SYE5006: OPERATIONS MANAGEMENT

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Operations Management

Subject Code
SYE - Systems Engineering
Course Number
5006

Academic Unit
Systems Engineering (SYE)

College/School
College of Engineering (EG)

Course Duration
One Semester

Credit Units
3

Level
P5, P6 - Postgraduate Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
SEEM5006 Operations Management (offered until 2021/22) / ADSE5006 Operations Management (offered until 2023/24)

Exclusive Courses
Nil

Part II Course Details

Abstract

This course aims to develop students' abilities to manage engineering operations by introducing them to notions of operations systems and focusing on the strategic role of operations in an overall business context and on problem solving to improve operations systems in the short and long term.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Define and formulate operations strategy	5			
2	Define product and service design processes and plan operations process	15			
3	Forecast demand and formulate basic inventory policies	30	x	x	x
4	Plan and schedule operations facilities and capacities for effective resource utilization	30	x	x	x
5	Apply appropriate methods for operations planning and scheduling	20			

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Large Class Activities	Introduction and explanation of theory through examples	1, 2, 3, 4, 5	26 hrs/ sem
2	Group Activities	Further learning theory from solving problems together by members in a group	1, 2, 3, 4, 5	13 hrs/ sem
3	Office Hour	Discussions of course materials	1, 2, 3, 4, 5	1 hr/ week

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Participation & Exercises	1, 2, 3, 4, 5	30	
2	Case Studies & Mini Projects	1, 2, 3, 4, 5	20	

Continuous Assessment (%)

50

Examination (%)
50

Examination Duration (Hours)
2

Additional Information for ATs
For a student to pass the course, at least 30% of the maximum mark for the examination should be obtained.

Assessment Rubrics (AR)

Assessment Task
Participation & Exercises (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Submitted solutions to individual assignments and mid-term test.

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Case Studies & Mini Projects (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Submitted group work and presentations.

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Examination (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Submitted solutions to the final examination.

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Participation & Exercises (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
Submitted solutions to individual assignments and mid-term test.

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate/Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Case Studies & Mini Projects (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
Submitted group work and presentations.

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate/Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Examination (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
Submitted solutions to the final examination.

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Part III Other Information

Keyword Syllabus

- Operations Strategy
- Product and Service Design
- Processes and Technologies
- Capacity and Facilities Planning
- Forecasting
- Inventory Management
- Aggregate Sales and Operations Planning
- Resource Planning
- Operations Scheduling

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	Operations Management, 6th Edition, Russell & Taylor, John Wiley & Sons