Universidad Zaragoza

Academic Year/course: 2024/25

30117 - Production Management

Syllabus Information

Academic year: 2024/25
Subject: 30117 - Production Management
Faculty / School: 175 - Escuela Universitaria Politécnica de La Almunia
179 - Centro Universitario de la Defensa - Zaragoza
Degree: 425 - Bachelor's Degree in Industrial Organisational Engineering
563 - Bachelor's Degree in Industrial Organisational Engineering
ECTS: 6.0
Year: 425 - Bachelor's Degree in Industrial Organisational Engineering: 2
563 - Bachelor's Degree in Industrial Organisational Engineering: 3

Semester: 563 - First semester
425 - Second semester
Subject type: Compulsory
Module:

1. General information

This subject shows how to manage the functional area of production, recognizing that it must act in coherence with the rest of the functional areas and that it can be a source of competitive advantage for the company. Its design introduces the student in the knowledge of models and quantitative techniques, which will favor efficient decision making in the operations area.

Defense Profile: This course contributes to the training of Army Officers by providing the knowledge and skills necessary for the organization of work, both individual and collective, and the optimization of the use of human and material resources with an approach oriented to the fulfillment of the mission entrusted to them.

2. Learning results

1. Distinguish the different production strategies, as well as identify the influence of the globalization of operations on the company's production strategy and plans them.

2. Relate the types of production processes with the life cycle of the product in the market and select the production process according to different parameters.

3. Know how to apply analysis techniques to select the most suitable equipment for the production process.

4. Relate the types of plant layout to the type of production system. Know how to balance an assembly line.

5. Apply plant distribution techniques by process.

6. Know how to use the different diagrams for the representation of work methods.

7. Identify the different stages in the improvement of a production process.

8. Apply time measurement and task time estimation techniques.

9. Organize the planning, scheduling and production control of a company. Know and differentiate the different phases.

10. Use techniques and applications to manage the company's production process. Be able to put them into practice in real environments.

11. Make production scheduling decisions taking into account capacity analysis.

12. Apply operations scheduling techniques and models to make decisions on the allocation and sequencing of the works.

13. Know how to use techniques for the continuous improvement of the company's production processes.

3. Syllabus

COMPANY PROFILE

- TOPIC 01 INTRODUCTION TO OPERATIONS MANAGEMENT
- TOPIC 02 PRODUCTION PROCESSES AND PRODUCTION METHODS
- TOPIC 03 METHODS FOR FORECASTING DEMAND
- TOPIC 04 PROJECT SCHEDULING AND CONTROL
- TOPIC 05 PRODUCTION PLANNING, SCHEDULING AND CONTROL
- TOPIC 06 PRODUCTION PRODUCTIVITY
- TOPIC 07 PROCESS OPTIMIZATION
- TOPIC 08 METHODS ENGINEERING WORK STUDY
- TOPIC 09 TIME STUDY

- TOPIC 10 INVENTORY MANAGEMENT
- TOPIC 11 LEAN MANUFACTURING

DEFENSE PROFILE

Unit 1. Operations and productivity.

Unit 2. Operations strategy in a global environment.

Unit 3. Design of goods and services.

Unit 4. Production process strategy.

Unit 5. Capacity planning.

Unit 6. Aggregate programming.

Unit 7. Material requirements planning (MRP) and enterprise resource planning (ERP).

Unit 8. Short-term programming.

4. Academic activities

COMPANY PROFILE

Face-to-face activities:

Theoretical/practical expository classes: Theoretical concepts of the subject will be explained and practical examples will be developed by the teacher.

Non-face-to-face activities:

Tutored autonomous activities: They will be focused on the realization of work/projects, either individually or in small groups.

Reinforcement activities: Various exercises, videos and general activities will be conducted through Moodle

Individual tutoring: They may be face-to-face or virtual.

DEFENSE PROFILE

Inverted classroom: Activities in which, based on previous individual work, the subject matter is studied in depth with the guidance of teaching.

Expository classes: Theoretical and practical activities in which student participation is encouraged. An attempt will be made to illustrate the contents presented with examples and real cases of their future professional activity.

Practical sessions: Discussion and group work activities for the resolution of cases.

Tutoring: Individuals or groups, and may be organized both at the proposal of the students and at the suggestion of the teaching team.

Evaluation activities: preparation and performance of the assessment tests.

5. Assessment system

COMPANY PROFILE

CONTINUOUS ASSESSMENT

To be eligible for the Continuous Assessment system, students must attend at least 80% of the classroom activities.

The Assessment Tests will consist of written tests and practical work:

1. WRITTEN TESTS. They will consist of TWO TESTS consisting of theory questions and problem solving. They make up 60% of the grade. The following will be graded out of 10 points

2. PRACTICAL TESTS. They will consist of the elaboration of papers that will be published on the Moodle platform. They account for 40%.

The student must obtain a final grade greater than or equal to 5 to pass the subject, and it is essential to pass the two exams as well as the practical tests/assignments. However, it will be possible to compensate partial exams with assignments if the result of a test is between 4 and 5 points and the average grade of the practical tests/assignments is equal to or higher than 7 out of 10 points.

If during the continuous assessment any of the tests are not passed, they can be recovered in the global exam of the first call, being evaluated according to the established continuous assessment system.

For the second call, those students who have not passed the subject in the first round with the entire syllabus may sit for the second call with all the syllabus.

GLOBAL ASSESSMENT

The student must opt for this modality when, due to their personal situation, they cannot adapt to the pace of work required in the continuous assessment system.

Written exam: It will consist of a test containing questions and problems related to the topics explained throughout the subject. This test is valued from 0 to 10 points (minimum score 5) and constitutes 100% of the assessment.

DEFENSE PROFILE

FIRST CALL

Continuous assessment:

1. Theoretical and practical tests (70%):

1.1. Previous readings, short written deliveries or small quizzes (30%).

1.2. Final test (40%): it may include theoretical and practical test questions, as well as problem solving through the tools described in the subject.

2. Directed work (30%): Carrying out a group work.

Global test:

Students who do not pass the subject by continuous assessment or who want to improve their grade, may sit for the Global Test, with the best of the grades obtained prevailing. It will consist of a written test similar to the final continuous assessment test.

SECOND CALL

Global test:

Students who do not pass the subject in the first exam may sit for this global test. It will consist of a written test similar to the final test of the first call.

ASSESSMENT CRITERIA

The quality of the communication, the correctness and accuracy of the results, and the capacity for analysis and creativity will be valued.

The student must obtain a final grade of 5 or higher to pass the subject.

INSTRUMENTS vs. LEARNING RESULTS (RA)

Assessment instruments:	**RA.1**	**RA.2**	**RA.3**	**RA.4**	**RA.5**	**RA.6**	**RA.7**	**RA.8**	**RA.9**	**RA.10**	**RA.11**	**RA.12**	**RA.13**
Theoretical and practical tests	X	X	X	X	X	X	X	X	X	X	X	X	X
Directed work	X	X	X	X		X	X		X		X		

6. Sustainable Development Goals

5 - Gender Equality
9 - Industry, Innovation and Infrastructure
12 - Responsible Production and Consumption