



University of
New Haven

Basic Operations Management

SECTION I: COURSE OVERVIEW

Course Code: BUS334FCO / MIS334FCO

Subject Area: Business, Management Information Systems

Prerequisites: See Below

Language of Instruction: English

Total Contact Hours: 45

Recommended Credits: 3

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 the managerial and mathematical techniques—along with information technology resources—used to make goods and services.

LEARNING OBJECTIVES

Upon successful completion of this course, you will be 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.

PREREQUISITES

Prior to enrollment, this course requires you to have completed one introductory course in Business and/or Information Systems.

CROSS-LISTED COURSE

Due to the interdisciplinary nature of the content, this course is cross-listed with Business (BUS334FCO) as well as Managing Information Systems (MIS334FCO). The instructor will provide directions during the first week of class regarding how to choose your desired course code.

SECTION II: INSTRUCTOR AND COURSE DETAILS

INSTRUCTOR DETAILS

Name:	TBA
Contact Information:	TBA
Term:	SEMESTER

ATTENDANCE POLICY

This class will meet twice weekly for 90 minutes each session. All students are expected to arrive on time and be prepared for the day's class session.

CEA enforces a mandatory attendance policy. You are therefore expected to attend all regularly scheduled class sessions, including any field trips, site visits, guest lectures, etc. that are assigned by the instructor. The table below shows the number of class sessions you may miss before receiving a grade penalty.

ALLOWED ABSENCES – SEMESTERS		
Courses Meeting X day(s) Per Week	Allowed Absence(s)	Automatic Failing Grade at X th Absence
Courses meeting 2 day(s) per week	2 Absences	8 th Absence

For every additional absence beyond the allowed number, your final course grade will drop down to the subsequent letter grade (ex: A+ to A). As a student, you should understand that the grade penalties will apply if you are marked absent due to tardiness or leaving class early. In the table below, you will find the grade penalty associated with each excessive absence up to and including automatic course failure.

ATTENDANCE DOCKING PENALTIES								
Absence	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
Penalty	No Penalty	No Penalty	0.5 Grade Docked	1 Grade Docked	1.5 Grades Docked	2 Grades Docked	2.5 Grades Docked	Automatic Failure
HIGHEST POSSIBLE GRADE AFTER ATTENDANCE PENALTIES								
Grade	A+	A+	A	A-	B+	B	B-	F

CEA does not distinguish between excused and unexcused absences. As such, no documentation is required for missing class. Similarly, excessive absences, and the grade penalty associated with each, will not be excused

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even if you are able to provide documentation that shows the absence was beyond your control. You should therefore only miss class when truly needed as illness or other unavoidable factors may force you to miss a class session later on in the term.

GRADING & ASSESSMENT

The instructor will assess your progress towards the above-listed learning objectives by using the forms of assessment below. Each of these assessments is weighted and will count towards your final grade. The following section (Assessment Overview) will provide further details for each.

Class Participation	10%
Quizzes	10%
Presentations of Case Studies	20%
Midterm Exam	30%
Final Exam	30%

The instructor will calculate your course grades using the CEA Grading Scale shown below. As a CEA student, you should understand that credit transfer decisions—including earned grades for courses taken abroad—are ultimately made by your home institution

CEA GRADING SCALE			
Letter Grade	Numerical Grade	Percentage Range	Quality Points
A+	9.70 – 10.0	97.0 – 100%	4.00
A	9.40 – 9.69	94.0 – 96.9%	4.00
A-	9.00 – 9.39	90.0 – 93.9%	3.70
B+	8.70 – 8.99	87.0 – 89.9%	3.30
B	8.40 – 8.69	84.0 – 86.9%	3.00
B-	8.00 – 8.39	80.0 – 83.9%	2.70
C+	7.70 – 7.99	77.0 – 79.9%	2.30
C	7.40 – 7.69	74.0 – 76.9%	2.00
C-	7.00 – 7.39	70.0 – 73.9%	1.70
D	6.00 – 6.99	60.0 – 69.9%	1.00
F	0.00 – 5.99	0.00 – 59.9%	0.00
W	Withdrawal	N/A	0.00
INC	Incomplete	N/A	0.00

ASSESSMENT OVERVIEW

This section provides a brief description of each form of assessment listed above. Your course instructor will provide further details and instructions during class time.

