

MBAD 6141-U90 – Operations Management

Course Outline

Fall 2018

Instructor: Professor Moutaz Khouja
Friday 351C
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Office Hours: Main Campus: Tuesday 1:00 pm-2:45 pm and Thursday 2:45 pm-4:00 pm.
Center City Building: Class days (8/22, 8/29, 9/12, 9/26, 10/10, 10/24, 11/7, 11/28, 12/12) 3:45 pm-5:15 pm. Additional times also available by appointment.

Course Material:

Textbook (required):

Operations Management, by W. J. Stevenson, 12/e, 2014. ISBN: 0078024102.

Readings (Available on-line from Atkins Library):

1. Dahlgaard, J. J., & Mi Dahlgaard-Park, S. (2006). Lean production, six sigma quality, TQM and company culture. *The TQM magazine*, 18(3), 263-281.
2. Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainability is now the key driver of innovation. *Harvard business review*, 87(9), 56-64.
3. Spear, S., & Bowen, H. K. (1999). Decoding the DNA of the Toyota production system. *Harvard Business Review*, 77, 96-108.
4. Stalk, G., Evans, P., & Shulman, L. E. (1992). Competing on capabilities: The new rules of corporate strategy. *Harvard Business Review*, 70(2), 57-69.

Other course materials including PowerPoint presentations will be provided on the course's Canvas website at: <http://canvas.uncc.edu/>.

Course Overview:

Operations management is the study of how organizations transform, produce, and deliver value to the customer, client, or user of the product or service created by the organization. It involves the planning, organizing and management of resources to produce goods and services so as to meet the strategic goals of the organization. The operations (or production) function is an integral part of every organization; the well-trained MBA must be familiar with and conversant in the myriad issues arising in this functional area. This course is devoted to the study of the operations function – specifically, understanding how to manage the provision of goods and services both effectively and efficiently, as well as understanding how to improve processes so that they can fulfill (or surpass) the ever-increasing demands for higher levels of performance.

Course Objectives

The objectives of this course are:

- i) to introduce the functional area of operations and to increase awareness of how operations interface with the other functional areas of an organization.

- ii) to understand the strategic role of the operations function as a key factor in determining an organization's ability to be competitive in global marketplace.
- iii) to become familiar with the various challenges (issues and problems) that occur in the management of manufacturing and service operations, and understand the terminology, modeling, and methodology that arise in the handling and resolution of these challenges.
- iv) to become familiar with recent technological advances that directly affect operations management.

Class Web Site

You are required to access regularly the Canvas class web site and in particular, before each class. In addition to containing helpful information, Canvas will be used to communicate information on assignments, changes to the syllabus, and other announcements of general interest.

Diversity and Inclusion

The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socioeconomic status.

Grading

The evaluation of student performance in the course will be based upon the following components:

(1) Class Participation (discussion of homework, readings),	7%
(2) Three exams. Exam I (20%), Exam II (20%), Exam 3 (12%).	52%
(3) Four online quizzes at 4% each	16%
(3) Group Assignments (homework 5%, paper 15%, presentations/summary 5%),	<u>25%</u>
Total	100%

Class participation refers to: regular class attendance, contributing positively, regularly, and significantly to class discussion, being well-prepared for class, as well as the timely and careful completion of assigned homework and exercises. While some homework assignments will not be collected, other homework (shown in the table below) will be collected and graded. The course grade is based on a straight scale as follows:

- A: 90.0+
- B: 80.0 – Less than 90.0
- C: 70.0 – Less than 80.0
- U: Less than 70.0

Please note that **October 22, 2018 11:59** pm is the deadline to withdraw from a course and retain others.

Group Assignments

You will be required to complete two types of group assignments. You will need to form a group (team) of 4-5 students consisting of students enrolled in this section of this course. **Groups may not have fewer than 4 members or more than 5 members.** In keeping with diversity as one of the core principles of the Belk College, individual group compositions should reflect the diversity of the class. It is also suggested that groups be diverse with respect to group members' tenure in the MBA program. If necessary, as the instructor, I can assist in the formation of the groups. The groups will need to be formed and their proposed composition communicated by e-mail to me by **Wednesday, August 29 2018, 8:15 pm**. Designate someone within your group to be the "Group Communicator." The group communicator will be responsible for communicating with me, and will be my contact person for communicating with your group.

The first group assignment is the homework which is listed in the Tentative Schedule with its due dates. The second group assignment is a research report on a topic in operations management. One topic will be assigned to each group. The findings will be reported in three ways:

1. each group will submit one written report,
2. each group will **either** present the topic to the class or provide a summary of the topic to the class. The summary must be two or less single-spaced pages of major findings.

The presentations, the reports, and the summaries will be graded. Topics of interest are:

1. Just-In-Time Inventory (JIT) Management
2. Total Quality Management (TQM) and Continuous Improvement
3. Sustainability
4. Supply Chain Management (SCM)
5. Supply Chain Risk Management
6. Manufacturing Strategy

Groups can also suggest topics in Operations Management of interest to them. I will provide each group with some references on each topic.

