EM 353

OPERATIONS MANAGEMENT

SPRING 2016

PROFESSOR: Dr. Kristian F. Braekkan **OFFICE**: BECK 139
OFFICE HOURS: M/F 10:30-11:30, Thu 1:30-2:30 & by appointment **PHONE:** 7406
EMAIL: braekkan@gustavus.edu

SECTION 1: COURSE CONTENT AND STRUCTURE

1.1 - TEXTBOOK AND REQUIRED MATERIALS

Braekkan: *Custom Book*

Porter: *On Competition*

1.2 - COURSE OBJECTIVES, LEARNING OUTCOMES, AND ASSESSMENT

This course provides an introduction to the topics and mathematical techniques for solving problems in the design, planning, and controlling of manufacturing and service operations and supply chain management. Specifically, the course develops your knowledge of manufacturing and service resources planning and provides knowledge on forecasting, production planning, master scheduling, material requirements planning, capacity planning, general manufacturing principles, and continuous improvement. Addtionally, we will cover theories of value transformation and out/offshoring.

1.3 – PEDGAGOGICAL PHILOSOPHY AND EXPECTATIONS

The course is a lecture based course and a wide variety of topics will be discussed. You are responsible for your own notes and keeping up with the readings as no homework will be collected. It is critical that you work diligently to work problems and read the theoretical portions carefully in order to succeed. In achieving the learning objectives and serving you as a student, I will endeavor to establish an educational process that effectively and efficiently provides the characteristics (structure, content, and knowledge) necessary to develop your awareness of the significance, principles, and terminology of the functional area of production and operations management.

1.4 - READINGS

The sequence of topics and the reading assignments for those topics are stated in the course outline. Students should read and comprehend the chapter assignments ***prior*** to the lecture for that topic.

1.5 - PROBLEM ASSIGNMENTS

The individual problem assignments are ***not*** collected or graded, but they represent a highly visible form of class participation, as I may call upon individuals to present their example problem solutions during class. You should always be prepared to respond to questions on these problems. In solving example problems, you can use either: 1) manual computations; or 2) computer software packages, such as Microsoft Excel. However, you should be aware that in-class examinations will require you to employ manual calculations; so do not rely simply on the computer software for solving problems.

1.6 – QUIZZES (30%)

Unannounced quizzes will be administered on a regular basis. No make-up quizzes will be allowed. The two lowest scores will be dropped.

1.7 – LAB ASSIGNMENTS (10%)
We will split the class in half and meet on alternate Fridays to conduct some Operations related problems in Excel. Hence, some Fridays you will not meet (we will go over this in class). Assignments based on the problems we do in the computer lab will be due the following Friday and will be graded "pass/fail". The assignments will be collected electronically.

1.7 – EXAMINATIONS (60%)
There will be two examinations during the semester as scheduled in the *Course Outline*. The exams will emphasize the topics discussed in the lecture and textbook readings and problems. Since the amount of material covered in the course is extensive, the examinations will involve a randomly selected subset of the total cumulative material. Each exam will account for 30% of your overall grade. **Exams are open note/book.**

1.8 - FINAL SUGGESTIONS AND COMMENTS
This course outline is a detailed description of the topics and responsibilities of the professor and students. If you have any additional questions or issues concerning the course, please feel free to bring these up at any time during the academic term. I shall endeavor to the best of my ability to treat you fairly and respect your insights and comments in a responsible and courteous manner. Some final summary recommendations are:

1. Before each class, read and review the relevant chapters so you have an idea of the lecture or class structure and content.

2. Please use 1) my regular office hours; 2) call me at my office 7406 (I will most likely not answer); or 3) email braekkan@gustavus.edu whenever you have a problem or need help with a topic or assignment. Office hours have been structured to provide additional help outside class, and I trust that you will feel comfortable in utilizing this time reserved for you. If office hours are not convenient, please see me about setting up an appointment at a mutually agreeable time for additional help.

3. During the lectures, I shall attempt to detect when confusion exists or material has not been presented well, but please ***stop*** me as soon as you have any problems. I am confident that you are not alone in the possibility of failing to comprehend a topic, and I encourage you to help me realize when clarity in the lecture is lacking.

SECTION 2: TENTATIVE OPERATIONS MANAGEMENT OUTLINE

Module 1: Supply Chains, Operations, and Strategic Management

Week 1: INTRODUCTION & BACKGROUND

Monday Feb 8: Course Organization & Structure of Topics
Tuesday Feb 9: Operations and Supply Chain Management (Custom: chapter 1)
Wednesday Feb 10: Operations and Business Strategy (Custom: chapter 2)
Friday Feb 12: Strategic Capacity Management (Custom: chapter 3)

Week 2: BUSINESS STRATEGY

Monday Feb 15: Competition and Strategy I (Porter: chapter 1)
Tuesday Feb 16: Competition and Strategy II (Porter: chapter 2)
Wednesday Feb 17: NO CLASS
Friday Feb 19: Competition and Strategy III (Porter: chapter 3)

Week 3: CORPORATE/INTERNATIONAL STRATEGY

Monday Feb 22: Competition and Strategy IV (Porter: chapter 5)
Tuesday Feb 23: Competition and Strategy V (handout)
Wednesday Feb 24: Competition and Strategy VI (Porter: chapter 6)
Friday Feb 26: Competition and Strategy VII (Porter: chapter 7)

Module 2: Forecasting, Planning, & Inventory Management

Week 4: FORECASTING

Monday Feb 29: Forecasting I (Custom: chapter 3)
Tuesday Mar 1: Forecasting II (Custom: chapter 3)
Wednesday Mar 2: Forecasting III (Custom: chapter 3)
Friday Mar 4: *Forecasting Lab Assignment (Group 1)*

