

MBA O721
Inventory Management and Production Planning
Tentative Fall 2020 Course Outline
Operations Management Area
DeGroote School of Business

COURSE OBJECTIVES

- To develop a conceptual framework for analysing inventory management, distribution systems and production planning.
- To become familiar with the mathematical modelling tools useful in developing and executing tactical and short-term plans in inventory, distribution and production planning.
- To obtain hands on experience in using the materials management (MM) and production planning (PP) modules in the ERP system SAP ECC 6.04. The course can be used towards the SAP certification in business integration.

INSTRUCTOR AND CONTACT INFORMATION

<p>Dr. Prakash Abad Instructor abad@mcmaster.ca Office: DSB 416 Office Hours: TBA Tel: (905) 525-9140 x23945 Course Website</p>	<p>Ramy Abdallah Teaching assistant abdalr1@mcmaster.ca DSB A210 Office Hours: TBA 905-525-9140 ext. 20095 http://avenue.mcmaster.ca</p>
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COURSE ELEMENTS

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

COURSE DESCRIPTION

This course includes readings, lectures, and extensive use of ERP client SAP ECC 6.04 to illustrate some of the theories/concepts discussed in the course. The orientation is at the analyst level.

LEARNING OUTCOMES

- Upon completion of this course, students will be able to complete the following key tasks:
- Learn analytical approaches in inventory management and production planning.
 - Attain in-depth familiarity with the materials management (MM) and production planning (PP) modules in SAP SAP ECC 6.04.
 - Study techniques in forecasting, replenishment strategies to optimize inventory in distribution systems.
 - To study procedures for intermed and short-term production and material planning in a manufacturing system.

REQUIRED COURSE MATERIALS AND READINGS

Avenue registration for course content, readings and case materials

- <http://avenue.mcmaster.ca>

\$ FREE

Inventory and Production Management in Supply Chains, Fourth Edition, CRC Press, 2016. The eBook version of the textbook is available online at McMaster library:

<http://ebookcentral.proquest.com/lib/MCMU/detail.action?docID=4771754>

Focus will be on the sections corresponding to material discussed in class.

COURSE ASSESSMENT AND OVERVIEW

Components and Weights

Assignments: 6 in total	Work individually	15%
Midterm		30%
Final		30%
SAP assignments (2)	Work individually	10%
SAP drills (5)		15%
Total		100%

NOTE: Examinations are online. For summary, detailed sheets containing formulas and templates of procedural tables will be provided to students before an examination. The use of 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>

The final exam will cover material in the second half. For a student who has permission from the MBA Academic Services Office to miss the midterm, all the missed midterm exam material and all the missed midterm exam marks will be added to the student's final exam and the final exam will be in two parts.

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	PERCENT	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

Activity	Delivery	Description	Tool(s)
SAP Drills	Asynch	Follow detailed write-up Seek TA/instructor help if needed	SAP ECC 6.04
SAP Assignments	Asynch	Follow detailed instructions, seek TA/instructor help if needed	SAP ECC 6.04
Live sessions	Synch	2 hr. live sessions: detailed exposure to analytic models and procedures; Demonstrations on SAP ECC 6.04 and software tools	Zoom
Midterm and Final	Synch	Will include quantitative questions	Avenue

ACADEMIC DISHONESTY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. 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. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for 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 other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations

ONLINE COURSE COMPONENTS

In this course we will be using Avenue to Learn. Sessions, Assignments and solutions would be posted on A2L. In addition, articles and videos may be posted on Avenue to Learn throughout the term.

Students should be aware that when they access the electronic components of this course, 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 this course will be deemed consent to this disclosure.

ON-LINE PROCTORING

This 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.

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., on-line search, other software, etc.). For more details about McMaster’s use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

REQUESTING RELIEF FOR MISSED ACADEMIC TERM WORK***Missed Mid-Term Examinations / Tests / Class Participation***

Where students miss a regularly scheduled mid-term or class participation for legitimate reasons as determined by the Student Experience – Academic (MBA) office, the weight for that test/participation will be distributed across other evaluative components of the course at the discretion of the instructor. Documentation explaining such an absence must be provided to the Student Experience – Academic (MBA) office within five (5) working days upon returning to school.

To document absences for health related reasons, please provide to Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and the McMaster University Student Health Certificate which can be found on the DeGroot website at <http://mbastudent.degroot.mcmaster.ca/forms-and-applications/>. Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. University policy states that a student may submit a maximum of three (3) medical certificates per year after which the student must meet with the Director of the program.

To document absences for reasons other than health related, please provide Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and documentation supporting the reason for the absence.

