

### **Goals and Objectives:**

Production and Operations Management 260 introduces the analysis and decision challenges that mid-level managers in both manufacturing and service organizations face recurrently, whether such managers are employed in private or public sector organizations. Such managers regularly must decide things like “How much product or service will my organization provide next month or next year?” and “How will resources be acquired and configured to meet this objective?”

The goal of MGMT 260 is to familiarize students with the vocabulary and decision contexts frequently encountered in operating environments and to provide them with hands on exposure to the qualitative and quantitative tools that are frequently used to support decision makers in these environments.

Operations Management is a very broad field. Thus, a prioritization of topics is necessary in a one semester course. Priorities were determined using the following criteria.

The high likelihood that all students will encounter many opportunities to manage “once and done” projects during their careers gives high priority to Project Management as a course topic.

Topics related to the management of services operations get a high priority because of the dominance that services organizations have in our economy, generally and also because of the great importance that providing world class customer inquiry, order entry, order processing, shipping, billing and post order help line services has for all manufacturing organizations.

The fast growth of e-commerce requires specific consideration of e-business operating issues.

### **Course Approach**

Text readings, lectures, in-class problem labs and written homework assignments will be used to cover more quantitative operations management topics such as sales forecasting, resource allocation, factory scheduling and inventory management as well more qualitative topics such as product/service and process design, quality management, supply chain management and e-business operations issues. A multi-week, instructor directed special assignment will also be completed. This assignment will require that each student create and deliver a complete project management plan suitable for managing the design and construction of a people mover in a large shopping mall. This latter learning mode will provide students hands on familiarity with project management tools and techniques.

### **Role of Blackboard**

All students must enroll for the course on Blackboard. There is no access code. Students will be notified of any class cancellations (e.g. snow emergency), lecture schedule revisions or homework assignment adjustments through Blackboard, so it should be checked prior to every class. Also, all class lecture notes, homework assignments and exam study guides will be put into the Course Documents section of Blackboard ahead of their due dates. Students are strongly encouraged to print out the day's lecture notes ahead of each class so they can add margin notes to the hard copy of the lecture notes during the lecture portion of the class.

## **Texts and their role:**

Required text: N. Gaither & G. Frazier's Production and Operations Management, 9th Edition (2002),

Recommended text: M. Hugos' Essentials of Supply Chain Management (2003).

Most lectures will mirror but not precisely follow the Gaither and Frazier text. The linkage of the lectures with Gaither and Frazier will be quite close in the more quantitative topic areas such as forecasting, resource allocation, capacity planning and scheduling, and inventory management. The tight coupling of lecture to text for these topics will aid students needing a ready reference when doing homework problem assignments. These homework problem assignments come from problems at the end of Gaither and Frazier chapters. On the other hand, lectures will both overlap and extend the Gaither and Frazier text coverage of more qualitative subjects such as project management, product design, factory layout, quality management, supply chain management, etc. with additions of supplementary material taken from the Hugos text and other sources.

Despite the occasional lecture to text deviations, students are still strongly encouraged (but not absolutely required), to do the text readings assigned ahead of the lecture. Readings assigned in the Gaither & Frazier text, will overlap and enhance the material provided in the lecture overheads that found in Blackboard. These readings are scheduled so as to provide the student with a "first coat of paint" understanding of the material to be discussed in class. They will be particularly beneficial to students whose quantitative skills are weak.

## **Calculators and computers**

A good pocket calculator will be needed for homework and exam problems. Some student may wish to buy a high end business calculator capable of performing 2 variable statistical analyses (aka. simple regressions). While calculators this powerful may be of help with Chapter 3 (forecasting) topics, they are not required for Chapter 3 work and are not needed for the rest of the course's chapters either. Thus, a student on a tight budget will be able to use a good, but less expensive TI or HP calculator to complete all of his or her assignments.

Whatever calculator you use, take time to master its keyboard commands, well before exam dates.

