

CIMBA: CONSORTIUM OF INTERNATIONAL UNIVERSITIES**SPRING SEMESTER 2009****06K:100 Operations Management (3)****(Previously DSCI 310 Management Science/Operations Management)****Course Syllabus****Notes:**

- This course is designated as beginning as a B4 session.
- This syllabus provides a tentative outline of the course. Changes will be made to the course as needed.

Pre-requisites: At least Junior standing and having passed an introductory computer course, such as 6K:70 Computer Analysis. The present course will require knowledge of how to operate spreadsheet software, specifically Microsoft Excel.

Course Instructor: Professor L R Foulds PhD

Instructor's email: lesfoulds@gmail.com

COURSE INFORMATION**1 Introduction****What is Operations Management?**

In today's competitive environment, many organizations have been restructuring in response to global competition and the realization that maintaining customer loyalty is dependent upon operational excellence. Operations Management (OM) is about doing just that - making it happen: designing internal processes and continually improving them once they are in place. OM deals with the management of the resources required to provide the services and goods produced by an organization. These resources include: people, materials, equipment, facilities, and knowledge. The operations function is central to any enterprise. Without operations, other functions, such as: accounting, marketing, management strategy, and financial analysis have little meaning. Thus, OM is primarily concerned with the efficient and effective use of the resources of organizations in the provision of their products and services, in recognition of the strategic importance of operational excellence as a major source of competitive strength.

The Nature of the Course

This course addresses the operations of organizations from a strategic and operational perspective. It addresses crucial questions such as: How are corporate strategy and operational strategy linked? How are new products and services designed and introduced? How should operations be planned and controlled so as to achieve the strategic plan?

Course Structure

This course is structured around the following themes, which are covered in sequence:

1. Operations strategy and managing change,
2. Process selection and design,
3. Supply chain design,
4. Planning and controlling the supply chain and
5. Scheduling

Learning Style

Individual classes will comprise: mini-lectures, class discussions, case study analyses, problem solving, question/answer sessions, videos, and quizzes. Respectful questions and discussion that are politely put during class sessions are encouraged. For this course to be a stimulating learning experience for you, it is critical that you come to class well prepared. Follow the Schedule of Topics (Section 5 below) closely and, before coming to class, make sure that you have thoroughly mastered the assigned reading for the class, including any related case studies. You are responsible for getting your own notes from each class. If you miss a class, you are responsible for getting the notes that you missed from another student. You are also responsible for writing your own solutions to all the Review and Discussion Questions and to all the problems in the compulsory textbook, some of which will be discussed in class. If you miss a discussion, you are responsible for getting the notes you missed from a study partner. Please treat these responsibilities seriously. The course instructor will advise you about this, facilitate class discussion, and assess your performance, but you are expected to take the major responsibility for your own learning.

You will maximize your chances of succeeding if you respect the due dates and participate fully in the class discussions. It is highly unlikely that you will succeed in this course by a "cookbook approach" in which you try to memorize the right formula for a word problem. Instead, thinking things through from the beginning of the course will pay big dividends for you by the end of the semester. OM is often thought of as quite quantitative, but actually English is more important than mathematics in this course. We shall use English to interpret the business meanings of the numbers that we calculate. Don't worry if you had difficulties with "word problems" in previous numerical courses.

We shall build the concepts that we need from the very beginning of the course. It has been my experience that students who informally arrange and work together with a study partner or in a study group, tend to have a competitive advantage relative to students who work alone in OM courses. So the formation of such arrangements is encouraged. But don't use a study partner or a group as a crutch to avoid doing the necessary study yourself. You will be completely alone in the exams.

Attendance is compulsory at all classes. Missing one class translates to a penalty of 1/3rd of a letter grade. If you miss another class you will receive a full letter grade drop. Finally, you will be dismissed from the program for a third absence. Being excessively late also counts as an absence. You are allowed a five minute “grace period,” but if you come to class more than five minutes late, it will count as an absence.

Please arrive on time, stay until each class has formally ended and be considerate towards others at all times. Please pay professional courtesy to the instructor and your classmates and have your cell phone or pager turned off during class.

2. Goals and Objectives of the Course

Learning Objectives

On successful completion of this course, you should be able to:

1. Demonstrate an understanding of the strategic importance of operations management and its purpose in contemporary global business environments.
2. Discuss how operations management relates to the other functions (such as marketing, financial analysis and human resource management) of a variety of business and government organizations.
3. Explain the need for operations management systems: inputs, processes and outputs, within public and private organizations.
4. Develop the knowledge and critical thinking skills necessary to use the concepts and strategies in order to recognize, formulate, analyze, design and manage operations and create value.
5. Produce quality and process improvements.
6. Describe and implement the methods and tools needed to model and analyze operations issues.

Professional Skills Outcomes

Employers worldwide want graduates who have developed effective professional skills, including communication (writing, interpersonal interactions and cultural awareness, and presenting), critical and creative thinking (problem solving and decision making), team work, IT literacy and information literacy.

