

Course	BUSN 6110 Operations and Project Management	
Term	Fall 1, 2009 August 17 - October 16, 2009	
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Catalog Description	This is a course that focuses on the major managerial issues in manufacturing management and the tools that can be used to manage them. Special attention will be given to project management, including PERT, critical path scheduling, and time-cost models, in operations management and other business settings. The major operations management issues are quality management and control, capacity management, plant location, layout and design, production planning and scheduling, supply chain management, and inventory management. The analytical tools covered include queuing theory, statistical quality control, linear programming, and learning curves. Where appropriate, the use of operations management techniques in service and distribution organizations will be demonstrated.	
Prerequisites	BUSN 5760 Applied Statistics	
Course Level Learning Outcomes	Outcome	Expectation
	1. Students understand the role of OM in the firm and how the OM function must be integrated with other functions to ensure organizational success. Define, calculate and compare measures of productivity	Students can: <ul style="list-style-type: none"> • Describe relationship between the goals of other functional areas and analyze operational level conflicts between the goals them and recommend a constructive response.... • Differentiate the OM role as applied in Mfg and Service businesses... • Understand competitive dimensions of operations... • Define role of OM in the development of business strategy... • Understand the importance of measuring productivity
	2. Students can utilize PERT analysis to plan, manage, and evaluate a large project.	Students can develop a PERT diagram, calculate the critical path, decide whether or not an activity should be crashed, and estimate the probability that the project will be completed on time.

	<p>3. Students understand new product development processes and learn how to use learning curves in manufacturing and services operations decision making.</p>	<p>Students can read the description of a new product development process and determine if it is up-to-date. If it is not up-to-date the student can recommend changes that will bring it up to date.</p> <p>A review of TN4 will teach the student the methods of measuring learning and sing learning curves in decision making,</p>
	<p>4. Students know both the SQC and non-SQC approaches to the management of quality and will study the principles of Six Sigma as a Quality Management tool.</p>	<p>Students can develop quality measurement and control charts for evaluating processes and outputs and will understand how SQC charting is used to evaluate the quality performance of an ongoing production process. The student can also describe how to use QFD, VA, vendor analysis and Value Engineering in the managing of quality.</p>
	<p>5. Students will: Understand the importance of a defined Supply Chain Strategy to operational efficiencies. Develop a capability to make sourcing, outsourcing and in-plant production w Sourcing, Outsourcing, Plant in Plant and other delivery models will.</p>	<p>Students can discuss the major determinants of a successful Supply Chain Strategy . Topics studied will aid the student in selecting sources, determining when to dual-source, back-up and when it is appropriate to single source. Students will also be able to determine if an implemented supply chain process meets the standards of World Class for it's industry.</p>
	<p>6. Students understand the major determinants of facility location decisions and will know how to use factor rating models to assist in the decision.</p>	<p>Students can discuss the facility location decision process to include the major variables. The student will, given the necessary information, also be able to use factor rating to assist in the location decision.</p> <p>Students will understand, through practical demonstration, how to balance a production line for maximum efficiency by eliminating waste and non-value added operations.</p>
	<p>7. Students understand the basic issues involved in facility layout with an emphasis on assembly line-type manufacturing.</p>	<p>Student can balance as assembly line to meet the expected production volume will be able to determine the maximum output of the assembly line. Students can also explain the impact of cycle time on production capacity.</p>

	8. Students understand the basic issues involved in inventory management to include MRP.	Student can determine the general nature of the inventory management task once the basic competitive posture of the firm has been determined. Students can also use EOQ calculations to assist in the inventory decisions.								
	9. Students understand the general process of production planning to include aggregate planning and plant scheduling.	Students can describe the production planning process from the initial sales estimate to the plant floor. Student can also apply Johnson's rule in scheduling the n-job on two machines problem.								
Materials	<p>Chase, Richard B., F. Robert Jacobs, and Nicholas J. Aquilano, <i>Operations Management for Competitive Advantage</i>, McGraw-Hill/Irwin. ISBN: 0-07-298390-6 11th Edition, ISBN-13: 9780072983906</p> <p>You can call MBS Direct at 800-325-3252 and give your school name, site or program, and course number or access the Virtual Bookstore at http://bookstore.mbsdirect.net/WEBSTER.HTM.</p>									
Grading	<table border="1"> <tr> <td>Exam 1</td> <td>40%</td> </tr> <tr> <td>Exam 2</td> <td>40%</td> </tr> <tr> <td>Assignments</td> <td>20%</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>	Exam 1	40%	Exam 2	40%	Assignments	20%	Total	100%	<p>The GRADUATE catalog provides these guidelines and grading options:</p> <ul style="list-style-type: none"> • A/A- Superior graduate work Grade Average of 94% (A) 90-93 (A-) • B+/B/B- Satisfactory graduate work 86-89 (B+) ; 82-86 (B); 80-82 (B-) • C Work that is barely adequate as graduate-level performance • CR Work that is performed as satisfactory graduate work (B- or better). A grade of "CR" is reserved for courses designated by a department, involving internships, a thesis, practicums, or specified courses. • F Work that is unsatisfactory • I Incomplete work • ZF An incomplete which was not completed within one year of the end of the course. ZF is treated the same as an F or NC for all cases involving G.P.A., academic warning, probation, and dismissal. • IP In progress • NR Not reported • W Withdrawn from the course
Exam 1	40%									
Exam 2	40%									
Assignments	20%									
Total	100%									
Activities	Normal class activities will be a combination of lecture, discussion, small group projects, cases, problems. As appropriate, we will review video and audio educational resources. There may also be unannounced quizzes or cases and homework such as short issue-oriented papers.									
Policy Statements: University	University policies are provided in the current course catalog and course schedules. They are also available on the university website. This class is governed by the university's published policies. The following policies are of particular interest:									

Policies

Academic Honesty

The university is committed to high standards of academic honesty. Students will be held responsible for violations of these standards. Please refer to the university's academic honesty policies for a definition of academic dishonesty and potential disciplinary actions associated with it.

