

Academic Year/course: 2021/22

27326 - Production Management

Syllabus Information

Academic Year: 2021/22

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 continuous or a global assessment. For the first call, the student has the opportunity to follow a continuous assessment that comprises the following assignments.

1. **Active learning and participation** in theoretical sessions. This participation will consist of answering, individually,

the questions about the theoretical contents indicated by the lecturer. Specifically, there will be a set of 10-15 multiple choice questions for each unit, that will be done along the semester (individually or grouped). Questionnaires will have a value from 0 to 0,5 for each unit (0.5 is the maximum score for each unit and punctuation varies according to the awareness shown with the answers). These activities will be worth 40% of the final mark.

1. **Midterm assignment.** In this assignment, the student has to show its capacity to put into practice the learned theory of the subject. At the beginning of the semester, the instructor will indicate if this knowledge will be shown through an exam that will include exercises, case studies, and theory-practice related questions, or through the elaboration of a global report about a real firm (the decision will be unique for each faculty). Anyway, this assignment will be individual and will include at least one question about each of the first four units. This assignment will be worth 30% of the final mark.
2. **Final assignment.** In this assignment, the student has to show its capacity to put into practice the learned theory of the subject. This assignment will follow the same structure as the midterm one and will include at least one question about each of the last four units. This assignment will be worth 30% of the final mark.

Students following the continuous assessment need at least a 5 out of 10 on the weighted mark of points 1 to 3, with the weights described above, being a previous requisite to obtain at least:

- A 5 out of 10 for the participation activities
- and a 5 out of 10 on the average mark of the midterm and final assignments.

If the students fail the continuous assessment or if they want to improve their marks, they can take the corresponding part of the first call global exam. The highest mark will be the highest between the continuous and the global one. This option will not be available on the second call.

Global assessment will comprise a final multiple-choice question exam and a final extended exam in which the students have to show their knowledge and skills to apply the theory. On the examination date proposed by the University for each faculty, the student will make a written exam (on first or second call) consisting of theoretical multiple-choice questions (40%) and another with problems to solve short case studies resolution, and theory-practice related questions (60%). These exams will follow the same structure as the continuous assessment ones and each part needs to be passed independently (with a 5 out of 10)

Students that fail the first call will get the minimum between their highest theoretical mark and their highest practice mark (Min(Max Theory, Max. Practice)). Students that have failed the subject following the continuous assessment and that have not taken the global exam will get ?not presented? as the final mark.

Students on the second call have to do both exams 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.
- **Practice sessions - P6.** If P6 hours are available (*), they will be used for the teacher in order to review the global report or any other difficult parts of the subject.
- **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://moddle2.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/>).