Exams

All exams will be in-class and closed-book/closed-notes. One 8.5×11 page of notes is allowed. Each exam will be reviewed only once and in class. Exams 1-3 are not cumulative, i.e., they cover only the material covered in the corresponding course unit.

Quizzes

There are four online quizzes to be taken on the dates specified on the tentative course schedule. These quizzes are open book and open notes with duration of 30 minutes. Each quiz will have 10-15 multiple choice questions.

Make-up Exam Policy

At most one make-up exam will be granted for each student for Exams 1-3 if you have a valid excuse (illness, work, emergence, etc). You need to provide the relevant documentation to be allowed to take the makeup exam.

Attendance

You are expected to attend punctually all scheduled sessions and are responsible for completing the work from all of the class meetings. Attendance will be counted towards class participation points. You are responsible for any material covered, announcements made, assignments passed out, and any other type of work you may miss during any absence from class. The exams may contain material that is not in the slides but was covered in the class.

Incomplete Grade Policy

Receiving a grade of incomplete ("I") is not based solely on a student's failure to complete work or as a means of raising his/her grade by doing additional work after the grade report time. An incomplete grade can be given only when a student has a serious medical problem or other extenuating circumstance that legitimately prevents completion of required work by the due date. In any case, for a student to receive an 'I' grade, the student's work to date should be passing, he/she must have completed a significant portion of the course, and the student must provide proper written proof (e.g., a doctor's note) of the extenuating circumstances.

Grade Appeals Policy

If you believe that the grade you received on an assignment or an exam was in error or unfair, you can appeal to the professor in writing within 7 calendar days after the grades are posted. The appeal should clearly state the reasons why you believe the grade to be unfair or the nature of the error. Overdue appeals will not be considered.

Academic Integrity

As a program that helps to create business and government leaders, the College of Business has an obligation to ensure academic integrity is of the highest standards. Standards of academic integrity will be enforced in this course.

University regulations will be strictly enforced in all cases of academic irregularities, cheating or plagiarism or any variations thereof. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be his/her own work.

UNCC students have the responsibility to be familiar with and to observe the requirements of The **UNCC Code of Student Academic Integrity** (see the Catalog and also <http://integrity.uncc.edu/>). This code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism of written materials and software projects, abuse of academic materials (such as library books on reserve), and **complicity in academic dishonesty** (helping others to violate the code). Additional examples of violation of the Code include:

- Representing the work of others as your own.
- Using or obtaining unauthorized assistance in any academic work.
- Giving unauthorized assistance to other students.
- Modifying, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
- Misrepresenting the content of submitted work.

Students are expected to report cases of academic dishonesty they become aware of to the course instructor who is responsible for dealing with them.

For this course, it is permissible to assist classmates in general discussions about the homework. General advice and interaction are encouraged. Each person, however, must develop his or her own solutions to the assigned homework and laboratory exercises. Students may not "work together" on graded assignments. Such collaboration constitutes cheating, unless it is a group assignment. A student may not use or copy (by any means) another's work (or portions of it) and represent it as his/her own. If you need help on an assignment, contact your instructor or the TA, not other classmates.

Any further specific requirements or permission regarding academic integrity in this course will be stated by the instructor, and are also binding on the students in this course.

Students who violate the code can be punished to the extent of being permanently expelled from UNCC and having this fact recorded on their official transcripts. The normal penalty is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to "F."

If you are unclear about whether a particular situation may constitute an honor code violation, you should meet me to discuss the situation. Feel free to discuss the definition of cheating and/or plagiarism with me if you are unclear on these terms or have questions about the acceptability of a particular type of action.

The instructor may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Accommodation for Disabilities

UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information on accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office in Fretwell 230.

Religious Accommodation for Students Policy

The instructor will observe University Policy 409 (<https://legal.uncc.edu/policies/up-409>) on matters of religious accommodation. Please note that the procedure prescribed by this policy requires a notice to the instructor prior to the census date of the semester (typically the tenth day of instruction).

Tentative Schedule

Note: There are likely to be additional required readings that are not listed in the syllabus and that will also be assigned during the semester. It is important to check the class (Canvas) web site *regularly* to keep apprised of assigned articles and homework problems, as well as revisions to this syllabus.