Drops and Withdrawals

Please be aware that, should you choose to drop or withdraw from this course, the date on which you notify the university of your decision will determine the amount of tuition refund you receive. Please refer to the university policies on drops and withdrawals (published elsewhere) to find out what the deadlines are for dropping a course with a full refund and for withdrawing from a course with a partial refund.

Special Services

If you have registered as a student with a documented disability and are entitled to classroom or testing accommodations, please inform the instructor at the beginning of the course of the accommodations you will require in this class so that these can be provided.

Disturbances

Since every student is entitled to full participation in class without interruption, disruption of class by inconsiderate behavior is not acceptable. Students are expected to treat the instructor and other students with dignity and respect, especially in cases where a diversity of opinion arises. Students who engage in disruptive behavior are subject to disciplinary action, including removal from the course.

Student Assignments Retained

From time to time, student assignments or projects will be retained by The Department for the purpose of academic assessment. In every case, should the assignment or project be shared outside the academic Department, the student's name and all identifying information about that student will be redacted from the assignment or project.

Contact Hours for this Course

It is essential that all classes meet for the full instructional time as scheduled. A class cannot be shortened in length. If a class session is cancelled for any reason, it must be rescheduled.

<p>Course Policies</p>	<p>This syllabus may be revised at the discretion of the instructor without the prior notification or consent of the student.</p> <p>Class meetings are to be treated as important business appointments. Because so much of the value of this course comes from class discussion, attendance is required. There are, of course, excusable absences. However, they will always be for reasons that are beyond your ability to control. Please talk to me about any absences.</p>	
<p>Weekly Schedule</p>	<p>Week 1</p>	<p>Introduction to Operations Management Chapter 1-Introduction to the Field Chapter 2-Operation Strategy and Competitiveness Case; Wyatt Earp ASSIGNMENT: Ch 1: Review questions 1,5,6 Ch 2: Problems 1-7; Lasik Case</p>
	<p>Week 2</p>	<p>Chapter 3-Project Management This is a very important chapter and you should work hard to master this material. Not only is Project Management an important P/OM topic it is also the model for all planning systems and has implications for decision making.</p> <p>BEFORE CLASS: you should work through the solved problems to be sure you understand the process of working with a project management network. Activity: Case: The campus wedding (A)</p> <p>ASSIGNMENT: Problems 8, 10, 11, 14, 15</p>
	<p>Week 3</p>	<p>Product Design Chapter 4-Product Design You will be familiar with QFD, VA/VE, and DFMA. You learn how modern product development works, how product development performance is measured, and why it is superior to older methods. You will also build a base case financial model for evaluating a new product and it's potential to deliver profits.</p> <p>TN 4- Learning Curves are an important measure of manufacturing efficiency and provides a measure of operations efficiency as products and tools mature. Process Flow-Charting; Understanding buffering, blocking, starving and bottlenecks. Process Thru-put analysis.</p> <p>ASSINMENT: Chapter 4 Problems: 1, 2, 4, Extra Credit: Problem 5 TN 4 Discussion Questions 2,3,4:</p>

		Problems: 1,2,5,8,9
	Week 4	<p>Chapter 8- Quality Management: Focus on Six Sigma</p> <p>Technical Note 8 - Statistical Quality Control Methods The most important goal for this chapter is to be able to construct and use both P bar and X bar charts. BEFORE CLASS. Read the solved problem to be sure you understand how to solve such problems.</p> <p>ASSIGNMENT: A problem set will be handed out in class to be completed and turned in the following week.</p> <p>Chapter 10- Strategic Capacity Planning This entire chapter is important and should be studied carefully. We will be interested in the application of Decision Trees to the operations manager.</p> <p>Assignment: Mid Term Due in week 5 before class.</p>
	Week 5	<p>Midterm DUE</p> <p>Chapter 10- Supply Chain Strategy The most important part of this chapter is to understand the economic impact on a business of not properly managing order costs relative to inventory carrying costs.</p>
	Week 6	<p>Chapter 11- Strategic Capacity Management</p> <p>Technical Note 11-Facility Location The most important parts of this chapter are the Issues in Facility Location the Factor-Rating method for plant location, and the general approach to selections of service facility sites. Use of decision trees to aid the decision process will be studied.</p> <p>Chapter 12- Lean Production Developing an ability to determine and then eliminate ‘non-value-added’ tasks in an operation is critical to improved operational efficiency. Requirements for an implementation of the Lean process is studied</p> <p>Activity: Lean manufacturing using kanbans</p> <p>ASSIGNMENT: Chapter 11 Problems 1,2,3,4 Chapter 12 Problems 1, 2,5</p>

	Week 7	<p>Chapter 15 – Inventory Control Measuring Supply chain Performance including a review of COGS, inventory turns, and weeks of supply. We will learn and see what the bullwhip effect is all about. How to outsource; the importance of logistics to the make/buy decision Activity (dependent on sufficient class size): MIT Inventory Game ASSIGNMENT: Problems: 3,5,6,15,20</p>
	Week 8	<p>Shop Floor Scheduling</p> <p>Chapter 17-Operations Schedule The most important material in this chapter is scheduling n jobs on two machines, shop floor control and input/output control.</p> <p>Review of material in preparation for final exam.</p>
	Week 9	<p>FINAL EXAMINATION WRAP UP</p>
Additional Information	None	

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