

Basic Operations Management

Course Details

Course Designator & Number: DBLN 3271

Number of Credits: 3

Language of Instruction: English

Contact Hours: 45

Instructor: Onsite Faculty

Term: Fall 2024

Course Description

This course introduces the field of operations and supply chain management, a key managerial function that encompasses the design, control, and improvement of processes used to produce goods and/or provide services. The course will explore foundational concepts, including forecasting, production planning, master scheduling, material requirements planning, capacity planning, world-class manufacturing principles, and continuous improvement. Using case studies drawn from global companies, students will apply what they are learning to the study of managerial and mathematical techniques—along with information technology resources—used to make goods and services.

Course Objectives

Upon successful completion of this course, students are able to:

- Explain how operations management can be used as a core function that promotes global companies' success in a competitive marketplace.
- Distinguish between various manufacturing technologies and their purposes.
- Employ mathematical techniques for quantitative approaches to problem solving such as Statistical Models, Forecasting, Linear Programming, and Queuing Theory.
- Explain the importance of quality management and statistical process control.

- Apply fundamental operations management concepts, principles, techniques and tools to real life case studies relevant to both manufacturing and service organizations.

Required Reading / Materials

The below readings and resources are representative of what will be assigned as required in this course, but may vary slightly in the term syllabus.

Wherever possible, required readings are made accessible through the online library or Canvas. Students are responsible for obtaining all required readings.

Each course utilizes Canvas as its LMS. Students are expected to check Canvas regularly for updates and deadlines. Canvas is also the primary platform for contacting your instructor in case of questions or concerns about the course.

Required

1. OM: Stevenson, William J., *Operations Management*, McGraw-Hill 2017, 13th edition, pp. 945 (obtained by student – available as PDF)

2. FA: Finance and accounting summary (provided by instructor)

Recommended

Annacchino, M. A., *New Product Development*, Elsevier, 2nd Edition 2014, pp. 546.

Brown, T., "Design Thinking," *Harvard Business Review* 86 (6) 2008, pp. 84-92.

De Treville, S. and L. Trigeorgis, "It May Be Cheaper to Manufacture at Home," *Harvard Business Review* 88 (10) 2010, pp. 4-87.

Farrell, D., "Beyond Offshoring: Assess Your Company's Global Potential," *Harvard Business Review* 82 (12) 2004, pp. 82-90.

Ferdows, K. and M.A. Lewis, J. A. D. Machuca, "Rapid-Fire Fulfillment," *Harvard Business Review* 82 (11) 2004, pp. 104-110.

Guide to business modeling:

https://books.google.com/books/about/Guide_to_Business_Modelling.html?hl=it&id=U2eTwQoSo3wC

Hammer, M., "Deep Change," *Harvard Business Review* 82 (4) 2004, pp. 84-93.

Metersky, J. and J. M. Kilgore, "How to Improve Your Inventory Deployment," *Supply Chain Management Review* 8 (7) 2004, pp. 26-32.

Nahmias, S., *Production and Operations Analysis*, 6th ed., McGraw-Hill, 2008.

Slone, R.E. and J.T. Mentzer, J. P. Dittmann, "Are You the Weakest Link in Your Company's Supply Chain?," *Harvard Business Review* 85 (9) 2007, pp. 116-127.

Grading

The instructor assesses students' mastery of course learning objectives by using the forms of assessment below. Each of these assessments is weighted toward the final grade. The Assessment Details section provides further details for each.

Grading Rubric

Letter Grade	Score or Percentage	Description
A	93–100	Achievement that is outstanding relative to the level necessary to meet course requirements.
A-	90–92	Achievement that is significantly above the level necessary to meet course requirements.
B+	87–89	
B	83–86	
B-	80–82	Achievement that meets the course requirements in every respect.
C+	77–79	
C	73–76	
C-	70–72	Achievement that is worthy of credit even though it fails to fully meet the course requirements.
D+	67–69	
D	60–66	
F	0–59	Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

Summary of How Grades Are Weighted

Assignments	Percentage of Grade
Engagement	20%
Presentations of Case Studies	20%
Quizzes	10%
Midterm Exam	25%
Final Exam	25%
Overall Grade	100%

Assessment Details

This section provides a brief description of each form of assessment listed above. Forms of assessment may be slightly modified in the term syllabus.