Class Participation (10%): Student participation is mandatory for all courses taken at a CEA Study Center. The instructor will use the rubric below when determining your participation grade. All students should

understand that attendance and punctuality are expected and will not count positively toward the participation grade.

CLASS PARTICIPATION GRADING RUBRIC	
Student Participation Level	Grade
You make major & original contributions that spark discussion, offering critical comments clearly based on readings, research, & theoretical course topics.	A+ (10.0 – 9.70)
You make significant contributions that demonstrate insight as well as knowledge of required readings & independent research.	A/A- (9.69 – 9.00)
You participate voluntarily and make useful contributions that are usually based upon some reflection and familiarity with required readings.	B+/B (8.99 – 8.40)
You make voluntary but infrequent comments that generally reiterate the basic points of the required readings.	B-/C+ (8.39 – 7.70)
You make limited comments only when prompted and do not initiate debate or show a clear awareness of the importance of the readings.	C/C- (7.69 – 7.00)
You very rarely make comments and resist engagement with the subject. You are not prepared for class and/or discussion of course readings.	D (6.99 – 6.00)
You make irrelevant and tangential comments disruptive to class discussion. You are consistently unprepared for class and/or discussion of the course readings.	F (5.99 – 0.00)

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

Presentations of Case Studies (20%): You and at least one other student 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 you are having any problems contact your instructor at least 24 hours in advance.

Midterm & Final Exams (30% each): Exams will consist of multiple-choice questions covering the material up to the exam date.

REQUIRED READINGS

Reading assignments for this course will come from the required text(s) and/or the selected reading(s) listed below. All required readings—whether assigned from the text or assigned as a selected reading—must be completed according to the due date assigned by the course instructor.

REQUIRED TEXTS: You may purchase/acquire the required text(s) prior to departure or upon program arrival. The required text(s) are listed below:

- 1. OM:** Stevenson, William J., *Operations Management*, McGraw-Hill 2017, 13th edition, pp. 945

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(obtained by student – available as Pdf)

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

RECOMMENDED READINGS

The recommended readings and/or texts for this course are listed below. The recommended readings are not mandatory, but they will assist you with research and understanding course content. Most are available at the CEA Resource Center for short-term loans or available in electronic format via the Moodle Platform. During the course your instructor will also distribute handouts containing supplementary details on problems and case studies.

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=U2eTwQos_o3wC

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.

ONLINE REFERENCE & RESEARCH TOOLS

The course instructor has identified the resources below to assist you with understanding course topics. You are encouraged to explore these and other avenues of research including the databases available via the UNH online library (see below).

www.apics.org

www.asq.org American Society for Quality

www.baddesigns.com funny website highlighting poorly designed products

www.blackwellpublishing.com/essentialmedstats/004.pdf - clear explanation of st. dev.

www.brint.com for business research in information and technology

<https://www.amstat.org> for American Statistical Association

www.hbr.org Harvard Business Review

www.hoovers.com for summary company info, comparable search, etc.

www.pmi.org Project Management Institute

www.poms.org Production and Operations Management Society

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www.sec.gov for public company filings (all U.S. public plus foreign public with U.S. listings)

www.sme.org for the Society of Manufacturing Engineers

<https://www.bls.gov> for U.S. Bureau of Labor Statistics

ADDITIONAL RESOURCES

In order to ensure your success abroad, CEA has provided the academic resources listed below. In addition to these resources, each CEA Study Center provides students with a physical library and study areas for group work. The Academic Affairs Office at each CEA Study Center also compiles a bank of detailed information regarding libraries, documentation centers, research institutes, and archival materials located in the host city.

- **UNH Online Library:** As a CEA student, you will be given access to the online library of CEA's School of Record, the University of New Haven (UNH). You can use this online library to access databases and additional resources while performing research abroad. You may access the UNH online library [here](#) or through your MyCEA Account. You must comply with UNH Policies regarding library usage.
- **CEAClassroom – Moodle:** CEA instructors use Moodle, an interactive virtual learning environment. This web-based platform provides you with constant and direct access to the course syllabus, daily schedule of class lectures and assignments, non-textbook required readings, and additional resources. Moodle includes the normal array of forums, up-loadable and downloadable databases, wikis, and related academic support designed for helping you achieve the learning objectives listed in this syllabus.

