



UNIVERSIDAD
esan

Course Syllabus Gestión de Operaciones (Operations Management)

March – July 2019

Term VIII

Choy Pun, Augusto Carlos

I. General Course Information

Subject:	Gestión de Operaciones (Operations Management)		
Pre-requisite:	Planeamiento y Control de la Producción (Production Planning and Control)	Code:	02857
Precedent:	No tiene	Semester:	2019-1
Credits:	3	Term:	VIII
Weekly Hours:	4 hours	Course type:	In-class
Type de curso y Career(s)	Obligatory Industrial and Comercial Engineering	Course Coordinator:	Augusto Choy P. achoy@esan.edu.pe

II. Summary

The course provides the student with theoretical and practical knowledge and is oriented to the analysis of the operational environment of organizations, be it a service, productive or transformation organization. It covers the following topics: The function of operations, strategies and systems approach of operations management, productivity indicators, management techniques, the study of methods and measurement of work, location, forecasts, design, capacity and distribution of facilities, elements of inventory management, design of service operations, materials requirement planning and Just-in-Time manufacturing.

III. Course Objectives

The Course Objective is to prepare students to effectively recognize and analyze the different methodologies, processes and tools used to improve the productivity of organizations and implicitly oriented to control and improve the management of operations in both goods and services, which will allow the student to contribute efficiently in improving the operational process of organizations.

IV. Learning Results

At the end of the course, the students will:

- Apply the techniques required to improve processes using observed time, standard time and supplemental work time.
- Apply productivity concepts to both production and service activities
- Identify and apply the appropriate methodology to locate and size a plant.
- Propose and select the most appropriate methodology to do the planning and location of services.
- Design effective plant layouts.
- Develop the planning, design and operation of an effective process.

V. Methodology

Classes will be conducted stimulating the active participation of students, the teacher will fulfill his role as a guide, a mentor and motivator in the learning process. Teamwork will be combined to reinforce the learning process and develop in the participant the necessary skills to perform successfully.

It is desirable that before each class the participant read, from the recommended text, the topic addressed, so that he or she may formulate pertinent questions. Likewise, after each class, the participant should also complement the topic worked on with the texts indicated in the supplementary bibliography and, if necessary, consult with the professor.

VI. Evaluation

The evaluation system is comprehensive and continuous with the objective of promoting learning in the student. The final grade is composed of Continuous Evaluation (PEP) (60%), Mid-Term exam – (EP) (20%) and Final exam – (EF) (20%).

The Final Grade (PF) is calculated using the following formula:

$$PF = (0,20 \times EP) + (0,60 \times PEP) + (0,20 \times EF)$$

Where:

PF = Final Grade	Promedio Final
EP = Mid-Term Exam	Examen Parcial
PEP = Continuous Evaluation	Promedio de Evaluación Permanente
EF = Final Exam	Examen Final

The Average Permanent Evaluation is calculated based on the student's learning process follow-up: Reading Controls / Quizzes / Cases / Presentations / research work / Class contribution. The weighted average of these marks results in the corresponding score.

The Continuous Evaluation portion is calculated as follows:

AVERAGE PERMANENT EVALUATION (PEP) 60%		
Type of Evaluation	Description	Weight %
Class contribution	Involvement in discussions, attendance and punctuality	5
Moodle Quizzes	Five quizzes (2% each)	10
Theory Quizzes	Three Theory Quizzes (5 marks each)	15
Application Quizzes (PC)	Four tests (5 marks each)	20
Essays with Presentation	Three research articles (10 marks each)	30
Applied Integral Work	Four Team Deliverables (5 marks each)	20

VII. Programmed Content

WEEK	CONTENTS	ACTIVITIES / EVALUATION
<p>LEARNING UNIT I: INTRODUCTION TO OPERATIONS MANAGEMENT AND ITS APPLICATION IN DIFFERENT SECTORS</p> <p>LEARNING OUTCOME:</p> <ul style="list-style-type: none"> • Apply the techniques required to improve processes using observed time, standard time and supplemental work time. • Apply productivity concepts to both production and service activities 		
<p>1°</p> <p>March 21 - 27</p>	<p>1. INTRODUCTION</p> <ol style="list-style-type: none"> 1. Operations Management (OM) 2. What is OM? 3. Organizing to Produce Goods and Services 4. Description of OM 5. What OM Managers do? 6. Operations for Goods and Services 7. The Productivity Challenge 8. Current Challenges in OM 	<p>Presentation: Course Methodology</p> <p>Guideline - review for Final Research Work</p> <p>Guideline - Review for UESAN written work presentation (APA Standards)</p> <p>Guideline - Effective Presentations</p> <p>MiniCases:</p> <ul style="list-style-type: none"> - Hazel <p>Assignment: Research paper 1 due end of week 2</p>
<p>2°</p> <p>March 28 - April 03</p>	<p>2. Operations Strategy in a Global Environment</p> <ol style="list-style-type: none"> 1. Global View of Operations and Supply Chains 2. Developing Missions and Strategies 3. Achieving Competitive Advantage through Operations 4. Issues in Operations Strategy 5. Strategy Developing and Implementation 6. Strategic Planning,, Core competencies and Outsourcing 	<p>Presentations:</p> <ul style="list-style-type: none"> - Operations Strategy - <p>MiniCases:</p> <ul style="list-style-type: none"> - Uber Technologies, Inc <p>AUTOEVALUATION N°1</p> <p>Heizer. <i>Operations Management</i> ..., 12th Ed. Ch 1</p> <p>online test time: 30/03/2019 5:00 p.m.</p>
<p>Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i>. (12th Ed) Boston. Pearson. pp 29 54, Ch. 2</p>		