Engagement (20%): Students are expected to be engaged in class, to have read the CEA CAPA Engagement Policy, and to understand the Class Engagement Rubric that outlines how engagement is graded.

Quizzes (10%): Short, in-class quizzes will be administered without specific notice to test students' comprehension of course materials to date.

Presentations of Case Studies (20%): Groups of students will be assigned one or more cases for analysis, discussion, presentation, and defense. Students will work in their groups to analyse situations outlined in specific case studies and develop their recommendations. The groups will present their conclusions to the assembled class. The assigned grade will depend on the ability of the student to present (33%), analyse the situation described in the case study (33%), and develop an effective plan to resolve the described problem (33%). All work must be ready by the beginning of the class on the date assigned and any late work will result in a zero (0) not just an F. If students are having any problems, they should contact their instructor at least 24 hours in advance.

Midterm & Final Exams (25% each): Exams will consist of multiple-choice questions covering the material up to the exam date.

Course Content

Unit 1

Topics

- Course Introduction

Activities

- Lecture

Readings & Assignments

- OM, Ch. 1 Concentrate: p. 4-21 (top)
- Consulting Reading Posted Online (skim)
- Optional reading:
D. Hardman, D. Messinger, and S. Bergson, “Virtual Advantages of Scale: Alliances for Leverage”
- Optional TED Video:
Ben Goldacre, “Predicting the future”

Unit 2

Topics

- Strategic OM Decisions
- Quality Management
- Quality Management Tools
- Metrics for Specific Industries, Business & Departments—XLS File

Activities

- Lecture

Readings & Assignments

- OM, Ch. 2 Concentrate: p. 42–43, p. 52–54 (mid)
- OM, Ch. 2 Concentrate: p. 383 (bot)–386 (mid), p. 387 (bot)–389 (mid), p. 390 (bot)–94 (mid), p. 399–404 (top)
Posted online

- Optional Readings:
G.P. Pisano and W.C. Shih, “Restoring American Competitvity,” HBR, July 2009 J. Weber, Understanding complex organizations—7s perspective, Darden Graduate School of Business Administration, 1998

M.Hammer, “Process Management and the Future of Six Sigma,” MIT Sloan Management Review 43 (2) 2002

W. Skinner, “Manufacturing–Missing Link in Corporate Strategy,” Harvard Business Review 47 (3) 1969, pp. 136-145.

Unit 3

Topics

- Basics of Microsoft Excel
 - Designing spreadsheets and using tools
- Event Planning Spreadsheet

Activities

- In-Class Activity: Microsoft Excel

Readings & Assignments

- Excel Basics Part 1 and 2 (optional)
- Event Planning Spreadsheet with Homework Distributed by Instructor

Unit 4

Topics

- Budgeting & Forecasting Operations
- Cost Accounting

Activities

- Lecture

Readings & Assignments

- FA, Sections 3 and 4
- FA, Sections 6.1–6.2, 7.1–7.8
- OM, Ch. 3. Concentrate: p. 76(mid)–77(bot), p. 80–82(mid)

- See FAO Budget Posted Online
 - Optional Readings:
See Capital budgeting and Forecasting reading posted online
Cost accounting reading posted online
- Ryans, “The High stakes of Low-Cost Competition,” IESE Insight, 1st Quarter 2010 (page 8)
- P. Saffo, “6 Rules for effective Forecasting,” HBR, July 2007 (page 11)
- C. Hamilton-Pennell, “Finding Competitive Information for Growing Companies,” June 2008 (page 12)

