

**Inter American University of Puerto Rico  
Metropolitan Campus  
School of Management  
B.B.A. Program in Operations Management**

**Course Syllabus**

**I. GENERAL INFORMATION**

Course Title:	Operations Management
Code and Number:	BADM-4800
Credit Hours:	3 credits
Academic Term:	
Professor:	
Office Hours:	
Office Telephone:	
E-mail:	

**II. DESCRIPTION**

Principles and methods of production and operations management. Organization and operation of an industrial enterprise, planning techniques, control management; application of these principles and methods to business activities.  
COURSE PREREQUISITE: BADM-4300

**III. OBJECTIVES**

At the end of the term the student will:

1. Be able to use the concepts of Administrative Theory, models and mathematical techniques in operations decision making related to planning, organizing, control and management of corporate resources use in the Operation Function.
2. Understand the importance of the ethical aspects and social responsibility in the management process of an operation.
3. Understand the Operation Function related to Manufacturing and Services.
4. Be able to apply quantitative and qualitative forecasting methods to control the utilization of resources related to the Operations Function.
5. Be able to apply quantitative quality tools in both production and services to reduce process variations.
6. Be able to use Statistical Process Control.
7. Be able to use weighted quantitative methods to determine a facilities location.
8. Understand the types of production layouts and the quantitative methods to increase productivity of the production line.
9. Understand the inventory EOQ and POQ models

10. Understand the TQM and JIT concepts.

#### IV. COURSE CONTENT

##### *Module #1*

##### **Introduction the Course**

Notes

##### **Operations and Productivity**

Chapter 1

- What is Operations Management?
- Organizing to Produce Goods and Services
- Why study OM?
- What Operation Managers Do?
- Operations in the Service Sector
- Trends in OM
- The Productivity Challenge
  - Productivity Measurement
  - Productivity Variables
- Ethics and Social Responsibility

##### **Operations Strategy in a Global Environment**

Chapter 2

- A Global View of Operations
- Developing Missions and Strategies
  - Mission
  - Strategy
- Achieving Competitive Advantage
  - Competing on Quality
  - Competing on Cost
  - Competing on Flexibility
  - Competing on Time

##### **Forecasting**

Chapter 4

- What is Forecasting?
  - Forecasting Time Horizons
  - The influence of Product Life Cycle
  - Types of Forecasting
- The Strategic Importance of Forecasting
- The Seven Steps in Forecasting System
- Forecasting Techniques
  - Qualitative Methods
    - Jury of Experts
    - Delphi Method
    - Sales Force Composite
    - Consumer Market Survey
  - Quantitative Methods
    - Time Series
      - Naïve approach
      - Moving averages
      - Weighted moving averages
      - Single Exponential Smoothing

- Double Exponential Smoothing
- Causal Model
  - Line regression
- Seasonal Variations
- Cyclical Variations
- Measuring Forecasting Errors
  - MAD
  - MSE
  - MAPE
- Tracking Signal

*Module #2*

**Design of Goods and Services**

Chapter 5

- Goods and Services Selection
- Generating New Products
- Product Development
- Issues for Product Design
  - Robust Design
  - Modular Design
  - CAD
  - CAM
  - Virtual Reality Technology
- Ethics, Environmentally-Friendly Designs, and Sustainability
- Defining a Product
- Product Life-Cycle Management (PLM)
- Application of Decision Trees to Product Design

**Managing Quality**

Chapter 6

- Defining Quality
  - Cost of Quality
  - Ethics and Quality Management
- International Quality Standards
  - ISO-9000
- Total Quality Management
  - Continuous Improvement
  - Six Sigma
  - Reengineering
  - Employee Empowerment
  - Benchmarking
  - JIT
  - Taguchi Concepts
- Tools of TQM
  - Check Sheets
  - Scatter Diagrams
  - Cause and Effect Diagrams
  - Pareto Charts
  - Flowcharts

Histograms	
Statistical Process Control	
Average and Range Chart	
Median and Range Chart	
Process Capability	
<b>Process Strategy</b>	Chapter 7
Four Process Strategy	
Process Focus	
Process Focus	
Repetitive Focus	
Product Focus	
Mass Customization Focus	
Process Analysis Design	
Flowchart	
Process Chart	
Service Process Design	
Production Technology	
 <i>Module #3</i>	
<b>Location Strategy</b>	Chapter 8
The Strategic Importance of Location	
Factors that Affect Location Design	
Labor Productivity	
Exchange Rate and Currency Risks	
Costs	
Political Risk, Values and Culture	
Proximity to Markets	
Proximity to Suppliers	
Proximity to Competitors	
Methods of Evaluating Location Alternatives	
Service Location Strategy	
<b>Layout Strategy</b>	Chapter 9
The Strategic Importance of Layout Design	
Types of Layouts	
Office Layouts	
Retail Layouts	
Warehousing and Storage Layouts	
Fixed Position Layout	
Process Oriented Layout	
Work Cells	
Repetitive and Product Oriented Layout	
 <b>Inventory Management</b>	Chapter 12
Importance of Inventory	
Managing Inventories	
ABC Analysis	

