

## **MGMT 36100: Operations Management**

### **Spring 2014**

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### **Course objectives**

- To provide a working knowledge of the vocabulary of OM.
- To help students develop an ability to design, improve, and manage processes by answering the questions:
  - What are the components of a process?
  - How should various process parameters such as capacities, output, and work-in-process inventories be calculated?
  - What are the major opportunities for improving a process?
- To familiarize students with key issues (cost, quality, delivery, and flexibility) and problems (e.g., variability) facing an operations manager.
- To discuss operations management systems (planning, materials, quality, etc.), and to study a wide variety of topics starting with inventory models and quality control charts developed over 80 years ago to the more recent topics of 1980s and 1990s: total quality management (TQM), lean manufacturing, six sigma, and supply chain management.

### **Textbook**

A custom book published by McGraw Hill and titled: Operation Management. A hard copy is generally available in local bookstores or directly from McGraw Hill:

[http://www.mhprofessional.com/mhhe\\_product.php?isbn=0077463773&cat=108](http://www.mhprofessional.com/mhhe_product.php?isbn=0077463773&cat=108)

There is a copy of the textbook on reserve at Krannert Library and another copy at Hicks library.

### **Course Materials**

Announcements, updated schedules, assignments, class slides, etc. will be posted on *Blackboard Learn*. *Students are responsible to get information from the web site in a timely manner.*

### **Prerequisites**

Undergraduate level STAT 225, STAT 311, STAT 416, or STAT 516 with minimum Grade of D-.

## Attendance and class participation

- Students are expected to attend classes and participate in the class discussions.
- Students must try to schedule job interview travel and other appointments so they do not conflict with class meetings.
- Students anticipating an excused absence due to illness must provide a physician's certification of illness and notify the instructor by emails in advance.
- Students should contact the instructor to make up missed assignments or exams.

## Assessments

Exams 1 and 2	50%	Each exam is non-comprehensive and carries 25% weight.
Exam 3 (Final Exam)	35%	Final exam is comprehensive
Homework, Class Exercises, Quizzes	15%	

- Typically the letter grade cut-offs are -- A: 100-90; B: 89-80; C: 79-70; D: 69-60. In the grade distribution, "A" includes "A+" and "A-", "B" includes "B+" and "B-" and so on.
- All exams are closed book, closed note, unless otherwise specified. The exams will cover materials in corresponding lectures, including class notes, homework, read assignments, videos, cases, games, etc.
- Students who reschedule an exam due to any unavoidable conflict must contact the instructor in person and in an email at least 7 days before the exam, and, for the final exam, at least 7 days before the finals week.
- Late submission of homework will not be accepted.
- Class exercises are performed by each individual student. Late submission will not be accepted.
- Reading assignments do not require submission. However, students should finish the assignments before due time, and confirm the completion online.

## Launching Business Leaders (LBL):

In keeping with Krannert's unique LBL initiative, this course will allow each of you to hone additional skills, strengthen your brand, and improve your relationship with others.

- Lecture and discussion will focus on strategic thinking for quality decision making in process analysis and process selection.
- Written communication will be improved through homework assignments.
- Class participation, game involvement, and presentations will improve your adaptability, team building, oral communication, and professionalism skills.

Additional information concerning LBL can be found at: <http://www.krannert.purdue.edu/launching-business-leaders/>



## Purdue University Code of Honor

The purpose of the Purdue University academic community is to search for truth and to endeavor to communicate with each other. Self-discipline and a sense of social obligation within each individual are necessary for the fulfillment of these goals. It is the responsibility of all Purdue students to live by this code, not out of fear of the consequences of its violation, but out of personal self-respect. As human

beings we are obliged to conduct ourselves with high integrity. As members of the civil community we have to conduct ourselves as responsible citizens in accordance with the rules and regulations governing all residents of the state of Indiana and of the local community. As members of the Purdue University community, we have the responsibility to observe all University regulations.