During the first week of class, CEA academic staff and/or faculty will help you navigate through the many functions and resources Moodle provides. While you may print a hard copy version of the syllabus, you should always check Moodle for the most up-to-date information regarding this course. The instructor will use Moodle to make announcements and updates to the course and/or syllabus. It is your responsibility to ensure that you have access to all Moodle materials and that you monitor Moodle on a daily basis in case there are any changes made to course assignments or scheduling.

To access Moodle: Please log-in to your MyCEA account using your normal username and password. Click on the "While You're Abroad Tab" and make sure you are under the "Academics" sub-menu. There you will see a link above your schedule that says "View Online Courses" select this link to be taken to your Moodle environment.

COURSE CALENDAR
Basic Operations Management

SESSION	TOPICS	ACTIVITY	READINGS & ASSIGNMENTS
INTRODUCTION TO OPERATIONS MANAGEMENT			
1	Course Introduction	Lecture	<p>OM: Chapter 1. Concentrate: p 4-21 (top) Consulting reading posted online (skim)</p> <p><u>Optional reading</u> D. Hardman, D. Messinger, and S. Bergson, 'Virtual Advantages of Scale: Alliances for Leverage'</p> <p><u>Optional TED Video</u> Ben Goldacre, 'Predicting the future'</p>
2	Strategic OM decisions	Lecture	OM: Chapter 2. Concentrate: p42-43, p52-54 (mid)
	Quality Management Quality Management Tools		OM: Chapter 9. Concentrate: p383 (bot)-386 (mid), p387 (bot)-389 (mid), p390 (bot)-394 (mid) p399-404 (top)
	Metrics for Specific Industries, Business & Departments – xls file		<p>Posted online</p> <p><u>Optional readings</u> 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.</p>
3	Basics of Microsoft Excel: Designing spreadsheets & using tools Event Planning Spreadsheet	In Class Activity: Microsoft Excel	<p>Excel basics part 1 and 2 (optional)</p> <p>Event planning spreadsheet with homework distributed by instructor</p>

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BUDGETING & FORECASTING			
4	Budgeting & Forecasting Operations	Lecture	FA: Sections 3 and 4 FA: Sections 6.1-6.2, 7.1-7.8 OM: Chapter 3. Concentrate: p76 (mid)-77 (bot), p80-82 (mid) See FAO budget posted online <i>Optional reading</i> See Capital Budgeting and Forecasting reading posted online
	Cost Accounting		Cost accounting reading posted online <i>Optional readings</i> Ryans, 'The High Stakes of Low-Cost Competition', IESE Insight, 1 st Quarter 2010 (pages 8); P. Saffo, '6 Rules for effective Forecasting', HBR, July 2007 (pages 11); C. Hamilton-Pennell, 'Finding Competitive Information for Growing Companies', June 2008 (pages 12)
DESIGNING OPERATIONS			
<i>Capacity Planning</i>			
5	Capacity Planning I: Breakeven & Valuation	Lecture	OM: Chapter 5. Concentrate: p184-187, p190 (mid)-192
6	Capacity Planning II: Planning for supply/demand fluctuations single year & multi-year	Lecture Case Study & Video	See 2 Capacity Planning Excel spreadsheets posted online
	Genentech	https://www.youtube.com/watch?v=3Al8YqU8gZg&t=179s	Cases: OM p3-p11
7	Scheduling & Control: Guest Lecturer – Operations Manager	Guest Lecture	--

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<i>Business Strategy</i>			
8	Game Theory	Lecture	Section 5.4, 5.5 p176 (mid)-177 in game theory reading posted online
9	Complex Logistics Management: Guest Lecturer – Logistics Consultant	Guest Lecture	--
<i>Control</i>			
10	Introductory Statistical Analysis: Standard deviation, probability distributions, central limit theorem, confidence intervals, quantitative analysis, volatility	Lecture & Case Study	OM: Chapter 10. Concentrate: p425 (mid)-428 (mid), p430-Example 1, p431
	Deutsche Allgemeinversicherung		Cases: OM p4-p9
11	Day Trading: Guest Lecturer - Floor Operations	Guest Lecture	Video: Bloomberg Game Changers: Twitter
12	Assembly Lines I	Lecture	See assembly line reading posted online
13	Operational Issues in Taxation & Public Finance: Guest Lecturer – Economist	Guest Lecture	--
<i>Layout Strategies / Scheduling</i>			
14	Assembly Lines II	Lecture	OM: Chapter 17. Concentrate: p749 (mid)-750 (mid) See short term scheduling reading posted online
	Gantt Charts		
	Short Term Scheduling		
15	Midterm Exam Review	Review	Review subjects to date
16	MIDTERM EXAM		
MANAGING OPERATIONS			

