



TOMS - 5302 (A) OPERATIONS MANAGEMENT
Fall (F2) 2021

| | |
|---------------------|--|
| Instructor: | Saroj Koul |
| Email: | saroj.koul@carleton.ca |
| Phone: | 819-360-7237 |
| Office: | Nicol Building (Contract Instructors Office) |
| Office Hours: | Tuesday (11.45 am – 1.45 pm) by appointment and online via ZOOM |
| Course Timings: | TOMS 5302-A: Tuesday, 8.35 am – 11.25 am (NI 4020) |
| Class Meeting: | There shall be three in-person and three online classes in the term. = Three in-person classes shall take place on Nov-2, Nov-16 and Nov-30, 2021. = Three online classes shall take place on Nov-9, Nov-23, and Dec-7, 2021. |
| Learning Modality: | In the term, attending class for this course will normally require the following time commitment (excluding readings and assignments): <ul style="list-style-type: none"> • 9 hours in-person* • 9 hours online, synchronous (i.e., delivered in real-time) <p>* For the Fall (F2) 2021 term, students who are unable to attend class in-person will be able to participate remotely. Students are required to have reliable, high-speed internet access, a computer (ideally with a webcam), and a headset with a microphone.</p> |
| Teaching Assistant: | Raqib Mahmud RaqibMahmud@cmail.carleton.ca |

A. COURSE OVERVIEW

Operations management encompasses the body of knowledge concerning the management of the day-to-day operations of any company. It may be defined as the design, operation, and improvement of the systems that create the firm's products and services. As Ritzman et al. put it, '*In essence, operations management is really about creating customer value through the effective and efficient management of processes, including product, service, and product design*'.

Three critical themes of operations management are emphasized: effective process management, the importance of cross-functional integration, and the role of operations in creating customer value.

This is a first-level course in operations management specifically designed for an MBA class to be delivered as a 0.25 credit course. Therefore, we will emphasize limited topics in the course

keeping in mind that at the end of the course, you would have developed the abilities i) to recognize and solve an operations problem, ii) to present and discuss intelligently an operations issue with staff and management; iii) to identify necessary skill set that would be required to solve a complex operations problem; iv) to see the impact of decisions and actions of operations area on other functions of the organization.

The Operations area is very broad, and given the short time for the course, we will be able to deal with limited topics. In particular, the following topics, some in-depth while others at the conceptual level will be covered:

1. Creating Customer Value through Operations
2. Process Management
3. Project Management
4. Quality Management: Focus on Statistical Quality Control
5. Capacity Planning
6. Resource Planning

Students with a degree in B.Com. or Industrial Engineering may find the course relatively easy, and my attempt will be to make the course interesting, refreshing and experiential for them.

B. CALENDAR DESCRIPTION

The provision of services and goods to customers, with a focus on efficiency, effectiveness, and productivity. Planning and control of processes involving products, workers, equipment, suppliers, and customers. Effects of variation and uncertainty on the lead time, inventory, quality, and customer service. Includes: Experiential Learning Activity

C. LEARNING OBJECTIVES and LEARNING OUTCOMES

Upon completion of this course, students should:

1. demonstrate an understanding of key issues facing managers in making decisions about the design, operation and improvement of systems that create the organization's products and services.
2. be able to recognize the pivotal value of operations in the creation of customer value.
3. understand the interrelated processes of a firm which connects operations with all other functional areas of an organization.
4. demonstrate knowledge of OM concepts/tools and apply them to design, plan, coordinate and control operations within an organization.

D. COURSE ORGANIZATION

The format of the course consists of a mixture of lectures, exposing the relevant material, case discussions on specific applications of management science approaches, and in-class problem-solving. Students are required to read the assigned reading materials before the respective class. For some selected readings, a written report will be required (due at the



beginning of the class), marked and will contribute to the overall course evaluation. Learning will also be enhanced through a set of review problems assigned to practice some of the management science approaches discussed in class. The answers to these problems are not to be handed in but should assist you in-class problem solving and discussion.