On successful completion of this course, you should be able to demonstrate:

1. Critical and creative thinking, team work, and communication skills by analyzing the case studies and textbook discussion questions and exercises alone and in groups.
2. Self-directed learning skills by preparing for the class discussions and the exams.
3. Ethical and cultural awareness through the class discussions.
4. Intellectual flexibility through the course content which emphasizes the application of theoretical knowledge to practical situations.
5. IT skills and information literacy through the understanding and use of operations management spreadsheet strategies and techniques by private study and class attendance.

3. Course Content

Introduction to operations management, operations and supply strategy, project management, product and service design, strategic capacity management, process analysis, manufacturing processes, service processes, Six-Sigma quality, supply chain strategy, logistics and facility location, lean manufacturing, operations consulting and reengineering, enterprise resource planning systems, aggregate sales and operations planning, scheduling and constraint management.

4. Materials

Compulsory Textbook

Operations and Supply Management, 12/e, F. Robert Jacobs, Richard B. Chase, Nicholas J. Aquilano, McGraw Hill – Irwin, 2009, **ISBN: 0073403296**

List of Readings

In addition to the compulsory textbook the following readings may also be useful:

- Hopp, W. J., & Spearman, M. L., *Factory Physics*, 2nd edition, 2001, McGraw-Hill/Irwin. ISBN.97800711637881 - International Edition.
- Vollmann, T., Berry, W., Whybark, D. C., Jacobs, F. R., *Manufacturing Planning and Control for Supply Chain Management*, 5th edition, 2005. McGraw-Hill/Irwin. ISBN 0072299908.
- Evans, J. R., & Lindsay, W. M., *The Management and Control of Quality*, 6th edition, 2001, Thomson South-Western. ISBN.0324225032 - International Student Edition.
- J.M. Nicholas, *Competitive Manufacturing Management*, McGraw-Hill, 1st edition, 1998. McGraw-Hill, ISBN 0 256 21727 0.
- H. Costin, *Readings in Total Quality Management*, Dryden, 2nd edition, 1999.
- E. Goldratt, *Critical Chain: A Business Novel*, Gower, 1997.
- R.J. Schonberger, *Building a Chain of Customers*, 1990, The Free Press, Macmillan Inc.

5. Schedule of Topics

| Date | Class No. | Activity | Pre-readings from CJA* | Case Studies from CJA* |
|------------------|-----------|---|------------------------|---------------------------------|
| January 19 | | You arrive | | |
| January 19 - 30 | | CIMBA | ADVANTAGE | PROGRAM (CAP) |
| February 3 | 1 | Coverage of the Course Syllabus, Introduction to OM | Chapter 1, CJA* | |
| February 5 | 2 | Operations and Supply Strategy and Competitiveness | Chapter 2, CJA | Timbuk2* |
| February 10 | 3 | Project Management | Chapter 3, CJA | Campus Wedding |
| February 12 | 4 | Product and Service Design | Chapter 4, CJA | IKEA: Design and Pricing |
| February 16 - 22 | | Travel week | No classes | |
| February 24 | 5 | Strategic Capacity Management | Chapter 5, CJA | Shouldice Hospital |
| February 26 | 6 | Process Analysis | Chapter 6, CJA | Analyzing Casino Money Handling |
| March 3 | 7 | TEST 1 | Chapters 1 - 6, CJA | All of the case studies above |
| March 5 | 8 | Manufacturing Processes | Chapter 7, CJA | Circuit Board Fabricators |
| March 6 – 8 | | Travel weekend | No classes | |
| March 9 | 9 | Service Processes | Chapter 8, CJA | Pizza USA |
| March 11 | 10 | Six – Sigma Quality | Chapter 9, CJA | Hank Kolb |
| March 13 | 11 | Supply Chain Strategy | Chapter 10, CJA | Pepe Jeans |
| March 16 | 12 | Logistics and Facility Location | Chapter 11, CJA | Applichem |
| March 18 | 13 | Lean Manufacturing | Chapter 12, CJA | Quality Parts |
| March 20 | 14 | TEST 2 | Chapters 1 – 12, CJA | All of the case studies above |
| March 21 - 29 | | Travel week | No classes | |

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|---------------|----|---|---------------------------------|------------------------|
| March 30 | 15 | OM Consulting and Re-engineering | Chapter 13, CJA | California Auto Club |
| April 1 | 16 | Enterprise Resource Planning Systems | Chapter 14, CJA | E-Ops Game |
| April 3 | 17 | Aggregate Sales and Operations Planning | Chapter 16, CJA | Bradford Manufacturing |
| April 6 | 18 | Operations Scheduling | Chapter 19, CJA | Keep Patients Waiting? |
| April 8 | 19 | Synchronous Manufacturing | Chapter 20, CJA | The Great Crapshoot |
| April 10 - 13 | | Travel weekend | No classes | |
| April 15 | 20 | Catch up and review | No new material | |
| April 16 - 18 | | FINAL EXAM | Chapters 1 - 14, 16, 19, 20 CJA | |
| April 18 | PM | You check out | | |

