service design, supply chain management, project management, total quality management and quality control, capacity and process planning, forecasting, inventory management, aggregate planning, material requirement planning, just-in-time, and scheduling. These activities are modeled and analyzed using quantitative techniques/tools (such as sampling, linear programming, queuing theory, inventory optimization, and time series analysis) as decision aids in operations management.

LEARNING OUTCOMES

Upon completion of this course, students will be able to complete the following tasks:

- Demonstrate a basic understanding of the operations function, the decision areas governing a firm, and the linkages between the firm's strategy and its processes.
 - Use quantitative techniques and tools available for analysis and decision support in real-life problems pertaining to operations management.
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REQUIRED COURSE MATERIALS AND READINGS

Optional Textbook: Operations Management: Processes and Supply Chains, 13th edition, by Krajewski, Ritzman and Malhotra, published by Pearson.

MyLab will not be used in the course.

EVALUATION

There will be an in-depth introduction to each decision area/process in class, followed by examples highlighting the pertinent quantitative techniques. Each procedure/algorithm will be illustrated through detailed realistic examples. ***Students are expected to download handouts before each session.*** The balance of the learning will result from the readings and hand-in assignments where you apply analytical techniques individually. Excel prescriptive tool Solver and predictive tool Forecast sheet will be explored. Your final grade will be calculated as follows:

Evaluation:

Component	Type	Weight	Date/Time	Content
Class Participation	Individual	10%	All Classes	Active Involvement in class discussions
3 Assignments	Individual	15%	Schedule will be announced.	Homework Assignments
Mid Term Exam	Individual	30%	June 15, 9.00 am to 12 noon	Details in the class
Group Case Study	Group Project	15%	July 9, 2024	Analysis, Presentation and Report
Final Exam	Individual	30%	July 20, 9.00 am to 12 noon	Details in the class

The midterm and final exam will cover technical materials. Formula sheets containing formulas and any tables needed will be provided in the examination. The use of a McMaster standard calculator is allowed during examinations in this course. See McMaster calculator policy at the following URL:

<http://www.mcmaster.ca/policy/Students-AcademicStudies/examinationindex.html>

Group Case Study: The group case study includes a comprehensive analysis, presentation, and summary report about a case and has two main parts: **1. Presentation**, which is **group work**, and **2. Written Report**, which is **individual work**. The final project will be evaluated for

1. Completeness and correctness of the analysis (both quantitative and qualitative),
2. Innovation in analytical thinking,
3. Managerial/policy insights,
4. Communication (in the presentation and summary report)
5. Ability to facilitate discussions.

The format for the report will be given in the class.

The complete details of the group case will be shared through a separate document in the class.

Note about Marks: Individual marks are posted on Avenue to Learn, and the final marks (letter grades) are posted on Mosaic. Exams are not returned. Students can review their exams with the instructor or TA during office hours within two weeks of the marks being posted on Avenue.

Final Grades: At the end of the course, overall percentage grades are converted to a letter grade in accordance with the following conversion scheme:

Grade Conversion

At the end of the course, your overall percentage grade will be converted to your letter grade in accordance with the following conversion scheme.

Letter Grade	Percentage	Points
A+	90-100	12
A	85-89	11
A-	80-84	10
B+	75-79	9
B	70-74	8
B-	60-69	7
F	00-59	0

COMMUNICATION AND FEEDBACK

Students who are uncomfortable in directly approaching an instructor regarding a course concern may send a confidential email to the respective Area Chair of the Operations Management Area¹ or the Associate Dean (adbusac@mcmaster.ca).

Students who wish to correspond with instructors or TAs **directly via email** must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information as well as confirms the identity of the student. Emails regarding course issues should NOT be sent to the Area Administrative Assistants. Instructors are required to provide evaluation feedback for at least 10% of the final grade to students prior to Week #8 in the term. Instructors may conduct an informal course review with students by Week #4 to allow time for modifications in curriculum delivery.

Students who wish to have a course component re-evaluated must complete the following form: http://www.mcmaster.ca/policy/Students-AcademicStudies/Form_A.pdf

In order for the component to be re-read:

- the component must be worth 10% or more of the final grade in the course
- students pay a fee of \$50 in Gilmour Hall #209 (a receipt is then brought to APO)
- the Area Chair will seek out an independent adjudicator to re-grade the component
- an adjustment to the grade for the component will be made if a grade change of three points or greater on the 12-point scale (equivalent to 10 marks out of 100) has been suggested by the adjudicator as assigned by the Area Chair
- if a grade change is made, the student fee will be refunded

ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. The academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g., a grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for

¹ Link to the Operations Management Area’s portal: <https://research.degroot.mcmaster.ca/faculty-areas/operations-management/>

academic dishonesty”), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty, please refer to the Academic Integrity Policy, located at:

www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g., the submission of work that is not one’s own or for which another credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations

AUTHENTICITY/PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal the authenticity and ownership of student-submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g., A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software.