WEEK	CONTENTS	ACTIVITIES / EVALUATION
<p>3° April 04 - 10</p>	<p>3. TAKT TIME, CYCLE TIME AND LEAD TIME</p> <ol style="list-style-type: none"> 1. Takt Time 2. Standard Time 3. Cycle Time 4. Lead Time 	<p>Presentations:</p> <ul style="list-style-type: none"> - Standard Time Presentation <p>Exercises:</p> <ul style="list-style-type: none"> - Time calculation exercises <p>Assignment: Research Article 1</p> <p>Test 1: LU I</p> <p>AUTOEVALUATION N°2 Heizer. <i>Operations Management</i> ..., 12th Ed. CH 2 online test time: 10/04/2019 6:00 p.m.</p>
<p>LEARNING UNIT II: PRODUCTIVITY AND COMPETITIVENESS LEARNING OUTCOME:</p> <ul style="list-style-type: none"> • Apply productivity concepts to both production and service activities 		
<p>4° April 11 – 17 (Holidays April 18,19 and 20)</p>	<p>4. Productivity and Competitivity</p> <ol style="list-style-type: none"> 1. Definition of Productivity 2. Definition of Competitivity 3. What is Productivity and how is it Measured 4. Productivity Trends 	<p>Presentations:</p> <ul style="list-style-type: none"> - Productivity and Competition <p>MiniCases:</p> <ul style="list-style-type: none"> - How a Good Company Died <p>Theory Quiz 1:</p> <ul style="list-style-type: none"> - Article 1
<p>5° April 22 - 27</p>	<p>5. LEAN</p> <ol style="list-style-type: none"> 1. Lean Systems 2. Lean Characteristics 3. Benefits and Risks 4. Principles 5. Lean Product Design 6. Lean Process Design 7. Lean Manufacturing, Planning and Control <p>Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i>. (12th Ed) Boston. Pearson. pp 635-654, Ch. 16</p>	<p>Presentations:</p> <ul style="list-style-type: none"> - Lean Systems <p>Taking Stock</p> <ul style="list-style-type: none"> - Questions about Lean <p>Deliverable 1</p>
<p>6° April 29 – May 04</p>	<p>6. LEAN TOOLS</p> <ol style="list-style-type: none"> 1. Lean Tools 2. Value Stream Mapping 3. Process Improvement through 5W2H 4. Lean and Six Sigma 5. JIT Delivery and the Supply Chain 6. Lean and ERP 7. Transition to Lean 8. Planning of a Successful Conversion 9. Conversion Obstacles 10. Cooperative Spirit 11. Lean Services 12. Operations Strategy 13. Kanban 	<p>Presentations:</p> <ul style="list-style-type: none"> - Lean Tools - <p>MiniCases:</p> <ul style="list-style-type: none"> - Arnold Palmer Hospital <p>AUTOEVALUATION N°3 Heizer. <i>Operations Management</i> ..., 12th Ed. CH 16 online test time: 04/05/2019 6:00 p.m.</p>

WEEK	CONTENTS	ACTIVITIES / EVALUATION
<p>7° May 06 - - 11</p>	<p>7. PRODUCT DESIGN</p> <ol style="list-style-type: none"> 1. Design of Goods and Services 2. Process Selection and Control 3. Manufacturing and Services 4. Product Development Continuum <p>8. Mid-term Exam Briefing</p> <p>Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i>. (12th Ed) Boston. Pearson. pp 159-188 Ch. 5</p>	<p>Presentations:</p> <ul style="list-style-type: none"> - Product Design <p>MiniCases:</p> <ul style="list-style-type: none"> - De Mar's Product Strategy - <p>Assignment: Research Article 2</p> <p>Test 2: LU II</p>
<p>8° May 13 - 18</p>	<p>MID-TERM EXAMS</p>	
<p>LEARNING UNIT III: PLANT LOCATION AND SIZING</p> <p>LEARNING OUTCOME:</p> <ul style="list-style-type: none"> • Identify and apply the appropriate methodology to locate and size a plant. • Propose and select the most appropriate methodology to do the planning and location of services. 		
<p>9° May 20 - 25</p>	<p>9. LOCATION STRATEGIES</p> <ol style="list-style-type: none"> 1. Location and Capacity 2. Actors that affect location decisions 3. Methods of Evaluating Location Alternatives 4. Capacity and Constraint Management 5. Bottleneck Analysis 6. Break Even Analysis 7. Reducing Risk with Incremental Changes 8. Expected Monetary Value (EMV) to Capacity Decisions <p>Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i>. (12th Ed) Boston. Pearson. pp 279-301, Ch.7</p>	<p>Presentations: Lab Sessions</p> <ul style="list-style-type: none"> - Location Strategies <p>MiniCases:</p> <ul style="list-style-type: none"> - Rochester Manufacturing <p>Deliverable 2</p> <p>AUTOEVALUATION N°4 Heizer. <i>Operations Management</i> ..., 12th Ed. CH 5 online test time: 25/05/2019 6:00 p.m.</p>
<p>10° May 27 – June 01</p>	<p>10. MAINTENANCE AND RELIABILITY</p> <ol style="list-style-type: none"> 1. The Strategic Importance of Maintenance and Reliability 2. Reliability 3. Maintenance 4. Total Productive Maintenance (TPM) <p>Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i>. (12th Ed) Boston. Pearson. pp. 659-673, Ch.17</p>	<p>Presentations: Lab Sessions</p> <ul style="list-style-type: none"> - Maintenance and Reliability <p>Exercises:</p> <ul style="list-style-type: none"> - Maintenance Exercises <p>MiniCases:</p> <ul style="list-style-type: none"> - Frito Lay <p>Assignment: Research Article 3</p> <p>Test 3: LU III.</p>