To foster a climate of trust and high standards of academic achievement, Purdue University is committed to cultivating academic integrity and expects students to exhibit the highest standards of honor in their scholastic endeavors. Academic integrity is essential to the success of Purdue University's mission. As members of the academic community, our foremost interest is toward achieving noble educational goals and our foremost responsibility is to ensure that academic honesty prevails.

### **Academic Integrity Certification:**

All students must carefully read the online guide on "Academic Integrity: A Guide for Students" at <http://www.purdue.edu/odos/osrr/academicintegritybrochure.php>, and bring a signed copy to class by the third class.

### **Adverse Weather Conditions**

The University takes into consideration local and regional weather conditions, travel conditions and decisions by local school districts when deciding whether to delay, dismiss or cancel classes and/or routine operations for an entire campus due to Adverse Weather Conditions. When conditions warrant, a decision to delay, dismiss, or cancel classes and/or routine operations is coordinated with appropriate local city, county or state officials and communicated to faculty, staff and students of the affected campus. The decision to delay, dismiss or cancel classes and/or routine operations for the West Lafayette campus is made by the President and for each of the Regional Campuses it is made by the Chancellor. The President and the Chancellors will each assign a designee for such purposes to act in his or her absence.

### **Adaptive Programs Statement:**

Students with disabilities must be registered with Adaptive Programs in the Office of the Dean of Students before classroom accommodations can be provided. If a student is eligible for academic accommodations because the student has a documented disability that will impact the student's work in this class, please schedule an appointment with the instructor to discuss the needs.

### **Emergency Statement:**

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances.

### **Class Attendance Statement:**

Purdue University policy states that all students are expected to be present for every meeting of classes in which they are enrolled. All matters relative to attendance, including the make-up of missed work, are to be arranged between the student and the instructor. Only the instructor can excuse a student from classes or course responsibilities. In the case of an illness, accident, or an emergency, the student should make direct contact with the instructor as soon as possible, preferably before the class. If a student will be absent for more than five days, the student or his/her representative should notify the Office of the Dean of Students (765-494-1254) as soon as possible. Be advised, the student may be asked to provide documentation from an authorized professional or agency which supports an explanation for the absence.

## Tentative Schedule

Note: HW – Homework; AIC – Academic Integrity Certification

Date	Topics	Class Contents	Chapters	Due
1/14/2014		1 Introduction	1	
1/16/2014	Process Analysis	2 Process Analysis, Design Parameters	2	
1/21/2014		3 Run Time Parameters, Little's Formula	2	AIC
1/23/2014		4 Assembly Process, Effect of Randomness	2	
1/28/2014		5 Process Types	3	HW1
1/30/2014		6 Line Balancing	3	
2/4/2014		7 Layouts	3	HW2
2/6/2014		Production Planning	8 Aggregate Planning, Effect of Set-up Time	4
2/11/2014	9 Aggregate Planning Cont.		4	
2/13/2014	10 MRP, Lot Sizing Rules		7	HW3
2/18/2014	11 MRP Cont.		7	
2/20/2014	12 Review for Exam 1			
2/25/2014	Exam 1			
2/27/2014	Inventory Management	13 Intro, EOQ Model	5	
3/4/2014		14 EPQ Model, EOQ with Quantity Discount	5	
3/6/2014		15 Q System, P System	5	HW4
3/11/2014		16 P System Cont., Newsvendor Model	5	
3/13/2014		17 Newsvendor Model, Decision Theory	5	
3/18/2014	Spring Break			
3/20/2014				
3/25/2014	Quality Management	18 Intro, Acceptance Sampling	6	HW5
3/27/2014		19 Process Control Charts	6	
4/1/2014		20 Process Capability	6	
4/3/2014		21 Review for Exam 2		HW6
4/8/2014	Exam 2			
4/10/2014	Supply Chain Management	22 Beer Game and FDDx Exercise Explanation		
4/15/2014		23 Beer Game		
4/17/2014		24 Beer game Discussion, Bull Whip Effect		HW7
4/22/2014		25 SCM, Lean Production	8	
4/24/2014		26 FDDx Exercise		
4/29/2014		27 FDDx Presentations		HW8
5/1/2014		28 Review for Final Exam		