All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., online search, other software, etc.). For more details about McMaster’s use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

COURSES WITH AN ON-LINE ELEMENT

Some courses may use online elements (e.g., e-mail, Avenue to Learn (A2L), Learn Link, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that when they access the electronic components of a course using these elements, private information such as first and last names, usernames for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course.

The available information is dependent on the technology used. Continuation in a course that uses online elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

ON-LINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience and the responsibility to demonstrate respectful and dignified interactions within all of our living, learning, and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the “Code”). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g., use of Avenue 2 Learn, WebEx, or Zoom for delivery) will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students’ access to these platforms.

MISSED ACADEMIC WORK

Missed Mid-Term Examinations / Tests / Class Participation

Please do not use the online [McMaster Student Absence Form \(MSAF\)](#), as this is for Undergraduate students only. The MBA program will not accept an MSAF.

When students miss regularly scheduled term work that contributes 10% or more to the final grade for legitimate reasons as determined by the Student Experience – Academic Office (SEAO), the activity necessary to compensate for the missed work will be determined by the course instructor. The compensatory activities assigned will vary with the nature of the course and the missed requirement. They include, but are not restricted to, an alternative assignment, a rescheduled midterm exam, or re-weighting the marks for the missed component to other mark components. Documentation explaining such missed work must be provided to the SEAO within five (5) working days of the scheduled date for completion of the work.

Acceptable reasons for missed work, along with the [Petition for Missed Term Work](#) and the [MBA Student McMaster University Student Health Certificate](#), can be found on the DeGroot MBA Student website (mbastudent.degroot.mcmaster.ca). Please direct any questions about acceptable documentation to the MBA Academic Advisors (askmba@mcmaster.ca).

University policy states that a student may submit a maximum of three (3) [Petition for Missed Term Work](#) per academic year, after which the student must meet with the Director of the program.

If term work is missed without an approved reason, students will receive a grade of zero (0) for that component.

Missed Final Examinations

Students must be available for the duration of the posted exam period regardless of their personal exam schedule. This is to ensure student availability throughout the entire exam period in the event that an exam must be rescheduled due to unforeseen circumstances (university closure, power outage, storm policy, etc.). A student who misses a final examination without a valid reason will receive a mark of 0 on the examination.

Students who have missed a final exam for a valid reason can apply to the SEAO to write a deferred examination by submitting an [Application for Deferring a Final Exam](#) with supporting documentation. The

application must be made within five days of the scheduled exam date, or the application may be denied.

The [Application for Deferring a Final Exam](#) and the [MBA Student McMaster University Student Health Certificate](#) can be found on the DeGroot MBA Current Student website:

<https://mbastudent.degroot.mcmaster.ca>

Deferred examination privileges, if granted, are normally satisfied during the examination period at the end of the following semester. In select cases, the deferred examination may be written at a time facilitated by the SEAO and agreed to by the course instructor.

Requests for a second deferral or rescheduling of a deferred examination will not be considered.

Failure to write an approved deferred examination at the pre-scheduled time will result in a zero (0) mark for that examination, except in the case of exceptional circumstances where documentation has been provided and approved. Upon approval, no credit will be given for the course, and the notation N.C. (no credit) will be placed on the student's transcript.

ACADEMIC ACCOMMODATION FOR STUDENTS WITH DISABILITIES

Student Accessibility Services (SAS) offers various support services for students with disabilities. Students are required to inform SAS of accommodation needs for coursework at the outset of the term. Students must forward a copy of such SAS accommodation to the instructor normally within the first three (3) weeks of classes by setting up an appointment with the instructor. If a student with a disability chooses NOT to take advantage of an SAS accommodation and chooses to sit for a regular exam, a petition for relief may not be filed after the examination is complete. The SAS website is:

<http://sas.mcmaster.ca>

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous, or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office ***normally within 10 working days*** of the beginning of the term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright-protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical, and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

POTENTIAL MODIFICATION TO THE COURSE

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with an explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

RESEARCH USING HUMAN SUBJECTS

ONLY IF APPLICABLE

Research involving human participants is premised on a fundamental moral commitment to advancing human welfare, knowledge, and understanding. As a research-intensive institution, McMaster University shares this commitment in its promotion of responsible research. The fundamental imperative of research involving human participation is respect for human dignity and well-being. To this end, the University endorses the ethical principles cited in the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans: <http://www.pre.ethics.gc.ca>

McMaster University has mandated its Research Ethics Boards to ensure that all research investigations involving human participants are in compliance with the Tri-Council Policy Statement. The University is committed, through its Research Ethics Boards, to assisting the research community in identifying and addressing ethical issues inherent in research, recognizing that all members of the University share a commitment to maintaining the highest possible standards in research involving humans.