## Inventory Models for Independent Demand

EOQ

POQ

Reorder Points

Quantity Discount Models

### V. ACTIVITIES

- 1) After completing the lectures for each chapter a series of Homework Problems and Questions must be completed.
- 2) A series of Videos will be available after the end of each chapter

### VI. EVALUATION

#### Grading Criteria

3 Partial Examinations	(45%)
1 Final Examination	(25%)
Assigned Homework	(20%)
Attendance and Participation	(10%)
<b>Total Points</b>	<b><u>(100%)</u></b>

#### Grading Scale

100 - 90	A
89 - 80	B
79 - 70	C
69 - 60	D
59 and below	F

### VII. SPECIAL NOTES

#### A. Special Accommodations

Students who require special accommodations must request these services at the beginning of the course as soon as they notice that they need help. Students can access this service with Professor Jose Rodriguez, Coordinator of Students with Special Needs at the Guidance and Counseling Office on the first floor at Metro's Student Center.

#### B. Plagiarism

Plagiarism, dishonesty, fraud and any other type of manipulation or inappropriate behavior related with academic performance are unacceptable in our institution. Disciplinary actions will be taken on students found guilty of such practice as

established in Chapter V, Article 1, Section B.2 of the Student's Rules and Regulations handbook.

<http://metro.inter.edu/servicios/documentos/reglamentosestudiantes2006.pdf>

Inter American University has very strict regulations regarding plagiarism (using the ideas or words of others without giving proper credit), so it is important that you specifically read Chapter 5, Article 1, Section B.2c of the Student' Rules and Regulations Handbook. This section clearly explains what plagiarism is. In addition, it explains the types of sanctions students are exposed to when they commit it.

### **C. Use of Electronic Devices**

Cellular (mobile) telephones and any other electronic device that could interrupt the teaching-learning process or disrupt a milieu favorable for academic excellence will be deactivated. Critical situations will be dealt with in an appropriate manner. The use of electronic devices that permit the accessing, storing or sending of data during tests or examinations is prohibited.

## **VIII. EDUCATIONAL RESOURCES**

### **Required Texts for Class:**

Heizer, J & Render, B. (2014). *Operations Management* (11<sup>th</sup> Ed.) Boston: Prentice Hall.

### **Reference Texts**

Bozarth, Cecil C. & Handfield, Robert B. (2013). Introduction to Operations and Supply Chain Management (3<sup>rd</sup>. Ed) Boston, Prentice Hall.

Chase, Richard B., Aquilano, Nicholas J., and Jacobs, R. Robert (2009). *Administración de Operaciones. Producción y Cadena de Suministros* (12<sup>a</sup> Ed.) México: McGraw-Hill. (Libro clásico de operaciones / la mejor versión disponible en español)

## **IX. BIBLIOGRAPHY**

Anupindi, Ravi, Chopra, Sunil & et.al. (2012). *Managing Business Process Flows* (3<sup>rd</sup>. Ed), Boston: Prentice Hall

Anderson, Mary Ann, Anderson Edward J. and Parker, Geoffrey (2013). *Operations Management for Dummies*. New York: John Wiley and Sons.

Black, Ken (2014). *Business Statistics: For Contemporary Decision Making* (8th Ed.) New York: John Wiley and Sons.

*Production and Operations Management*: An International Journal of the Production and Operations Management Society/POMS. Baltimore: Production and Operations Management Society, 1992–current.

Reid, R. Dan & Sanders, Nada R. (2013). *Operations Management* (5th Ed.) New York: Wiley and Sons.

Russell, Robert S. & Taylor, Bernard W. (2011). *Operations Management: Creating Value Along the Supply Chain* (7<sup>th</sup> Ed.) New York: Wiley and Sons.

Organizations:

American Society of Quality <http://asq.org/index.aspx>

APICS The Association for Operations Management. [www.APICS.org](http://www.APICS.org).

Production and Operations Management Society. [www.poms.org](http://www.poms.org).