



**International Business Management Program  
Faculty of Business Administration  
2<sup>nd</sup> Semester, Academic Year 2014**

**I. Course Code:** BA201  
**Course Title:** Production and Operation Management  
**Course Type:** Business Core course  
**Number of Credits:** 3(3-0-6)  
**Prerequisite:** MG109  
**Class Time:** Tuesday and Thursday  
12.30 – 14.00  
**Course website:** <https://sites.google.com/site/payapBA201>

**II. Course Description**

Planning, implementation and control of products and services. Product design and implementation process. Technology related to operations and production. Quality management, project management, forecasting, inventory management, capacity planning, resource requirements, and supply chain management.

**III. Instructor:** **Wutthipong Chuatrakul**  
**Position:** -  
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**Telephone:** ext.7214

**IV. Course Objectives**

Upon completing this course, students should be able to:

1. Understand and explain Operation management concepts and theories.
2. Learn to understand the conceptual frameworks and tools that can be used to resolve such issues, update the recent trends in operation, and understand the management techniques that are applicable to the real world situations.
3. Learn the different types of operations management approaches to solving problems.
4. Give students a foundation in operations management.
5. Apply the relevant operations management technique to analyze the case study, understand operational management results and draw the correct conclusion from these analysis

**V. References**

**1. Main Texts and Teaching Materials**

Russell & Taylor, (2011). *Operations Management: Quality and Competitiveness in a Global Environment*, 7th edition, John Wiley & Sons Inc.

**2. Essential Teaching Resources**

Supplementary materials pertaining to the course topics will be provided by the instructor for more practice.

**3. Recommended Teaching Resources**

Hill A. and Hill T., (2012). *Operations Management*. UK: Palgrave macmillan.  
In addition to textbooks and supplementary handouts, students will be assigned to do additional reading outside of class for their assignments. Readings can range from newspapers to journals, magazines to the Internet.

## **VI. Expectations**

1. All students will arrive to class on-time and be ready to learn.
2. Be able to demonstrate critical evaluation and communication skills relating to the scope, methodology, role and objectives of operations management.
3. Students should normally expect to spend more than 90 hours engaged in self-study learning.
4. Ability to complete individual homework and pair work or other methods as outlined at least in acceptable level.
5. The course website should be accessed regularly to follow postings and schedule changes.

## **VII. Course Policies**

### **1. Academic Honesty**

The IBM department has a zero tolerance for plagiarism. This includes downloaded material from the Internet, copied passages from a book or a fellow classmate without proper acknowledgment of the source(s). Breaches of academic integrity which includes submitting other peoples work as your own will result in an automatic grade of zero for the assignment/ exam, and may be reported to the judicial affairs officer. All students are responsible for learning the proper forms of citation required by the course instructor

### **2. Handing in Homeworks**

Unless otherwise noted, all homeworks are due in class, on the date specified, and typed. Please use 12 point font and 1.5 spacing between lines. Late assignments suffer a 50% penalty, starting at the end of the class on the due date; no late assignments will be accepted more than 1 week after the due date.

### **3. E-mail**

I do welcome questions and will provide input to you over email. Additionally, for help on assignments, come to office hours or schedule an appointment to see me.

### **4. Attendance**

Regular attendance is expected for all students enrolled in the course. Students who arrive late or leave early will be counted as late and three will equal an absence. Every student is responsible for all material covered in class when absent. Students who miss more than 80% of the classes will not be eligible to take the final examination.

### **5. Disruptions to class**

Your participation in class discussions on material and questions is important, welcome and integral to the class. However, I do not tolerate cross talk or disruptive conversations during class. Private conversations in class are disruptive, and prevent other students from hearing and learning from the material presented. You may be asked to leave the class if you are disruptive to other students. All mobiles must be turned to silent and put away. You can only use your electronic devices (I pads, Netbooks, etc.) if they are being used to follow the lecture PowerPoints or research relevant information to the topic being discussed.

### III. Course Assessment Scheme

**1) In-class discussion and Participation (10%)**

**Due:** Week 1-14.

**Details:** Look at the page 1 of BA201's grading rubric in more detail.

**2) Quizzes (10%)**

**Due:** Week 7 and 15.

**Details:** Look at the page 2 of BA201's grading rubric in more detail.

**3) Homework/Pair work (20%)**

**Due:** Week 1-14.

**Details:** Look at the page 3 of BA201's grading rubric in more detail.

**4) Midterm examination (20%)**

**Due:** The Payap University Midterm examination period.

**Details:** The midterm examination is a 2 hours covering all course material (textbook readings, lecture notes and other assigned readings).