WEEK	CONTENTS	ACTIVITIES / EVALUATION
LEARNING UNIT IV: ADVANCED TOPICS LEARNING OUTCOME: <ul style="list-style-type: none"> • Design effective plant layouts. • Develop the planning, design and operation of an effective process. 		
11° June 03 - 08	11. LAYOUT STRATEGIES <ol style="list-style-type: none"> 1. The Strategic Importance of Layout Decisions 2. Types of Layout 3. Warehouse and Storage Layouts 4. Fixed Position Layout 5. Process Oriented Layout 	Presentations: <ul style="list-style-type: none"> - Layout Strategies MiniCases: <ul style="list-style-type: none"> - State Automobile License Renewal Theory Quiz 2: <ul style="list-style-type: none"> - Article 2 AUTOEVALUATION N°5 Heizer. <i>Operations Management ...</i> , 12 th Ed. CH 17 online test time: 08/06/2019 6:00 p.m.
	Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i> . (12 th Ed) Boston. Pearson. pp. 367-401, Ch. 9	
12° June 10 - 15	12. Human Resources (HR), Job Design and Work Measurement <ol style="list-style-type: none"> 1. HR Strategy for Competitive Advantage 2. Labor Planning 3. Job design 4. Ergonomics and the Work Environment 	Presentations: <ul style="list-style-type: none"> - Job Design MiniCases: <ul style="list-style-type: none"> - Jackson Manufacturing Co. Final Project Advance
	Heizer, J. Render, B. & Munson, C. (2017). <i>Operations Management, Sustainability and Supply Chain Management</i> . (12 th Ed) Boston. Pearson. pp. 407-430, Ch. 10	
13° June 17 - 22	13. Project Management <ol style="list-style-type: none"> 1. Project Cycle 2. Work Breakdown Structure 3. Gantt Charts 4. Pert and CPM 	Presentations: <ul style="list-style-type: none"> - Project Management MiniCases: <ul style="list-style-type: none"> - Mexican Crazy Quilt Test 4: LU IV
	Stevenson, W.J. (2015). <i>Operations Management</i> . (12 th Ed.) NY: Mc Graw Hill.. pp. 730-781, Ch. 17	
14° June 24 - 29	Project Work	Deliverable 3 Theory Quiz 3: <ul style="list-style-type: none"> - Article 3
15° July 01 - 06	COURSE REVIEW EXAM BRIEFING	Final Project Presentation Deliverable 4
16° July 08 - 13	FINAL EXAMS	

VIII. Bibliography

Mandatory Readings:

- Heizer, J. Render, B. & Munson, C. (2017). *Operations Management, Sustainability and Supply Chain Management*. (12th Ed) Boston. Pearson.
- James, T. (2011) *Operations Strategy*. (2011 Ed) Ventus Publishing ApS, BookBoon.com
- Stevenson, W.J. (2015). *Operations Management*. (12th Ed.) NY: Mc Graw Hill.

Other Reading:

- Chase, R. (2014). *Administración de Operaciones: producción y cadena de suministros*. México: McGraw-Hill Educación. [TS155, C3A2, 2014]
- **Other relevant books in ESAN Library:**
- Heizer, J. & Render, B. (2009). *Principios de Administración de Operaciones*. México: Pearson Educación. [TS155, H372O, 2009]
- Miranda González, F. (2014). *Dirección de operaciones: casos prácticos y recursos didácticos*. Madrid: Ediciones Paraninfo. [TS155 M573]
- Nahmias, Steven. (2007). *Análisis de la producción y las Operaciones*. México D. F.: Compañía Editorial Continental. [TS155, N112 ,2007]

IX. Lab Support

Lab sessions on weeks 9 and 10 for Statistical Process Control

X Professors

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