Students unable to write a mid-term at the posted exam time due to the following reasons: religious; work-related (for part-time students only); representing university at an academic or varsity athletic event; conflicts between two overlapping scheduled mid-term exams; or other extenuating circumstances, have the option of applying for special exam arrangements. Such requests must be made to the Student Experience – Academic (MBA) office at least ten (10) working days before the scheduled exam along with acceptable documentation. Instructors cannot themselves allow students to unofficially write make-up exams/tests. Adjudication of the request must be handled by Student Experience – Academic (MBA).

If a mid-term exam is missed without a valid reason, students will receive a grade of zero (0) for that component.

Missed Final Examinations

A student who misses a final examination without good reason will receive a mark of 0 on the examination. All applications for deferred and special examination arrangements must be made to the Student Experience – Academic (MBA) office. Failure to meet the stated deadlines may result in the denial of these arrangements. Deferred examination privileges, if granted, must be satisfied during the examination period at the end of the following term. There will be one common sitting for all deferred exams.

Failure to write an approved deferred examination at the pre-scheduled time will result in a failure 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. Students receiving no credit for a required course must repeat the course. Optional or elective courses for which no credit is given may be repeated or replaced with another course of equal credit value.

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

Any student who is unable to write a final examination because of illness is required to submit the Application for Deferred MBA Final Examination and a statement from a doctor certifying illness on the date of the examination. The Application for Deferred MBA Final Examination and the McMaster University Student Health Certificate can be found on the DeGroot website at <http://mbastudent.degroot.mcmaster.ca/forms-and-applications/> Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. Students who write examinations while ill will not be given special consideration after the fact.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within five business days of the missed examination. Special examination arrangements may be made for students unable to write at the posted exam time due to compelling reasons (for example religious, or for part-time students only, work-related reasons):

- Students who have religious obligations which make it impossible to write examinations at the times posted are required to produce a letter from their religious leader stating that they are unable to be present owing to a religious obligation.
- Part-time students who have business commitments which make it impossible to write examinations at the times posted are required to produce a letter on company letterhead from the student's immediate supervisor stating that they are unable to be present owing to a specific job commitment.

In such cases, applications must be made in writing to the Student Experience – Academic (MBA) office at least ten business days before the scheduled examination date and acceptable documentation must be supplied.

If a student is representing the University at an academic or athletic event and is available at an overlapping scheduled time of the test/examination, the student may write the test/examination at an approved location with an approved invigilator, as determined by the Student Experience – Academic (MBA) office.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within ten business days of the end of the examination period.

Note: A fee of \$50 will be charged for a deferred exam written on campus and a fee of \$100 for deferred exams written elsewhere. In cases where the student's standing is in doubt, the Graduate Admissions and Study Committee may require that the student with one or more deferred examination privileges refrain from re-registering until the examination(s) have been cleared.

STUDENT ACCESSIBILITY SERVICES

Student Accessibility Services (SAS) offers various support services for students with disabilities. Students are required to inform SAS of accommodation needs for course work at the outset of 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>

POTENTIAL MODIFICATIONS 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 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.

ACKNOWLEDGEMENT OF COURSE POLICIES

Your registration and continuous participation (e.g. on A2L, in the classroom, etc.) to the various learning activities of MBA O721650 will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on A2L. **It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.** 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 SCHEDULE

MBA O721
Inventory Management and Production Planning
Fall 2020 Course Schedule

Session	Topic	Study	Event
09/15	Introduction Forecasting	SPT- Ch. 1-3	
09/22	Forecasting	SPT- Ch. 3	
09/29	Forecasting, Order quantities when demand is approximately level	SPT- Ch. 4	--SAP demonstration on forecasting --Exponential smoothing in R
10/06	Special one time discount: Cost approach, SAP investment approach	SPT-Ch. 5 Handouts	SAP demonstration on <i>inventory investment</i>
10/13	Lot sizing for individual items with time-varying demand	SPT-Ch. 5	<i>Upload part 1 of SAP Assignment 1</i>
10/20	Safety stock for individual items when demand is stationary	SPT-Ch. 6:	
10/27	Forecast based replenishment when demand is non- stationary	Handouts	--SAP demonstration on replenishment planning -- <i>Upload part 2 of SAP Assignment 1</i>
11/03	Online mid-term		
11/10	Distribution requirement Planning, An overall framework for production planning and scheduling	Handouts, SPT –Ch. 13	--SAP drill on Sales and Operations planning
11/17	Sales and Operations Planning, Backlog planning, Material requirement planning	SPT –Ch. 14, 15	--SAP drill on MPS --Excel Solver LP
11/24	Detailed capacity planning, Job shop scheduling; finite loading	Handouts, SPT- Ch. 15 Handouts	SAP drill on MRP/capacity planning/scheduling
12/01	Just in Time Systems, Economic Lot Scheduling Problem	Handouts SPT- Ch. 16 SPT- Ch. 10	SAP drill on Kanban system
12/08	Optimized production technology	Handouts, SPT- Ch. 16	<i>Upload SAP Assignment 2</i>