**5) Final examination (40%)**

**Due:** The Payap University Final examination period.

**Details:** The midterm examination is a 3 hours covering all course material (textbook readings, lecture notes and other assigned readings).

### IX. Course Grading & Requirements

Class grading will be based on points in the following distribution (Percent):

|                                       |                    |
|---------------------------------------|--------------------|
| In class discussion and Participation | 10%                |
| Quizzes                               | 10%                |
| Homework/Pair work                    | 20%                |
| Midterm examination                   | 20%                |
| Final examination                     | <u>40%</u>         |
| <b>Total</b>                          | <b><u>100%</u></b> |

### X. Evaluation Criteria

1. Students are required to attend at least 80% of the classes to be eligible for the final examination.
2. This course employs the standardized grading system:

|          |    |
|----------|----|
| 80 - 100 | A  |
| 75 - 79  | B+ |
| 70 - 74  | B  |
| 65 - 69  | C+ |
| 60 - 64  | C  |
| 55 - 59  | D+ |
| 50 - 54  | D  |
| 0 - 49   | F  |

3. The following grades may also be given:

|      |                         |
|------|-------------------------|
| 'I'  | Incomplete              |
| 'W'  | Withdrawn               |
| 'IP' | Course work in progress |

## XI. Class Schedule

The details of this document may be changed during the course of the semester. Any changes will be announced in class or/and posted on the course website.

| Week  | Topic  | Hours | Teaching & Learning Activities, Instructional Media   |
|---|--|-------|---|
| (1)   | <b>Course Introduction</b>   | 1.5   |   |
| (1-2-3)   | Operations and Competitiveness <ul style="list-style-type: none"> <li>• What Operations and Supply Chain Managers Do</li> <li>• Operations Function</li> <li>• Evolution of Operations and Supply Chain Management</li> <li>• Globalization and Competitiveness</li> <li>• Operations</li> </ul>   | 6     | Lecture, Video Case Study, In-class discussion and Homework/Pair work Problems<br><br><b>Required reading:</b><br><i>Chapter 1 – Operations and Supply Chain Management</i>       |
| (3-4)   | Quality Management <ul style="list-style-type: none"> <li>• What Is Quality?</li> <li>• Evolution of Quality Management</li> <li>• Quality Tools</li> <li>• TQM and QMS</li> <li>• Focus of Quality Management—Customers</li> <li>• Role of Employees in Quality Improvement</li> </ul>  | 3     | Lecture, Video Case Study, In-class discussion and Homework /Pairwork Problems<br><br><b>Required reading:</b><br><i>Chapter 2 – Quality and Quality Management</i>               |
| (4-5-6)   | Statistical Process Control <ul style="list-style-type: none"> <li>• The Basics of Statistical Process Control</li> <li>• Control Charts for attributes (p-chart, c-chart) and Control Charts for Variables (X-chart, R-chart)</li> </ul>  | 6     | Lecture, Case Study, In-class discussion and Homework/Pair work Problems<br><br><b>Required reading:</b><br><i>Chapter 3 – Process Capability and Statistical Process Control</i> |
| (6-7-8)   | Products & Services <ul style="list-style-type: none"> <li>• The Design Process</li> <li>• Idea Generation</li> <li>• Feasibility Studies</li> <li>• Rapid Prototyping</li> <li>• Form Design</li> <li>• Functional Design</li> <li>• Production Design</li> <li>• Final Design and Process Plans</li> <li>• Technology in Design</li> </ul> | 6     | Lecture, Video Case Study, In-class discussion and Homework/Pair work Problems<br><br><b>Required reading:</b><br><i>Chapter 4 – 5 Designing Product Designing Process</i>        |
| (8)   | Comprehensive Midterm Review   | 1.5   | <b>Quiz 1 (5%)</b>  |
| <b>(9<sup>th</sup> Week) Midterm Examination Period</b> |  |       |   |
| (10)  | Processes, Technology and Capacity <ul style="list-style-type: none"> <li>• Process Strategy</li> <li>• Process Planning</li> <li>• Process Analysis</li> </ul>  | 3     | Lecture, Case Study and In-class discussion<br><br><b>Required reading:</b><br><i>Chapter 6 – Process Design and Technology</i>   |