Tentative course schedule

1. (FTF) designates in-class meetings
2. Many in-class lectures will be supported by video recordings
3. Collected Homework is to be turned in as a single file per group on Canvas

Week	Reading	Subject	Homework assignments
1 FTF (8/22)	Ch: 1 & 2	Course Administration Introduction to Operations Management Competitiveness, strategy, and productivity	
2 FTF (8/29)	Ch: 3	Competitiveness, strategy, and productivity (continued) Video Module 3.1 Forecasting, Introduction and Measures of Accuracy Video Module 3.2 Overview of Forecasting Methods Video Module 3.3 Forecasting Methods – Time Series with No Trend and No Seasonality Video Module 3.4 Time Series with a Trend and Regression Analysis	(p. 124): 2, 8, 18, 21, 25 – Due 9/19 (p. 124): 3, 4, 7, 14, 22, 27 and 2 problems on Canvas
3	Ch: 3 & 6 Article 3	Video Module 3.5 Time Series Methods—Decomposition Video Module 3.6 Causal/Associative Models-Simple Linear Regression Video Module 3.7 Causal/Associative Models-Multiple Linear Regression Video Module 3.8 Tracking Signal https://www.youtube.com/watch?v=Z8Q8_SIEvRY Quiz 1 (Available 9/5/2017-9/7/2017)	(p. 124): 2, 8, 18, 21, 25 – Due 9/19 (p. 124): 3, 4, 7, 14, 22, 27 and 2 problems on Canvas
4 FTF (9/12)	Ch: 10	Discussion of Article 3 Chapter 3: Problem-solving Video Module 5.1 Capacity Planning I Video Module 5.2 Capacity Planning II	(p. 212): 3,4,- Due 9/19 (p. 212): 6, 7 (p. 280): 4, 6 – Due 9/19 (p. 280): 3, 5.
5	Ch: 10 & 13	Video Module 6.1 Overview of process selection & facility layout Video Module 6.2 Product layout—line balancing Video Module 10.1 Overview of quality control Video Module 10.2.1 Statistical process control—Variables Video Module 10.2.2 Statistical process control—Attributes Quiz 2 (Available 9/19/2017-9/21/2017)	(p. 448): 1, 4, 7, 20, 24 – Due 10/03 (p. 448): 3, 8, 9, 12, 21, 22
6 FTF (9/26)	Ch: 13	Chapters 10 Problem solving Video Module 10.3 Process capability Video Module 13.1 Overview of inventory management	
7	Article 4	Video Module 13.2 Types of inventory models--overview Video Module 13.2.1 Continuous review models--EOQ Video Module 13.2.2 Continuous review models--EPQ Video Module 13.2.3 Continuous review models—quantity discounts	(p. 588) 2, 4,11, 13, 16, 26, 39, 40 – Due 10/31 (p. 588): 1, 3, 5, 8, 10, 14, 15, 19, 22, 27 a, 32, 34, 37, 41
8 FTF (10/10)	Ch: 17	Exam I Discussion of Article 4	(p. 588) 2, 4,11, 13, 16, 26, 39, 40 – Due 10/31

		Chapter 13 Problem Solving	(p. 588): 1, 3, 5, 8, 10, 14, 15, 19, 22, 27 a, 32, 34, 37, 41
9	Ch: 17 & 18	Video Module 13.2.4 Continuous review models—Safety stock Video Module 13.2.5 Periodic Review models—fixed time interval Video Module 13.2.6 Single-period (Newsvendor) model Video Module 17.1 Overview of project management and project networks Video Module 17.2 Critical path method—deterministic time estimates Quiz 3 (Available (10/17/2017 - 10/19/2017))	(p. 772): 2 (no b.1), 7, 8, 10, 13– Due 11/14 (p. 772): 1b&d, 9, 12, 14, 16
10 FTF (10/24)	Ch: 18	Chapters 13 and 17: Problem-solving Video Module 17.3 Critical path method—probabilistic time estimates Video Module 17.4 Project crashing	(p. 772): 2 (no b.1), 7, 8, 10, 13– Due 11/14 (p. 772): 1b&d, 9, 12, 14, 16
11		Video Module 18.1 Management of waiting lines—overview & Terminology Video Module 18.1 Arrival and service processes—poisson distribution Video Module 18.2 Arrival and service processes—exponential distribution Video Module 18.3 M/M/1 infinite population system	(p. 816): 1, 5, 7, 8, 10 – Due 12/9 (816): 2, 3, 6, 13,
12 FTF (11/7)	Ch: 18	Exam II	
13	Articles 1 & 2,	Chapter 18 Problem Solving Video Module 18.4 M/D/1 infinite population system Video Module 18.5 M/M/C infinite population system Quiz 4 (Available (11/14/2017 - 11/16/2017))	(p. 816): 1, 5, 7, 8, 10 – Due 12/8 (816): 2, 3, 6, 13,
14	Articles 1 & 2,	Thanksgiving break	
15 FTF (11/28)	Topic Summaries	Discussion of Articles 1 & 2 Chapter 18: Problem-solving Topic presentations	
16 (12/12)		5:30 pm-6:45 pm. Exam III	

This class will meet on 8/22, 8/30, 9/12, 9/26, 10/10, 10/24, 11/7, 11/28, and 12/12. The meetings on 8/22 and 12/12 will be 5:30PM-6:45PM. All other meetings will be 5:30PM-8:15PM.