

Course Description Form

1. Course Name:

Industrial engineering and quality control

2. Course Code:

MPAC405

3. Semester / Year:

Fourth stage/yearly

4. Description Preparation Date:

23-9-2024

5. Available Attendance Forms:

Weekly / theoretical

6. Number of Credit Hours (Total) / Number of Units (Total)

60 hours

7. Course administrator's name (mention all, if more than one name)

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8. Course Objectives

Course Objectives

1. Identify the stages of industrial engineering development.
2. Studying the plant selection and plant location.
3. Studying the production planning using operation research.
- 4- studying the statistical methods used in quality control.
- 5- controlling production process by designing and using quality control charts.

9. Teaching and Learning Strategies

Strategy

1. Lectures (power point)
2. Use of weight board.

10. Course Structure

Week

Hours

**Required
Learning
Outcomes**

**Unit or
subject
name**

**Learning
method**

**Evaluati
method**

1st week	2 Theoretical	The student understands the subject	Introduction to industrial engineering.	Theoretical	qui
2-3	2 Theoretical	The student understands the subject	Using operation research in production planning (linear programming methods).	Theoretical	qui
4-5	2 Theoretical	The student understands the subject	Using operation research in production planning (simplex programming method).	Theoretical	qui
6	2 Theoretical	The student understands the subject	Selection of plant location	Theoretical	qui
7-8	2 Theoretical	The student understands the subject	Plant layout	Theoretical	qui
9-10	2 Theoretical	The student understands the subject	Motion and time study	Theoretical	qui
11-12	2 Theoretical	The student understands the subject	Feasibility study	Theoretical	qui
13-14	2 Theoretical	The student understands the subject	Maintenance and replacement	Theoretical	qui
15-16	2 Theoretical	The student understands the subject	Resources management	Theoretical	qui
17-18	2 Theoretical	The student understands the subject	Definition and introduction to quality control	Theoretical	qui
19-20	2 Theoretical	The student understands the subject	Objectives and functions of quality control	Theoretical	qui
21-22	2 Theoretical	The student understands the subject	Economics of quality control	Theoretical	qui
23-24	2 Theoretical	The student understands the subject	Statistic principles	Theoretical	qui
25-26	2 Theoretical	The student understands the subject	Quality control charts	Theoretical	qui
27-28	2 Theoretical	The student understands the subject	Probability theory and using in QC	Theoretical	qui
29	2 Theoretical	The student understands the subject	Probability distributions	Theoretical	qui
30	2 Theoretical	The student understands the subject	Sampling programs and	Theoretical	Quiz

			inspection by samples		
Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports ... etc					
Learning and Teaching Resources	Introduction to industrial engineering				
Required textbooks (curricular books, if any)	Production planning and control				
Main references (sources)	Operation research				
Recommended books and references (scientific journals, reports...)	https://highperformancehvac.com/industrail engineering, operation research and production planning.				
Electronic References, Websites	https://highperformancehvac.com/control-circuits-for-hvac-systems/				

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