| Week | Topic   | Hours | Teaching & Learning Activities, Instructional Media  |
|------|---|-------|--|
| (11) | Facilities <ul style="list-style-type: none"> <li>• Capacity Planning</li> <li>• Strategies for Capacity Expansion</li> <li>• Best Operating Level</li> <li>• Economies of Scale</li> <li>• Basic Layouts</li> <li>• Process Layout</li> <li>• Product Layout</li> <li>• Fixed-Position Layouts</li> <li>• Comparison Of Product And Process Layouts</li> <li>• Designing Process Layouts</li> <li>• Block Diagramming</li> <li>• Relationship Diagramming</li> <li>• Computerized Layout Solution</li> </ul>                     | 3     | Lecture, Video<br>Case Study,<br>In-class discussion<br>and Homework/Pair<br>work<br>Problems<br><br><b>Required reading:</b><br><i>Chapter 7– Capacity<br/>           and Facility Planning</i> |
| (12) | Human Resources and Job Design/Job<br>Analysis <ul style="list-style-type: none"> <li>• Human Resources and Total Quality Management</li> <li>• The Changing Nature of Human Resource Management</li> <li>• Contemporary Trends in Human Resource Management</li> <li>• Employee Compensation</li> <li>• Job Design</li> <li>• The Elements of Job Design (Table 8.2)</li> <li>• Task Analysis</li> <li>• Worker Analysis</li> <li>• Environmental Analysis</li> <li>• Ergonomics</li> <li>• Technology and Automation</li> </ul> | 3     | Lecture, Video<br>Case Study and<br>In-class discussion<br><br><b>Required reading:</b><br><i>Chapter 8– HR in<br/>           Operation Management</i>   |
| (13) | Supply Chain Management <ul style="list-style-type: none"> <li>• Supply Chains (Figure 10.1)</li> <li>• Supply Chains for Service Providers</li> <li>• Value Chains</li> <li>• The Management of Supply Chains</li> <li>• Supply Chain Uncertainty and Inventory</li> <li>• The Bullwhip Effect (Figure 10.4)</li> <li>• Risk Pooling</li> <li>• Supply Chain Integration</li> <li>• Forecasting and Replenishment</li> <li>• Measuring Supply Chain Performance</li> </ul>   | 3     | Lecture,<br>Case Study and<br>In-class discussion<br><br><b>Required reading:</b><br><i>Chapter 10– Strategic<br/>           Supply Chain<br/>           Management and Design</i>               |
| (14) | Forecasting <ul style="list-style-type: none"> <li>• The Strategic Role of Forecasting in Supply Chain Management</li> <li>• Components of Forecasting Demand</li> <li>• Forecasting Methods</li> <li>• Forecasting Process</li> </ul>  | 3     | Lecture,<br>Case Study,<br>In-class discussion<br>and Homework/Pair<br>work<br>Problems<br><br><b>Required reading:</b><br><i>Chapter 12– Forecasting</i>  |

| Week   | Topic  | Hours | Teaching & Learning Activities, Instructional Media   |
|--|--|-------|---|
| (15-16)  | Inventory Management <ul style="list-style-type: none"> <li>• The Elements of Inventory Management</li> <li>• Inventory Control Systems</li> <li>• Economic Order Quantity Models</li> <li>• The Basic EOQ Model</li> <li>• Economic lot size</li> <li>• The Production Quantity Model</li> <li>• Production lot size</li> <li>• Quantity Discounts</li> <li>• Quantity Discount with Constant Carrying Cost</li> <li>• Quantity Discount Model Solution with Excel</li> <li>• Reorder Point</li> <li>• Safety Stocks</li> <li>• Service Level</li> <li>• Reorder Point with Variable Demand</li> </ul>  | 4.5   | Lecture,<br>Case Study,<br>In-class discussion<br>and Homework/Pair<br>work<br>Problems<br><br><b>Required reading:</b><br><i>Chapter 13– Role of<br/>           Inventory Management</i> |
| (16-17)  | Resource Planning: Material Requirements Planning (MRP) and ERP <ul style="list-style-type: none"> <li>• Resource Planning</li> <li>• Material Requirements Planning</li> <li>• MRP Inputs</li> <li>• Master Production Schedule</li> <li>• Product Structure File</li> <li>• Item Master File</li> <li>• The MRP Process – work problems in class</li> <li>• Exploding the bill of materials</li> <li>• Netting out inventory</li> <li>• Lot sizing</li> <li>• d. Time-phasing requirements</li> <li>• Lot Sizing in MRP Systems</li> <li>• Lot for Lot</li> <li>• Economic Order Quantity</li> <li>• MRP Outputs</li> <li>• Purchase orders</li> <li>• Work orders</li> <li>• Various reports</li> </ul> | 3     | Lecture,<br>Case Study,<br>In-class discussion<br>and Homework/Pair<br>work<br>Problems<br><br><b>Required reading:</b><br><i>Chapter 15-Resource<br/>           Planning Systems</i>     |
| (17)   | Comprehensive Final Review   | 1.5   | <b>Quiz 2 (5%)</b>  |
| <b>(18<sup>th</sup> Week) Final Examination Period</b> |  |       |   |