Business 341  
Essentials of Operations Management

Instructor: Bob O’Donnell  
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Tel. (920) 424-7401
Office Hours:  
Monday – 12:00 to 1:40 p.m.  
Wednesday – 3:00 to 5:45 p.m.  
Tuesday & Thursday – 12:00 to 1:00 p.m.  
Other Times by Appointment

Required Texts:

Operations Management (Customized 11th Edition) by William J. Stevenson 
The Goal – A Process of Ongoing Improvement (Third Edition)  
by Eliyahu M. Goldratt and Jeff Cox, North River Press, 2004 or 2012

Course Description:
The supply chain and operations (production) function of organizations is studied for both 
nonmanufacturing (service) and manufacturing systems. Topics include supply chain management; 
quality; production planning; Material Requirements Planning (MRP); Enterprise Resource Planning 
(ERP); forecasting; inventory management; RFID, six sigma and lean manufacturing; project 
management; purchasing; productivity; strategies, and facility location and layout.

Learning Objectives (Applied Learning)

At the end of this course the students will be able to:
1. Describe the broad field of operations management and its relationship to other business functions.
2. Describe the elements of supply chain management.
3. Understand the impact on business and industry due to globalization and technology.
4. Describe specific elements and techniques of quality improvement and explain their impact.
5. Describe types and costs of inventory.
6. Describe concepts of six sigma and lean manufacturing.
7. Describe the process of project management.
8. Understand the key concepts of the book The Goal.
9. Describe the elements of production/service strategy.
10. Discuss the factors affecting location decisions and interpret the importance of these factors.

Course Evaluation

Course grades will be determined based on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams – Four Exams @ 100 points per exam</td>
<td>400</td>
</tr>
<tr>
<td>Small Group Discussions of The Goal – Chapters 1-16</td>
<td>40</td>
</tr>
<tr>
<td>Small Group Discussions of The Goal – Chapters 17-24</td>
<td>20</td>
</tr>
<tr>
<td>Small Group Discussions of The Goal – Chapters 25-40</td>
<td>40</td>
</tr>
<tr>
<td>Class Participation</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total Possible Course Points</strong></td>
<td>550</td>
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</table>

Extra credit points are available for taking the Supply Chain and Operations Management (SCOM) 
Pre-Test (10 points) and SCOM Post-Test (10 points) on the student’s D2L web site.
BUS 341 – Essentials of Operations Management

Course Grading Scale

<table>
<thead>
<tr>
<th>% of Total Possible Points</th>
<th>Numeric Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100%</td>
<td>512 - 550</td>
<td>A</td>
</tr>
<tr>
<td>90-92.99%</td>
<td>495 - 511</td>
<td>A-</td>
</tr>
<tr>
<td>87-89.99%</td>
<td>479 - 494</td>
<td>B+</td>
</tr>
<tr>
<td>83-86.99%</td>
<td>457 - 478</td>
<td>B</td>
</tr>
<tr>
<td>80-82.99%</td>
<td>440 - 456</td>
<td>B-</td>
</tr>
<tr>
<td>77-79.99%</td>
<td>424 - 439</td>
<td>C+</td>
</tr>
<tr>
<td>73-76.99%</td>
<td>402 - 423</td>
<td>C</td>
</tr>
<tr>
<td>70-72.99%</td>
<td>385 - 401</td>
<td>C-</td>
</tr>
<tr>
<td>67-69.99%</td>
<td>369 - 384</td>
<td>D+</td>
</tr>
<tr>
<td>63-66.99%</td>
<td>347 - 368</td>
<td>D</td>
</tr>
<tr>
<td>60-62.99%</td>
<td>330 - 346</td>
<td>D-</td>
</tr>
<tr>
<td>&lt; 60%)</td>
<td>&lt; 330</td>
<td>F (Failure)</td>
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Examinations

Each exam will be based on the qualitative material (using multiple choice and/or true/false questions) and key quantitative management tools (problems) covered in the required texts, class presentations and discussions, and supplemental materials (if any) assigned in class. Exams must be taken at the specified times, unless arrangements are made with the instructor as far in advance as possible. Exam study guides for each chapter will be posted on course D2L web site. Cheating will result in course failure.

Small Group Discussions of The Goal by Eliyahu M. Goldratt and Jeff Cox

Beginning in the second class session, students will be asked to read specific chapters of The Goal and then meet with a group of two or three other students in the class to discuss and identify at least two significant or interesting points they discovered in each reading assignment. Prior to the class dedicated to discussing those chapters, all students will post a summary of their small group’s discussions of each reading assignment using the dropbox section of the course D2L web site. All of the group members should submit the same summary, and discussion meetings can be in person or using other means.

Class Participation

Class participation score will be based on instructor’s evaluation of evidence that the student has read the assigned material before class and was prepared to discuss it in class. That evidence includes, but is not limited to, active participation in class discussions and the asking of relevant questions. The quality of items posted by the student for small group discussions of The Goal will also considered for in class participation score.