Course Prerequisites: BUSI 5801.

COURSE TEXTBOOK(S):

L.P. Ritzman, L.J. Krajewski, M.K. Malhotra and R.D. Klassen, *Foundations of Operations Management*, 4th Canadian Edition, ©2016 Pearson Education Canada. ISBN-10: 0134090918; ISBN-13: 9780134090917

[Note: Only Chapters 1, 3, 4, 6, 7 and 11 or parts from the textbook are required.]

The course content is more related to several books on Operations Management authored by L.P. Ritzman, L.J. Krajewski, and M.K. Malhotra in the last 20 years; the three authors have co-authored a variety of books, including a few mentioned below, the content of each varies a bit.

- Foundations of Operations Management
- Foundations of Operations Management, Canadian Edition (with R.D. Klassen)
- Operations Management - Operations Management: Processes and Value Chains
- Operations Management: Processes and Supply Chains

Please note that you do not need to buy a textbook to succeed in our upcoming course [as we will cover just a few topics and the price of each of the above latest editions is exorbitant]. Instead, the following electronic resources are connected via ARES for your use. Either one of the Chapters or their parts is required. Details on the specific chapters/part of the chapter will be available on the Brightspace [by 23-October 2021].

1. Operations management [electronic resource]: Greasley, Andrew., (ARES)
2. Lean manufacturing implementation [electronic resource]: a complete execution manual for any size manufacturer. Hobbs, Dennis P., (ARES)
3. Achieving Supply Chain Integration: Connecting the Supply Chain Inside and Out for Competitive Advantage [electronic resource]: Autry, Chad and Moon, Mark (O'Reilly Online learning) (ARES)

Also, a few OM Textbooks listed below are available on RESERVE in the main library.

4. R.S. Russell, and B.W. Taylor III, *Operations management: creating value along the supply chain*, 7th edition, 2011 (eBook).
5. J.R. Meredith and S. J. Mantel, Jr., *Project Management: A Managerial Approach*, 8th edition, 2011 (eBook).
6. J.R. Evans and W.M. Lindsay, *The Management and Control of Quality*, 6th edition, 2005 (physical reserves).
7. W.J. Stevenson and M. Hojati, *Operations Management*, 5th Canadian edition, 2015 (physical reserves).

CASE STUDIES & SIMULATIONS

We will use three (3) case studies in the course (in a group setting). Students shall be able to access the case studies through Ares. Please download the case studies in advance and prepare them before the session in which they are to be discussed. Also, one online simulation (in a group setting) has been created with Harvard Business Publishing and access is through Ares.

CASE STUDY-1: Project Destiny by P. Fraser Johnson, Ken Mark

Product #: W19138-PDF-ENG

Source: Ivey Publishing (Pub Date: Apr 11, 2019)

<https://hbsp.harvard.edu/search?Ntt=W19138-PDF-ENG>

CASE STUDY-2: Designing Optimal Capacity Planning Strategies by Owen Hall, Charles McPeak

Product #: 908D03-PDF-ENG

Source: Ivey Publishing

<https://hbsp.harvard.edu/search?Ntt=908D03-PDF-ENG>

CASE STUDY-3: Hank Kolb, Director, Quality Assurance by Frank S. Leonard

Product #: 681083-PDF-ENG

Source: Harvard Business School

<https://hbsp.harvard.edu/search?Ntt=681083-PDF-ENG>

SIMULATION 1: Quality Analytics

Product #: 4404-HTM-ENG

Source: Harvard Business Publishing

<https://hbsp.harvard.edu/product/4404-HTM-ENG>

USE OF SOFTWARE

You may use any software package which contains Management Science models. Microsoft Excel software tool or other tools introduced in the Modeling Business Decisions course can also be used.

