GAU, Faculty of Engineering

Course Unit Title	Production Planning and Control
Course Unit Code	IE 405
Type of Course Unit	Compulsory
Level of Course Unit	4th Year BSc
National Credits	3
Number of ECTS Credits Allocated	6
Theoretical (hour/week)	3
Practice (hour/week)	0
Laboratory (hour/week)	0
Year of Study	4
Semester when the course unit is delivered	7
Mode of Delivery	Face to Face, Class discussions
Language of Instruction	English
Prerequisities and co-requisities	-
Recommended Optional Programme Components	-

Objectives of the Course:

- Introduction and conceptual overview of basic concepts of production and operations management
- Identificaion of forecasting methods for different demand patterns
- Application of methods of demand forecasting
- Overview of inventory planning and control methods

Learning Outcomes

When this course has been completed the student should be able to		Assesment.
1	Explain the importance of production planning and control in a company	1,2
2	Apply suitable forecasting techniques for different conditions	1,2
3	Evaluate forecasting methods and decide on the most suitable one	1
4	Based on the forecasts, calculate the economic order quantity, related inventory costs and decide on the amount of inventory to be kept by the company	1
5	Compare and contrast inventory planning methods for deterministic and stochastic conditions	2,3,4

Assesment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	Ability to understand and apply knowledge of mathematics, science, and engineering	4
2	Ability to design and conduct experiments as well as to analyze and interpret data	2
3	Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct	5
4	Ability to apply systems thinking in problem solving and system design	3
5	Knowledge of contemporary issues while continuing to engage in lifelong learning	4
6	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	5
7	Ability to express their ideas and findings, in written and oral form	5
8	Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints	3
9	Ability to approach engineering problems and effects of their possible solutions within a well structured, ethically responsible and professional manner	4
10	Ability to design systems, processes or products by applying modern methods of work study, ergonomics, production systems and simulation while fulfilling requirements under realistic conditions	3
11	Ability to plan and improve system performance using production planning, quality planning and control, information system design and project planning techniques	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week			Exams
1	Chapter 1	Overview of Production and Operations Management	
2	Chapter 2	Forecasting Methods	
3		Forecasting Methods	
4		Forecasting Methods	
5		Forecasting Methods	
6	Chapter 4	Inventory Management Basics	
7		Inventory Management Basics	
8			Midterm
9		Inventory Management Basics	
10	Chapter 4	Deterministic Inventory Theory	
11		Deterministic Inventory Theory	
12	Chapter 5	Deterministic Inventory Theory	Quiz
13		Basics of Stochastic Inventory Theory	
14		Project Presentations	
15			Final

Recommended Sources

Textbook: 1. S. Nahmias, Production a Sipper D.,Bulfin R.L., Production: Planning, Control and Integration, McGraw Hill International Editions, 2003.

2. R. S. Russel, B. W. Taylor, Operations Management, Prentice Hall, 1998.

Assessment

Attendance	5%	
Assignments	5%	
Midterm Exam (Written)	25%	
Quiz (Written)	10%	
Project Presentation&Report	15%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including the Exam week)	15	3	45
Labs and Tutorials	-	-	-
Assignments	5	4	20
Project/Presentation/Report Writing	1	25	25
E-learning Activities	-	-	-
Quizzes	1	10	10
Midterm Examination	1	25	25
Final Examination	1	35	35
Self Study	14	2	28
Total Workload			188
Total Workload/30 (h)			6.3
ECTS Credit of the Course			6