EXCEL will also be used from time to time, particularly for some homework problems (hand in printouts). This will be done to provide the student with hands on exposure to the quantitative tools widely used in modern organizations. However, students are required to do most of the homework problems with pencil and calculator because EXCEL tools do not provide the depth of understanding of method that pencil and calculator does and also since laptops can not be easily used in exams.

## **Grades:**

Grading will be done by adding the scores earned for the following course deliverables.

Homework essays & problems	20 points maximum
KOP Mall Project Plan	20 points maximum
Midterm 1	20 points maximum
Midterm 2	20 points maximum
Final exam	20 points maximum
Missed classes (>3 absences)	1 point deducted per absence

The exams will not be cumulative in coverage. The tests will be approximately 40-50% short essay and 50-60% problems. Test problems will be very similar to those worked in class and in homework.

### **Academic Honesty Policy**

Students should also note that Moravian's Academic Honesty Policy regarding cheating and plagiarism, as set out in the Student Handbook, will be fully adhered to. This policy will be followed for homework assignments as well as exams.

### **Homework Assignments:**

Student homework deliverables will be due on all classes except for exam days, at the start of class. These will be in hard copy format and hand delivered to the instructor in class or left in the instructor's mailbox in 105 Comenius, prior to class.

Written homework assignments will be graded on an S/U basis, S only if a respectable level of effort is evidenced in the homework submitted. Incomplete homework or homework submitted one class late will be graded S- (half credit). Homework turned in more than one class late will be graded zero unless explicitly excused by the instructor. Students who find, at the last minute, that they will be unable to attend a class (e.g. due to an unanticipated personal emergency) are expected to contact the instructor to request permission to submit the homework after the class by dropping it the instructor's mail slot in the CGS office in 105 Comenius, before the start of the next class.

Homework assignments not complete and handed in on schedule due to illness or because of a Moravian College extra curricula activity will not be accepted late unless accompanied by supporting documentation from a medical authority, coach, etc..

All homework must be submitted in hard copy format. Absent a compelling reason, e-mailed homework will not be accepted. Considerable experience with e-mailed homework has shown that it frequently leads to considerable student/teacher communications and record keeping confusion.

The written chapters of the Project Management Plan homework assignments must be typed. Hand written chapters will not be accepted. However, pencil or pen is acceptable for homework problem sets, as well as the graphical chapters of the Project Plan

### **Attendance Policy**

An attendance sign in sheet will be circulated in each class. Each student is permitted three unexcused absences from class to allocate as they see fit. After three absences, each further absence, for any reason, penalizes the student one point on the final grade.

Attendance at all exams is mandatory. Students missing an exam without prior notification and permission from the instructor will receive a grade of zero for that exam.

### **Office hours and meetings**

My office hours in 107 Comenius will be Tuesday and Thursdays 11-12am and Tuesdays 4:30-5:30pm, or by appointment. Also, I can easily be reached by e-mail during most weekdays..

### **Class and assignment schedule:**

The course's weekly lecture, reading assignment, homework, exam and paper due date schedule is attached. This schedule will be tightly followed, so students should familiarize themselves with it and plan ahead if business travel or other unavoidable absences are expected in advance.