EXAM DATE:

| | |
|-------------------------------------|--|
| Release of Question Paper: | Monday, December-6, 2021 [10.00 am] (Uploaded on Brightspace) |
| Submission of Individual Take-home: | Due by Wednesday, December-22, 2021 [10.00 am] (Uploaded on Brightspace) |

Drop Course Policy:

The deadline for academic withdrawal is the last day of classes (each term).

Grading Scheme:

| | |
|---------------------------------|------------------|
| Class Participation | 10% (Individual) |
| Case Presentations | 20% (Group) |
| Case Write-up/Managerial Report | 20% (Group) |
| Simulation Exercise | 10% (Group) |
| Final Examination | 40% (Individual) |
| TOTAL | 100% |

PREPARATION AND PARTICIPATION:

Class Participation – Contribution to Class Discussions (10%) The general guidelines are: Read all the required readings and participate in class discussions as actively and constructively as possible. I will grade each student's participation in class discussions. The continuum of the instructors' evaluation ranges from 0 to 4. That is, the minimum possible mark for participation in each class discussions is 0, the maximum is 2. Therefore, the total highest mark for participation in class discussions throughout the course is 10, the lowest is 0 (first session will not be counted).

Instructor will evaluate your participation in class discussion by applying the following criteria:

1. Did the student participate in today's class discussion (other than the assigned role of case presenter or case discussant- as there are separate marks assigned for that)?
2. Was there evidence that the student's participation in the discussion was based on his or her knowledge of the required readings? Did the student really read ALL readings assigned for a given class or was the student's discussion based only on his or her past experience and/or common sense? (For classes in which readings/cases are required)
3. Was the student's discussion appropriate and to the point?
4. Did the student contribute to class learning?

Class discussions provide an opportunity to manifest your creative abilities.

Class Presentations (20%) There will be 11 or 12 groups in the class, depending on the class enrollment. Each group will be making ONE presentation on the Case. Each member in the group will be responsible for a part of the presentation. Evaluation Rubrics shall provide the detailed marks break-up. Marks will be based on the group performance.

Case Write-up (20%) There will be three (3) cases discussed in this course. Each group will be required to hand in write-up for one case. This case should be other than the one your group is presenting. To assist you in completing this assignment a set of questions for each case that we expect to see answered in your write up will be provided in the preceding class and/or given at the end of the case. These questions will also form the basis of our discussion in class. When handing in the case write-up DO NOT just repeat case facts. Rather, you need to analyze the

material given in the case when answering the case questions. Case write-ups should be precise and to the point not exceeding typed 6 pages' double spaces.

Make sure that you give the rationale behind all your recommendations. Finally, clarity of writing is an important part of communication. Marks will be taken off if the case submission is not well written. It should be noted that the case write-ups are due before it is discussed in the class. No case write-up submissions will be accepted for grading after the discussion has begun. Please note that the managerial reports will not be returned after being marked. However, they will be available for consultation at the instructor's office. Be sure to keep a copy for yourself.

Further tips for Case Analysis are appended to the course outline.

What skills you will develop:

- 1) Ability to understand client needs and scope.
- 2) Apply quantitative and qualitative concepts taught in this course
- 3) Ability to collect relevant information, analyze it, and present it effectively.
- 4) Ability to develop a professional report
- 5) Presentation Skills
- 6) Teamwork and Collaboration

Simulation Exercise (10%) One Web-based Simulation exercise will be run in a group setting. The group simulation outcome shall include Competition rating, Summary analysis (one (1) slide PPT/per simulation) on the group's learnings and a Peer review. Evaluation Schema and details shall be available on Brightspace.

Case Approach: Cases are brief descriptions of a situation in which an organization finds itself at a point in time. Basically, a case study is only a story, a description of events usually in a chronological order. These events provide one source of information you will need to answer questions posed. Other source is the lecture material and research articles discussed in the class. The main purpose of the case assignment is to identify the problem(s)/opportunities facing the organization and to utilize theories and ideas you have learned in this course to make decisions on how to solve those problems. You may feel uncomfortable making such decisions even after you have done a thorough analysis of all the information in the case. Some of what you consider to be key pieces of information may be missing, but this is part of normal reality. Management decisions are never made based on complete information.