Week 5: SALES & OPERATIONS PLANNING

Monday Mar 7: Sales & Operations Planning I (Custom: chapter 8)
Tuesday Mar 8: Sales & Operations Planning II (Custom: chapter 8)
Wednesday Mar 9: Sales & Operations Planning II (Custom: chapter 8)
Friday Mar 11: *Forecasting Lab Assignment (Group 2)*

Week 6: INVENTORY MANAGEMENT

Monday Mar 14: Inventory Management I (Custom: chapter 11)
Tuesday Mar 15: Inventory Management II (Custom: chapter 11)
Wednesday Mar 16: Inventory Management III (Custom: chapter 11)
Friday Mar 18: Review Day

Week 7:

Monday Mar 21: Reading Day
Tuesday Mar 22: Midterm Part I
Wednesday Mar 23: Midterm Part II

Module 3: Processes, Project Management, & Logistics

Week 8: MANUFACTURING PROCESSES

Monday Apr 4: Manufacturing Processes I (Custom: chapter 6)
Tuesday Apr 5: Manufacturing Processes II (Custom: chapter 6)
Wednesday Apr 6: Manufacturing Processes III (Custom: chapter 6)
Friday Apr 8: *Manufacturing Lab Assignment (Group 1)*

Week 9: SERVICE PROCESSES

Monday Apr 11: Service Processes I (Custom: chapter 7)
Tuesday Apr 12: Service Processes II (Custom: chapter 7)
Wednesday Apr 13: Service Processes III (Custom: chapter 7)
Friday Apr 15: *Manufacturing Lab Assignment (Group 2)*

Week 10: PROJECTS/LOGISTICS

Monday Apr 18: Projects I (Custom: chapter 5)
Tuesday Apr 19: Projects II (Custom: chapter 5)
Wednesday Apr 20: Logistics (Custom: chapter 14)
Friday Apr 22: *Logistics Lab Assignment (Group 1)*

Module 4: Sustainability, Quality, Value Creation & Outsourcing

Week 11: SUSTAINABILITY

Monday Apr 25: Sustainability (Porter: chapter 9)
Tuesday Apr 26: No class
Wednesday Apr 27: Attend MayDay conference
Friday Apr 29: *Logistics Lab Assignment (Group 2)*

Week 12: QUALITY

Monday May 2: Quality I (Custom: chapter 10)
Tuesday May 3: Quality II (Custom: chapter 10)
Wednesday May 4: Quality III (Custom: chapter 10)
Friday May 6: *Quality Lab Assignment (Group 1)*

Week 13: PRODUCTION/OUTSOURCING

Monday May 9: Productions Theory - Smith and Ricardo*
Tuesday May 10: Productions Theory – Marx*
Wednesday May 11: Outsourcing & Labor Theory of Value*
Friday May 13: *Quality Lab Assignment (Group 2)*

*Handouts will be provided

Week 14: REVIEW

Monday May 16: Outsourcing - video
Tuesday May 17: Course wrap-up/review
Wednesday 18: Course wrap-up/review

SECTION 3: POLICIES OF EM 353

3.1 - ACADEMIC HONESTY AND HONOR CODE

As mature adults, it is expected that you have established a level of honesty, integrity, and honor that eliminates even the remote possibility of cheating on an examination and/or written assignments. Academic dishonesty or cheating consists of, but is not limited to the following set of conditions: Unauthorized possession of examination material, possession of information sheets beyond the allowed notes, copying during examinations, looking directly at another student's examination, or plagiarism or copying of assignments.

Cheating is ***wrong*** and ***will not be tolerated***. **Cheating or plagiarism will result in a failing grade for the course. No exceptions.** Please try to maintain your academic standing, your character, and your reputation by not cheating.

3.2 - OFFICE HOURS

I take teaching and research very seriously and like you, I require sufficient time to prepare class lectures and materials and to advance my research projects. If office hours are not practical because of your schedule, and you have a major concern, please contact me about setting up an appointment. I do not accept walk-ins outside of office hours – please schedule appointments.

3.3 - USE OF TECHNOLOGY POLICY

Laptops, cell phones, IPADs, typewriters (electronic or manual), fax machines, telegraph machines and other communication devices: Turn them OFF when class is in session – no ringing, no IM, no distractions for yourself, your classmates, or your professor. Computers will be used during lab sessions only.

3.4 ACCOMMODATIONS FOR STUDENTS WITH DOCUMENTED DISABILITIES

Gustavus Adolphus College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or you think you may have a disability of any nature) and, as a result, need reasonable academic accommodation to participate in class, take tests or benefit from the College's services, then you should speak with the Disability Services staff, for a confidential discussion of your needs and appropriate plans. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course outcomes. Accommodations cannot be made retroactively; therefore, to maximize your academic success at Gustavus, please contact Disability Services as early as possible. Disability Services (www.gustavus.edu/advising/disability/) is located in the Academic Support Center.

3.5. HELP FOR MULTILINGUAL STUDENTS

Support for English learners and multilingual students is available through the Academic Support Center's English Learning Specialist (www.gustavus.edu/advising/). The ELS can meet individually with students for tutoring in writing, consulting about academic tasks, and helping students connect with the College's support systems. When requested, the ELS can consult with faculty regarding effective classroom strategies for English learners and multilingual students. The ELS can provide students with a letter to a professor that explains and supports appropriate academic arrangements (e.g., additional time on tests, additional revisions for papers). Professors make decisions based on those recommendations at their own discretion. In addition, English learners and multilingual students can seek help from peer tutors in the Writing Center (www.gustavus.edu/writingcenter/).