If you are conducting original research, it is vital that you behave in an ethical manner. For example, everyone you speak to must be made aware of your reasons for eliciting their responses and consent to providing information. Furthermore, you must ensure that everyone understands that participation is entirely voluntary. Please refer to the following website for more information about McMaster University's research ethics guidelines: <http://reo.mcmaster.ca/>

Organizations that you are working with are likely to prefer that some information be treated as confidential. Ensure that you clarify the status of all information that you receive from your client. You **MUST** respect this request and cannot present this information in class or communicate it in any form, nor can you discuss it outside your group. Furthermore, you must continue to respect this confidentiality even after the course is over.

ACKNOWLEDGEMENT OF COURSE POLICIES

Your registration and continuous participation (e.g., on A2L, in the classroom, etc.) to the various learning activities of MBA O650 will be considered to be an implicit acknowledgement of the course policies outlined above or of any other that may be announced during the lecture and/or on A2L. **It is your responsibility to read this course outline, familiarize yourself with the course policies, and act accordingly.**

A lack of awareness of the course policies **cannot be invoked** at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand.

Course Outline O650-Operations Management Summer 2024		
Week Day	Lecture Topics and Reading	Practice Problems/In Class Exercises
Week 1a May 14-Tue	Ch1:Operations to Create Value	Ch1:Disc Questions3,6 Prob.2,4,8
Week 1b May 16-Thu	Ch2: Process Strategy &Analysis	Ch2:Disc Questions5,6 Prob.1,3,4
	Ch2:Process Strategy &Analysis	
Week 2a May 21-Tue	Ch 3:Quality Management	Prob.1*,5*,8*,17(*also use excel templates).
Week 2b May 23-Thu	Ch 3:Statistical Quality Control	
Assignment 1		
Week 3a May 28-Tue	Ch4:Lean Systems, Value Stream Mapping	Ch4:Prob 14 in class
Week 3b May 30-Thu	Ch5:Capacity Planning and Waiting Lines(Supp B)	Prob# 16,17
Week 4a June 4-Tue	Ch6: Constraints Management, Line Layout	Prob #1,2,3
Week 4b June 6-Thu	Ch7:Project Management	Prob#1,2,3
Mid Term Exam-June 15	<u>Exam 1</u> :Sat June 15,9am-11.30am,150 minutes computer not required, Covers week 1 to 4	
Assignment 2		
Week 5a June 11-Tue	Ch8: Forecasting	Ch8:Prob.6,9
Week 5b June 13-Thu	Ch8: Forecasting	
Week 6a June 18-Tue	Ch9: Inventory Management	Ch9:Prob.2,4,8,10,11,16,22,23
Week 6b June 20-Thu	Ch9: Inventory Management Special Models(Supp C)	Prob#5,11,9
Assignment 3		
Week 7a June 25-Tue	Ch10: Operations Planning & Scheduling	Ch10:7*,11*(<i>*also use excel templates</i>)12,16
Week 7b June 27-Thu	Ch10: Linear Programming and use of Excel Solver(Supp D) Transporta	
Week 7c June 22,23	<u>Group Projects</u> : Group Projects are due on Sun June 23(before 11.59pm)	
Week 8a July 2-Tue	Ch11: Resource Planning,Master Production Schedule,MRP, JIT System	Johnson's Rule Problem;Ch11:1,8*,14*,21
Week 8b July 4-Thu	Ch11: Distribution Requirement Planning	
Week 9a July 9 -Tue	Group Project Presentation(A Case Study in Operations Management)	
Week 9b ,July 11-Thu	Kinaxis Game in Distribution Requirement Planning	
Fianl Exam July 20	<u>Final Exam</u> (Tentatively scheduled by MBA Office for Saturday July 20 Starting 9.00am-11.30am	
	150 minutes computer required,open book Covers week 5 to 9.Does not cover week 1 to 4	