The three cases will also be discussed in class. You may be called upon to discuss some aspect of a case during the case discussion. You should come to class prepared to discuss any and all aspects of the problem(s)/opportunities in the case and of the decisions you make.

The following steps are a suggested framework. You can modify them as necessary:

- 1) Preview the Case - You may read rapidly or skim through the case, taking notes and jotting down the important ideas. Discover the parameters of the problem and keep in mind the

questions that have been asked

- 2) Read the Case – Once you have previewed the case, read it in detail. While reading in detail, you should be looking for major problems, variables, constraints, limitations, alternatives. Keep in mind the relevant literature which may help in solving the case. Note down the relevant points
- 3) Identify the causes for the problem and the type of relationship between the problem and the causes.
- 4) Identify alternative solutions and try to determine what is the best solution
- 5) Give a recommended solution and a plan for implementation (action plan). The action plan should attempt to solve both present and future problems. Undesirable solutions that may occur in the future should also be addressed during this stage. Try to answer what, who when and why. For example, what should be done, when it should be done, who should do it and why should it be done. Give clear rationale for the recommendation.
- 6) Conduct risk analysis. In other words, what things could go wrong if your client/ organization implements your recommendations, and how organization can prepare for least damage incase unwanted situation occurs. What are suggestions you can give to the firm for smooth implementation of your recommendations.
- 7) Writing should be well organized, logical, clear and free of any grammatical or spelling mistakes. You must support statements with facts.

Team Approach: An interactive learning environment provides the maximum potential to explore and truly grasp the material of the course. To facilitate interactive discussion teams will be formed. It will be necessary for the teams to meet outside of class to discuss the case analyses. In addition, during class, teams may be given topics for discussion and/or small tasks to accomplish. Good group dynamics are essential. You are strongly advised to speak to the instructor about group problems as soon as they arise, rather than waiting until it is too late. Instructors will do their best to help mediate group problems as needed.

The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follower-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

Late Assignments:

To ensure fairness for all students, penalties will be applied to late assignments: Failure to submit an assignment on time will result in an initial penalty of five (5) percentage points, followed by an additional (2) percentage points per day thereafter. For example, an assignment that would normally merit a grade of 80% would receive a grade of 75% if submitted after the deadline on the due date, 73% if submitted the following day, and so on. Requests for extension will be considered in cases of illness, family emergency, or other exceptional circumstances.

Final Examination (40%) Format of the exam will be discussed in the class. Structure of the exam and examples will be provided. The goal of the final exam is to test knowledge acquired during the course. Questions will be asked from the material covered in the class including cases, class notes and readings. Examination may consist of short essay questions, qualitative and quantitative and may include a mini-case which you would be expected to analyze and make recommendations.

We strongly recommend that you periodically review the required readings, case assignments, practice problems, and the notes you make during class discussions.

Students are advised that exam papers will not be returned back to them after being marked. They will be available for consultation only at the instructor's office. If a participant is unable to sit for the final exam, the School's office will determine the eligibility for a deferred final examination. It should be noted that deferred examinations are not granted to participants who make travel plans that conflict with the examination period. Further, the final grade in the course is subject to Dean's approval.

Deferred Final Examination:

Students unable to write a final examination because of illness or other circumstances beyond their control must contact the instructor and the MBA office in writing to request a deferred exam. Permission may be granted when the absence is supported by a medical certificate and or appropriate document/s to support the reason for the deferral.