## MGMT 260 A&B, SPRING, 2005 - CLASS SCHEDULE

- 1/11 Introductions, syllabus review, Lecture: introduction to operations management (OM)  
Recommended reading (finish by 1/13)  
Ch.1, pp. 6-8, 15-16, 20-22; Ch.2, pp. 29-38, 43-52  
Homework due 1/13 - see Blackboard.
- 1/13 Lecture: The strategic & tactical decision environment of OM  
Recommended reading (finish by 1/18) Ch. 3, pp. 63-79 (Examine but don't study Figure 3.1).  
Homework due 1/18 - see Blackboard.
- 1/18 Lecture: Forecasting, part 1 + in class problem lab  
Recommended reading (finish by 1/20) Ch. 3, pp. 80-81  
Homework due 1/20 - see Blackboard.
- 1/20 Lecture: Forecasting, part 2 + in class problem lab  
Recommended reading (finish by 1/25) Ch.3 pp.81-88.  
Homework due 1/25 - see Blackboard.
- 1/25 Lecture: Forecasting, part 3 + in class problem lab.  
Recommended reading (finish by 1/27) Ch.4 - through p.130.  
Homework due 1/27 - see Blackboard.
- 1/27 Lecture: Product and service design  
Recommended reading (finish by 2/1) Ch.4 - p.131 to end.  
Homework due 2/1- see Blackboard.
- 2/1 Lecture: Process design + Break even analysis  
Homework due 2/3- see Blackboard.
- 2/3 Exam 1 study guide review & in class problem lab.
- 2/8 Exam 1 (on material covered from chapters 1-4).  
Recommended reading (finish by 2/10) Ch.5, pp. 163-185 & Ch.10, pp. 376-384.
- 2/10 Lecture: Capacity planning  
Introduction to project management & the KOP project's Project Requirements Document  
Recommended reading (finish by 2/15) Ch.5, pp. 186-210 & Ch.6  
Homework due 2/15 - see Blackboard.
- 2/15 Lecture: Facility layout and operations technologies  
Recommended reading (finish by 2/17) Ch.8, pp. 298-312.  
Homework due 2/17 - see Blackboard.
- 2/17 Lecture: Resource allocation via linear programming - part 1 + in class problem lab  
Recommended reading (finish by 2/15) Ch.8, Examples 8.6 & 8.7.  
Homework due 2/22 - see Blackboard.
- 2/22 Lecture: Resource allocation via linear programming - part 2 + in class problem lab  
Recommended reading (finish by 2/24) Ch.13.  
Homework due 2/24 - see Blackboard.
- 2/24 Lecture: Capacity planning and scheduling - Part 1 + in class problem lab  
KOP Work Breakdown Structure  
Recommended reading (finish by 3/1) Ch.9.  
Homework due 3/1 - see Blackboard.

- 3/1 Lecture: Capacity planning and scheduling - part 2 + in class problem lab.  
Recommended reading (finish by 3/3) Ch.15.  
Homework due 3/3 - see Blackboard.
- 3/3 Lecture: MRP & CRP.  
KOP project cost estimate  
Recommended reading (finish by 3/15) Ch.7.  
Homework due 3/15 - see Blackboard.
- 3/8 break
- 3/10 break
- 3/15 Lecture: Management of product, service & process quality.  
Homework due 3/17 - see Blackboard.
- 3/17 Exam 2 study guide review & in class problem lab.  
Recommended reading (finish by 3/24) Ch.14.
- 3/22 Exam 2 (on material from chapters 5, 7, 8, 9, 13 & 15)
- 3/24 Lecture: Inventory management - part 1 + in class problem lab  
Homework due 3/29 - see Blackboard.
- 3/29 Lecture: Inventory management - part 2 + in class problem lab  
Recommended reading (finish by 3/31) Ch.12.  
Homework due 3/31 - see Blackboard.
- 3/31 Lecture: JIT and lean manufacturing concepts  
KOP project schedule  
Recommended reading (finish by 4/5) Ch.11 plus handouts from Hugos text.  
Homework due 3/31 - see Blackboard.
- 4/5 Lecture: Overview of Supply chain and value network management  
Homework due 4/7 - see Blackboard.
- 4/7 Lecture: Role of information technology in supply chain/value network management  
KOP Project tracking worksheet  
Homework due 4/12 - see Blackboard.
- 4/12 Lecture: The modern procurement function  
Homework due 4/14 - see Blackboard.
- 4/14 Lecture: Upstream and downstream channel management  
Homework due 4/19 - see Blackboard.
- 4/19 Lecture: Managing supply chain/value network inventories and logistics  
Homework due 4/21 - see Blackboard.
- 4/21 Lecture: e-business operations  
Homework due 4/26 - see Blackboard.
- 4/26 Lecture: HR & productivity issues  
Homework due 4/28 - see Blackboard.
- 4/28 Exam 3 review
- 5/? Final exam