

Academic Year/course: 2022/23

27326 - Production Management

Syllabus Information

Academic Year: 2022/23

Subject: 27326 - Production Management

Faculty / School: 109 - Facultad de Economía y Empresa

228 - Facultad de Empresa y Gestión Pública

301 - Facultad de Ciencias Sociales y Humanas

Degree: 448 - Degree in Business Administration and Management

454 - Degree in Business Administration and Management

458 - Degree in Business Administration and Management

ECTS: 6.0

Year: 3

Semester: Second semester

Subject Type: Compulsory

Module:

1. General information

1.1. Aims of the course

This course provides students with concepts, techniques and tools to design, analyze, and improve core operational capabilities, and apply them to a broad range of application domains and industries always considering the agenda 2030 for the Sustainable Objectives for Development (<https://www.un.org/sustainabledevelopment/es/>), looking for their consecution through the following specific targets:

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Targets:

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all

Target: 8.6 **By 2020, substantially reduce the proportion of youth not in employment, education or training**

Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

Target: 9.2 *Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries*

Goal 12: Ensure sustainable consumption and production patterns

Target: 12.6 *Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle*

Goal 17: Revitalize the global partnership for sustainable development

Target: 17.10 *Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda*

1.2. Context and importance of this course in the degree

Once the student has followed the basic subjects to get a global vision about the economy, firms and organizations, Operations Management will provide students with basic skills and knowledge to manage operations decisions, to put them in context with the strategy of each firm, and to make the operations department a source of competitive advantage for firms.

1.3. Recommendations to take this course

Class assistance is highly recommended, as well as participation on the activities and assignments handed-out in class. It is considered that all students on Operations Management properly manage production concepts taught in the subject ?Basics of Business Administration and Management?.

2. Learning goals

2.1. Competences

Specific skills:

1. To manage, organize and administrate firms and organizations
2. To know the functioning of Operations Management area and to be able to solve management questions related to it.
3. To prepare advice reports about specific situations related with production decisions in markets, industries, organizations and firms.
4. To understand and to be able to apply professional knowledge and scientific methodologies in solving economic or business related problems.

Cross skills:

1. Problem solving
2. Organization and planning
3. Look for information from different sources and correctly analyze it
4. Decision making
5. Motivation to quality and excellence
6. Capacity to adapt to new situations
7. Capacity to apply theory to practice.

2.2. Learning goals

Taking this course and passing it enables students to:

- know, understand and manage theoretical concepts related to Operations Management: definitions, available options for decision making, techniques and models for problem solving.
- solve problems related with every fundamental aspect linked with the management, organization and administration of functional production decisions.
- prepare reasoned reports about complex situations involving production departments on real or simulated firms.

2.3. Importance of learning goals

This course will introduce concepts and techniques for design, planning and control of manufacturing and service operations. The course provides basic definitions of operations management terms, tools and techniques for analyzing operations, and strategic context for making operational decisions. It improves their core operational capabilities, and let the students to apply them to a broad range of jobs in the operations field. It is considered that this knowledge is fundamental to get any job related to operations field that implies certain responsibility.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student has to show the acquisition of the learning objectives through a GLOBAL assessment that comprises the following assignments:

1. **Active learning and participation.** It values the handout of the activities proposed by the teacher. These activities will be done and handed out usually during the lessons and will refer to any part of the subject previously worked.

The teacher will use them as a learning tool to check which level of listening and understanding students get during the lessons.

2. **Final assignment.** This assignment divides into two parts.

1. In the first one, the students must show their acquisition of concepts and vocabulary of the subject by passing a multiple-choice questions exam. Each faculty will perform the multiple-choice question test on a given date.
2. The second part will evaluate the comprehension of the subject, with open questions that may include theoretical questions, theory cases, exercises, and/or practical case studies. In Zaragoza, this part is an exam that will begin 10 minutes after finishing the multiple-choice questions test. In Huesca and Teruel, at the beginning of the semester, teachers will tell the students if this part is an exam or a report. It will be one unique alternative for all students and calls at each campus, and the due date will be 10 minutes after finishing the multiple-choice questions test.