Course Schedule *:

| Wk | Date | Type | Topic/Agenda | Pre-class Prep |
|-----------|-------------------------------|---|--|---|
| 1 | Session-1 Tuesday (Nov-2) | <i>In-Class</i> | Creating Customer Value through Operations | Read Course Outline. Read Chapter Presentation 1 |
| 2 | Session-2 Tuesday (Nov-9) | <i>Online</i> | Process Management | Practice: Solved Numerical Chapter 1 Read Chapter Presentation 2 |
| 3 | Session-3 Tuesday (Nov-16) | <i>In-Class</i> | Project Management | Practice: Solved Numerical Chapter 2 Read Chapter Presentation 3 |
| 4 | Session-4 Tuesday (Nov-23) | <i>Online (Simulation)</i> | Quality Management: Focus on Statistical Quality Control | Practice: Solved Numerical Chapter 3 Read Chapter Presentation 4 |
| 5 | Session-5 Tuesday (Nov-30) | <i>In-class (Group Presentations)</i> | Capacity Planning | Practice: Solved Numerical Chapter 4 Read Chapter Presentation 5 |
| 6 | Session-6 Tuesday (Dec-7) | <i>Online Group Presentations)</i> | Resource Planning | Practice: Solved Numerical Chapter 5 Read Chapter Presentation 6 |

*full details shall be available by 23-October 2021.

Contribution to Program Learning Goals ([MBA](#)):

| MBA Learning Goal | Not Covered | Introduced | Taught but Not Assessed | Taught <u>and</u> Assessed |
|--|--------------------|-------------------|--------------------------------|-----------------------------------|
| MB1 Leadership and Collaboration <i>Graduates will be equipped for leadership and collaboration.</i> | | | | ✓ |
| MB2 Communication <i>Graduates will be effective communicators</i> | | | | ✓ |
| MB3 Critical Thinking and Problem Solving <i>Graduates will be skilled in critical thinking and problem solving.</i> | | | | ✓ |
| MB4 Functional Knowledge <i>Graduates will have functional knowledge of all areas of business.</i> | | | | ✓ |
| MB5 Global Business <i>Graduates will have an appreciation of the global environment of business.</i> | | | | ✓ |
| MB6 Ethical Reasoning <i>Graduates will be skilled in ethical reasoning and decision-making.</i> | | | | ✓ |

ADDITIONAL INFORMATION

Course Sharing Websites:

Materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Recommended Calculator for Examinations:

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

Group Work:

The Sprott School of Business encourages group assignments. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership and other group skills. Group assignments are also an effective way to learn integrative skills for putting together a complex task. Your professor may assign one or more group tasks, assignments, or projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

Letter Grades:

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

| | | | | |
|-------------|-------------|-------------|-------------|--------------|
| A+ = 90-100 | B+ = 77-79 | C+ = 67-69 | D+ = 57-59 | F = Below 50 |
| A = 85-89 | B = 73-76 | C = 63-66 | D = 53-56 | |
| A - = 80-84 | B - = 70-72 | C - = 60-62 | D - = 50-52 | |

Grades entered by Registrar:

WDN = Withdrawn from the course
DEF = Deferred

Academic Regulations:

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Requests for Academic Accommodation:

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

- **Pregnancy**

Please contact your instructor with any requests for academic accommodation during the first two

weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

- **Religious Obligations**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

- **Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. <https://carleton.ca/pmc/>

- **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/sexual-violence-support/>

- **Student Activities**

Carleton University recognizes the substantial benefits, to both the individual student and the university, that result from participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: <https://students.carleton.ca/course-outline/>

Academic Integrity:

Violations of academic integrity—presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student—are a serious academic offence, weaken the quality of the degree, and will not be tolerated. Penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. Students are expected to familiarize

themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>

Centre for Student Academic Support:

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: <https://carleton.ca/csas/>

Other Important Information:

- Students must always retain a hard copy of all work that is submitted.
- All final grades are subject to the Dean's approval.
- For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton email account. If you do not have or have yet to activate this account, you can do so by visiting <https://carleton.ca/its/get-started/new-students-2/>

Important dates and deadlines

<https://sprott.carleton.ca/students/mba/dates-deadlines-policies/>