Unit 5

Topics

- Capacity Planning I
 - Breakeven and Valuation

Activities

- Lecture

Readings & Assignments

- OM: Ch. 5. Concentrate: p. 184–187, p. 190(mid)–192

Unit 6

Topics

- Capacity Planning II
 - Planning For Supply/Demand Fluctuations
 - Single-Year and Multi-Year
 - Genetech

Activities

- Lecture
- Case Study
- Video: <https://www.youtube.com/watch?v=3Al8YqU8gZg&t=179s>

Readings & Assignments

- See 2 Capacity Planning Excel Spreadsheets Posted Online
- Cases: OM, p. 3–11

Unit 7

Topics

- Scheduling & Control
 - Guest Lecturer—Operations Manager

Activities

- Guest Lecture

Unit 8

Topics

- **Game Theory**

Activities

- Lecture

Readings & Assignments

- Section 5.4, 5.5 p. 176(mid)–177 in Game Theory Reading Posted Online

Unit 9

Topics

- Complex Logistics Management
 - Guest Lecturer—Logistics Consultant

Activities

- Guest Lecture

Unit 10

Topics

- Introductory Statistical Analysis
 - Standard deviation, probability distributions, central limit theorem, confidence intervals, quantitative analysis, volatility
- Deutsche Allgemeinversicherung

Activities

- Lecture
- Case Study

Readings & Assignments

- OM: Chapter 10. Concentrate: p. 425(mid)–428(mid), p. 430–Example 1, p. 431
- Cases: OM, p. 4–9

Unit 11

Topics

- Day Trading
- Guest Lecturer—Floor Operations

Activities

- Guest Lecture

Readings & Assignments

- Video: Bloomberg Game Changes: Twitter

Unit 12

Topics

- Assembly Lines I

Activities

- Lecture

Readings & Assignments

- See Assembly Line Reading Posted Online

Unit 13

Topics

- Operational Issues in Taxation & Public Finance
- Guest Lecturer—Economist

Activities

- Guest Lecture

Unit 14

Topics

- Assembly Lines II
- Gantt Charts
- Short-Term Scheduling

Activities

- Lecture

Readings & Assignments

- OM: Ch. 17. Concentrate: p. 749(mid)–740(mid)
- See Short-Term Scheduling Reading Posted Online

Unit 15

Topics

- Midterm Exam Review

Activities

- Review

Readings & Assignments

- Review Subjects to Date

Unit 16

Midterm Exam

Unit 17

Topics

- Product Design
 - House of Quality
 - Cola Wars (Product Development, Supply Chains)

Activities

- Lecture
- Film Screening

Readings & Assignments

- OM: Ch. 14 . Concentrate: p. 153–155 (mid)
- Optional Readings:
 - J. Hunt, “*Managing People at Work*,” McGraw-Hill 1986, Chapter 1
 - S. Corbett, “The evolution of Lean Production,” *McKinsey Quarterly*, 2007 (page 10)
- Optional TED Videos:
 - A.B. Horniman, “Reflections on Multiple Intelligences: choice or chance?,” University of Virginia, Nov 2009
 - Yves Morieux, “6 rules to simplify company environments”

Unit 18

Topics

- Supply Chain Management
- Zara Supply Chain: <https://www.youtube.com/watch?v=9n0mikF1Esw>
- SKS/Deloitte

Activities

- Lecture
- Case Study

Readings & Assignments

- OM, Ch. 15. Concentrate: p. 664–669 (mid)
- Cases: OM, p. 5(bot)–10
- Optional readings:
R. J. Trent, “What Everyone Needs to Know about SCM,” *Supply Chain Management Review* 8 (2) 2004

D. Farrell, “Beyond Offshoring: Assess Your Company’s Global Potential,” *HBR*, 82 (12) 2004, pp. 82–90.
- Optional TED Videos:
Auretan Heerdan, “International Artisan Manufacturing“ (page equivalent: 3)

Brian Ferren, “Combining Engineering and Design“ (page equivalent: 3)