Requirements to take into account:

1. To count the ?Active learning and participation? for the final mark, students must hand out at least 80% of the activities on time and under the specifications. Additionally, the student has to get at least a 50% over all the points proposed by the teacher.

2. To pass the subject, the students must get at least 4.5 points out of ten on each of the two parts of the final assignment, and overall, their weighted mark on this final assignment has to be 5 out of ten (weights are 40% multiple-choice questions and 60% open questions).

Weights:

1. For students that have passed the final assignment, their mark will be the MAXIMUM BETWEEN:
 1. 20% ?active learning and participation?+ 80% final assignment
 2. 100% final assignment.
2. For students that have not passed the final assignment, their mark will be the MINIMUM BETWEEN:
 1. 100% multiple-choice questions mark
 2. 100% open questions mark.

The ?Active learning and participation? mark is part of both first and second calls. Students on the second call must do both parts of the final assignment even if they had passed one on the first call.

All these assignments and activities are expected to be face to face, but if sanitary circumstances force it, they might be done online or under a mixed system. It is important to highlight that if there is one part of the assessment that is not face-to-face, the student can be recorded. Students can execute their rights following the procedure explained on this link: https://protecciondatos.unizar.es/sites/protecciondatos.unizar.es/files/users/lopd/gdocencia_reducida.pdf

Moreover, the University can use any necessary software to verify the authorship and originality of the student's assignments and exams. Any plagiarism or suspicious copy detected at any activity done along the semester will imply a zero on it.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions and seminars.

4.2. Learning tasks

This course is organized as follows:

- **Lectures** (30 hours). Two weekly sessions in which theoretical concepts of the course will be explained, they will be put into context using real situations and real firms, and participation and feedback will be encouraged with the use of multiple-choice questions that will be valued on the final mark.
- **Practice sessions** (30 hours). Two weekly sessions to put into practice the theoretical concepts and to help students develop their skills solving practical exercises and case studies or searching for information and elaborating the global report. It is necessary to previously study theory to get the most of these practice sessions. Students should take notes about the comments and explanations given by the teacher during the resolution of the practices, and not focus only on the numerical solution.
- **Autonomous work and study** (90 hours). Students work focused on the following activities: critical thinking, concepts study, problem based learning, homework, management report and tutorials.

All these assignments and activities are expected to be face to face, but if sanitary circumstances force to it, they might be done online or under a mixed system.

4.3. Syllabus

This course will address the following topics:

Topic 1: Introduction to Operations Management

- 1.1. Operations Management
- 1.2. The heritage of Operations Management
- 1.3. Operations for services
- 1.4. The challenge of productivity

Topic 2: Process Design

- 2.1. Process strategies
- 2.2. Process analysis and design
- 2.3. Just in time

Topic 3: Capacity Planning

- 3.1. Capacity concept
- 3.2. Capacity decisions
- 3.3. Break-even analysis
- 3.4. Applying decision trees to capacity decisions

Topic 4: Location Decisions

- 4.1. The strategic importance of location
- 4.2. Factors that affect location decisions
- 4.3. Methods of evaluating location alternatives
- 4.4. Service location strategy

Topic 5: Quality Management

- 5.1. Quality and strategy
- 5.2. Quality definition, perspectives and costs
- 5.3. International quality standards
- 5.4. Total quality management
- 5.5. The role of inspection
- 5.6. TQM in services
- 5.7. Quality Function Deployment
- 5.8. JITQuality

Topic 6: Managing Projects

- 6.1. The importance of project management
- 6.2. PERT
- 6.3. CPM

Topic 7: Supply Chain Management

- 7.1. The supply chain's strategic importance
- 7.2. Global aspects of SupplyChains
- 7.3. Economy and strategy of SupplyChains
- 7.4. Supplier selection. KraljicMatrix

Topic 8: Managing Inventory

- 8.1. The importance of Inventory and its management
- 8.2. Inventory models for independent demand
- 8.3. Probabilistic Models

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Moodle website (<https://moodle2.unizar.es>); Academic calendar website (<https://academico.unizar.es/calendario-academico/calendario>); or the website of your corresponding faculty (Zaragoza: <https://econz.unizar.es/>, Huesca: <http://fegp.unizar.es/>, Teruel: <http://fcsb.unizar.es/>).