*The compulsory text for the Course: Operations and Supply Management, 12/e, F. Robert Jacobs, Richard B. Chase, Nicholas J. Aquilano, McGraw Hill – Irwin, 2009, ISBN: 0073403296

7. Grading and other Course Policies

Your final grade will be based on the following items:

| No. | Item | Percentage of the final grade |
|-----|------------|-------------------------------|
| 1 | Quizzes | 10% |
| 2 | Test 1 | 30% |
| 3 | Test 2 | 30% |
| 4 | Final Exam | 30% |

The final letter grades will be based on the following scale:

| Grade | Range | Grade | Range |
|-------|-----------|-------|---------------|
| A | 93 – 100% | C+ | 77 – 79% |
| A- | 90 – 92% | C | 73 – 76% |
| B+ | 87 – 89% | C- | 70 – 72% |
| B | 83 – 86% | D | 60 – 69% |
| B- | 80 – 82% | F | Less than 60% |

The instructor reserves the right to adjust the grade distribution if he judges this to be appropriate. If you have a concern regarding the grading of an item, you must submit your re-grade request in writing, attached to the item, within one week of its receipt. The instructor reserves the right to re-grade the entire item.

The Quizzes

Periodically, quizzes will be conducted during certain classes. These quizzes are generally not announced beforehand. The quizzes will be based on the Review and Discussion Questions and the Problems (with details and numbers changed) in recent chapters of the compulsory textbook (including the current class). The quizzes are designed to reinforce your understanding of course concepts and you are strongly encouraged to attempt the questions and problems of the chapters covered. When a quiz is administered you are expected to submit an original, individually prepared, LEGIBLE solution within the allotted time. If you are absent when a quiz is administered, you will receive a zero for that quiz. There will not be any make up quizzes. In calculating your final grade, your lowest quiz score will be dropped.

The Examinations: The Tests and the Final Exam

The two Tests and the Final Exam are closed books, closed notes, closed neighbor, but with open minds. Anyone violating any of these rules will instantly fail the examination concerned. Any written technical material required will be supplied by the instructor in the examination question papers. The Tests and the Final Exam are compulsory. The Tests and the Final Exam are all comprehensive. That is, they examine all of the material covered until they are held. In all cases, this includes the assigned chapters of the textbook, their case studies and all other content presented and discussed in class. You should bring a calculator and two sharp #2 pencils to the exams.

Tests 1 and 2 will be held after about six and 12 formal teaching sessions, respectively. The Final Exam will be held during the formal exam period. It is your responsibility to check the date, time and location of all three examinations. **There will be no make-up quizzes or examinations.**

Course policies for this class, including dropping and adding after the deadline and academic misconduct, are controlled by the Henry B. Tippie College of Business, the University of Iowa. Detailed policies concerning: administrative procedures, academic fraud, accommodations for disabilities, sexual harassment, and students suggestions and complaints can be found at:

http://www.clas.uiowa.edu/faculty/teaching/new_policytemplate.shtml

- **Accommodating Disabilities**

Please see me as soon as possible if you have a disability that requires special arrangements for class, exams or emergency building evacuation.

If you request an accommodation of a disability, you must have already completed the paperwork at Student Disability Services (SDS) of the University of Iowa. This paperwork outlines the specific accommodation that is required.

- **Academic Misconduct**

It is my sincere hope that students in this class do not submit work that is not their own. If I determine that any item was not written solely by the student whose identification number appears on it, the student will receive a zero (0) for the item and may receive an "F" for the course. All incidents of cheating will be reported to the Associate Dean of the Tippie College of Business and such students may be placed on disciplinary probation for the remainder of their undergraduate work at the University of Iowa. In general, the decision of the Professor may be appealed to the College of Business' Judicial Board, then to the Associate Dean for the Undergraduate Program. The Honor Code for the Tippie College of Business will determine the appropriate appeal process. The Honor Code may be found at <http://www.biz.uiowa.edu/upo/honorcode.html>

The University of Iowa has licensed Turnitin (<http://turnitin.com/>), which is a plagiarism detection service

- **Sexual Harassment**

The Tippie College of Business and the University of Iowa are committed to providing students with an environment free from sexual harassment. If you feel that you are being or have been harassed or you are not sure what constitutes sexual harassment, we encourage you to visit the University website,

<http://www.sexualharassment.uiowa.edu/index.php>, and to seek assistance from department chairs, the Dean's Office, the University Ombuds Office, or the Office of Equal Opportunity and Diversity.

- **Grievance policy**

Student concerns regarding this course should first be discussed with me, the instructor teaching this course. If we can't resolve the complaint, you may contact the Associate Dean of the Undergraduate Program, Beth Ingram, 319-335-1038, beth-ingram@uiowa.edu.