Charles Leadbeater, “Collaborative Creativity“ (page equivalent: 3)

Joi Ito, “Become a ‘Now-Ist’ to Innovate“ (page equivalent: 3)

Uri Alon, “Unlocking Innovation“ (page equivalent: 3)

Unit 19

Topics

- Supply Chain/Inventory Management Computer Simulation

Activities

- Simulation

Readings & Assignments

- Excel Spreadsheet Posted Online

Unit 20

Topics

- Waiting-Line Models
 - Cost/benefit
 - Ryanair Analysis

Activities

- Lecture

Readings & Assignments

- Module D (Waiting Lines) Posted
- Excel Files and Reading Posted

Unit 21

Topics

- Traffic Management
 - A model

Activities

- Lecture

Readings & Assignments

- See Traffic Flow Management Excel Spreadsheet Posted Online

Unit 22

Topics

- OM In-Class Activity

Activities

- Review/Activity

Unit 23

Topics

- Negotiating Using Analytical Bases

Activities

- Lecture

Readings & Assignments

- Behavior of Successful Negotiators Posted Online—See Also (Doc) Notes on Negotiation with Suggested Optional Reading

Unit 24

Topics

- Inventory Management
- Ordering & Holding Costs, EOQ, Reorder Point
- Same Store Sales Analysis

Activities

- Lecture

Readings & Assignments

- OM: Ch. 13. Concentrate: p. 562–563 (top); p. 566–569; p. 578
- Readings Posted Online
- Optional Readings:
H. Ludwig and E. Spiegel, “America’s Real Manufacturing Advantage,” Strategy and Business, Spring 2014

S. Cook, “The Contribution Revolution,” HBR, Oct 2008

G. Callioni, X. de Montgros, R. Slagmulder, L. N. Van Wassenhove, and L. Wright, “Inventory-Driven Costs,” HBR, 83 (3) 2005, pp.135-141

John Sviokla, “How old industries become young again,” Strategy and Business, 2014 (pages 9)

A. McAfee and E. Brynjolfsson, 'Big Data, The Management Revolution', HBR, Oct 2012 (pages 9)

D. Meer, 'When big data isn't an option', Strategy and Business, Summer 2014 (pages 5)

Unit 25

Topics

- Valuation Analysis

Activities

- Lecture

Readings & Assignments

- FA: Sections 6.1–6.6
- Valuation Reading Posted Online

Unit 26

Topics

- Final Exam Review

Unit 27

Final Exam

Policies

Academic Policies

Students are expected to review and understand all CEA CAPA student policies, including our Academic Policies and Engagement Policy. CEA CAPA reserves the right to change, update, revise, or amend existing policies and/or procedures at any time. Additional requirements that may be associated with a specific course or program are addressed in the term syllabus.

Student Learning & Development Objectives

CEA CAPA has identified Student Learning and Development Objectives (SLDOs) for all programs in all locations: content in context, navigating differences, power and equity, critical thinking and intellectual curiosity, career and professional development, and sustainability and migration. These are meta-level learning objectives that transcend coursework and are infused across all elements of program delivery, beyond specifics of course offerings, addressing student learning holistically and framing it in a larger learning context.

Attendance Policy

Students are expected to be on time and attend all classes while abroad. Many instructors assess both attendance and participation when assigning a final course grade. Attendance alone does not guarantee a positive participation grade; the student should be prepared for class and engage in class discussion. See the on-site syllabus for specific class requirements.

University of Minnesota Policies & Procedures

Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own can result in disciplinary action. The University Student Conduct Code defines scholastic dishonesty as follows:

Scholastic Dishonesty

Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.

Within this course, a student responsible for scholastic dishonesty can be assigned a penalty up to and including an “F” or “N” for the course. If you have any questions regarding the expectations for a specific assignment or exam, ask.

Student Conduct

The University of Minnesota has specific policies concerning student conduct. This information can be found [on the Learning Abroad Center website](#).