Other Expectations

- As a courtesy to the instructor and other students, web surfing, the use of cell phones and/or texting is not permitted during class except in the case of an emergency.
- Attentive listening is both a sign of respect for others and essential to effective learning.
- Never be afraid to ask a question in class - “Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.” – Albert Einstein
## Course Outline

<table>
<thead>
<tr>
<th>Session #</th>
<th>Date</th>
<th>Class Session Topics</th>
<th>Reading Assignment</th>
<th>Small Group Discussion</th>
</tr>
</thead>
</table>
| **1**     | 1/29 | **Introduction to the Course**  
- Review of Syllabus  
- Course Evaluation and Grading Scale  
- Small Group Discussions of *The Goal*  
**PBS Documentary**  
*America Revealed – Made in the USA* by Yul Kwon | | |
| **2**     | 1/31 | **Introduction to Operations Management** | Chapter 1  
(Stevenson) | |
| **3**     | 2/5  | **Competitiveness, Strategy and Productivity**  
*Key Quantitative Management Tools:*  
- Single Factor Productivity Measure  
- Multi-Factor Productivity Measure | Chapter 2  
(Stevenson) | *The Goal* – Chapters 1-2 |
| **4**     | 2/7  | **Forecasting**  
*Key Quantitative Management Tools:*  
- Simple and Weighted Moving Averages  
- Exponential Smoothing  
- Error Analysis - Mean Absolute Deviation (MAD)  
- Error Analysis - Mean Squared Error (MSE)  
- Error Analysis - Mean Absolute Percent Error (MAPE) | Chapter 3  
(Stevenson) | *The Goal* – Chapters 3-4 |
| **5**     | 2/12 | **Product and Service Design** | Chapter 4  
(Stevenson) | *The Goal* – Chapters 5-6 |
| **6**     | 2/14 | **Strategic Capacity Planning for Products & Services**  
*Key Quantitative Management Tools:*  
- Efficiency and Utilization Ratios  
- Calculating Processing Requirements  
- Cost-Volume (Break-Even Point) Analysis | Chapter 5  
(Stevenson) | *The Goal* – Chapters 7-8 |
| **7**     | 2/19 | **First Exam – Chapters 1 thru 5 (Stevenson)** | | |
| **8**     | 2/21 | **Process Selection and Facility Layout** | Chapter 6  
(Stevenson) | *The Goal* – Chapters 9-10 |
| **9**     | 2/26 | **Location Planning and Analysis**  
*Key Quantitative Management Tools:*  
- Locational Cost-Profit-Volume Analysis | Chapter 8  
(Stevenson) | *The Goal* – Chapters 11-12 |
| **10**    | 2/28 | **Management of Quality** | Chapter 9  
(Stevenson) | *The Goal* – Chapters 13-14 |
| **11**    | 3/5  | **Quality Control**  
*Key Quantitative Management Tools:*  
- Mean and Range Control Charts | Chapter 10  
(Stevenson) | *The Goal* – Chapters 15-16 |
| **12**    | 3/7  | **Quality Control**  
*Key Quantitative Management Tools:*  
- Attributes Control Charts - p-Charts and c-Charts  
- Process Capability Ratio (C_p)  
- Process Capability Index (C_pk) | | |
| **13**    | 3/12 | **Class Discussion of Key Points in**  
*The Goal* – Chapters 1 thru 16 | | **Deadline**  
D2L Posting for Chapters 1-16 |
<p>| <strong>14</strong>    | 3/14 | <strong>Second Exam - Chapters 6, 8, 9 and 10 (Stevenson)</strong> | | |</p>
<table>
<thead>
<tr>
<th>Session #</th>
<th>Date</th>
<th>Class Session Topics</th>
<th>Reading Assignment</th>
<th>Small Group Discussion</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>3/26</td>
<td>Work Design and Measurement</td>
<td>Chapter 7 (Stevenson)</td>
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<tr>
<td>16</td>
<td>3/28</td>
<td>Aggregate Planning and Scheduling</td>
<td>Chapter 11 (Stevenson)</td>
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<tr>
<td>17</td>
<td>4/2</td>
<td>Material Requirements Planning (MRP) and Enterprise Requirement Planning (ERP)</td>
<td>Chapter 12 (Stevenson)</td>
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<td>18</td>
<td>4/4</td>
<td>Inventory Management</td>
<td>Chapter 13 (Stevenson)</td>
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<td>19</td>
<td>4/9</td>
<td>Class Discussion of Key Points in The Goal – Chapters 17 thru 24</td>
<td>Deadline</td>
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<td>20</td>
<td>4/11</td>
<td>Third Exam – Chapters 7, 11, 12 and 13 (Stevenson)</td>
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<td>21</td>
<td>4/16</td>
<td>Lean Operations and JIT</td>
<td>Chapter 14 (Stevenson)</td>
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<td>22</td>
<td>4/18</td>
<td>Supply Chain Management</td>
<td>Chapter 15 (Stevenson)</td>
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<td>Scheduling</td>
<td>Chapter 16 (Stevenson)</td>
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<td>24</td>
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<td>Project Management</td>
<td>Chapter 17 (Stevenson)</td>
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<td>Project Management (cont.)</td>
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<td>26</td>
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<td>The Goal –</td>
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<td>27</td>
<td>5/7</td>
<td>Class Discussion of Key Points in The Goal – Chapters 25 thru 40</td>
<td>Deadline</td>
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<tr>
<td>28</td>
<td>5/9</td>
<td>Fourth Exam – Chapters 14 thru 17 (Stevenson)</td>
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