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<i>Product Development / Pricing</i>			
17	Product Design: House of quality	Lecture & Film Screening	OM: Chapter 4. Concentrate: p153-155 (mid)
	Cola Wars (product development, supply chains)		<i>Optional reading</i> J. Hunt, 'Managing People at Work', McGraw-Hill 1986, Chapter 1 S. Corbett, 'The evolution of Lean Production', <i>McKinsey Quarterly</i> , 2007 (pages 10) <i>Optional TED Videos</i> A.B. Horniman, 'Reflections on Multiple Intelligences: choice or chance?', University of Virginia, Nov 2009; Yves Morieux, '6 Rules to simplify company environments'
<i>Supply Chain Management</i>			
18	Supply Chain Management Zara Supply Chain: https://www.youtube.com/watch?v=9n0mikF1Esw SKS/Deloitte	Lecture & Case Study	OM: Chapter 15. Concentrate: p664-669 (mid) Cases: OM p5 (bottom) - p10 <i>Optional reading</i> R. J. Trent, 'What Everyone Needs to Know about SCM', <i>Supply Chain Management Review</i> 8 (2) 2004; D. Farrell, 'Beyond Offshoring: Assess Your Company's Global Potential', <i>HBR</i> , 82 (12) 2004, pp. 82-90. <i>Optional TED Videos</i> Aurretan 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).
19	Supply Chain/Inventory Management Computer Simulation	Simulation	Excel spreadsheet posted online

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EXTERNAL OPERATIONS			
<i>Waiting Line Models</i>			
20	Waiting-line Models: Cost/benefit	Lecture	Module D (waiting lines) posted
	Ryanair Analysis		Excel file and reading posted
<i>Traffic Flow Management</i>			
21	Traffic Management: A model	Lecture	See Traffic Flow Management Excel spreadsheet posted online
22	OM In Class Activity	Review/activity	--
WORK-BASED APPLICATIONS			
<i>Negotiations</i>			
23	Negotiating Using Analytical Bases	Lecture	Behavior of successful negotiators posted online – see also (doc) notes on negotiating with suggested optional reading
<i>Retail Management</i>			
24	Inventory Management: Ordering & holding costs, EOQ, Reorder point	Lecture	OM: Chapter 13. Concentrate: p562-563 (top); p566-569; p578
	Same Store Sales Analysis		Readings posted online <i>Optional reading</i> H. Ludwig and E. Spiegel, 'America's Real Manufacturing Advantage', <i>Strategy and Business</i> , Spring 2014; S. Cook, 'The Contribution Revolution', <i>HBR</i> , Oct 2008 G. Callioni, X. de Montgros, R. Slagmulder, L. N. Van Wassenhove, and L. Wright, 'Inventory-Driven Costs', <i>HBR</i> , 83 (3) 2005, pp.135-141; John Sviokla, 'How old industries become young again', <i>Strategy and Business</i> , 2014 (pages 9); A. McAfee and E. Brynjolfsson, 'Big Data, The Management Revolution', <i>HBR</i> , Oct 2012 (pages 9);

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			D. Meer, 'When big data isn't an option', <i>Strategy and Business</i> , Summer 2014 (pages 5)
<i>Finance Applications</i>			
25	Valuation Analysis	Lecture	FA: Sections 6.1-6.6 Valuation reading posted online
26	Final Exam Review	--	--
27	FINAL EXAM		

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SECTION III: CEA Academic Policies

The policies listed in this section outline general expectations for CEA students. You should carefully review these policies to ensure success in your courses and during your time abroad. Furthermore, as a participant in the CEA program, you are expected to review and understand all CEA Student Policies, including the academic policies outlined on our website. CEA reserves the right to change, update, revise, or amend existing policies and/or procedures at any time. For the most up to date policies, please review the policies on our website.

Class & Instructor Policies can be found [here](#)

General Academic Policies can be found [here](#)