SYE6015: SUPPLY CHAIN MANAGEMENT

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Supply Chain Management

Subject Code
SYE - Systems Engineering
Course Number
6015

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

Precursors
Knowledge of Basic Probability & Statistics and SEEM3060 Operations Research (offered until 2021/22) / ADSE3060 Operations Research (offered until 2023/24) / SYE3060 Operations Research

Equivalent Courses
SEEM6015 Supply Chain Management (offered until 2021/22) / ADSE6015 Supply Chain Management (offered until 2023/24)

Exclusive Courses
Nil

Part II Course Details

Abstract
This course aims to develop students' abilities to understand the components of manage the global supply chain of a company or system, including raw material procurement, storage, materials handling, production, inventory, transportation, and delivery.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Develop a familiarity with supply chain logistics concepts	30	x	x	
2	Explain the important concepts and approaches in procurement of materials and distribution of finished products	20	x	x	
3	Describe the issues in logistics system design and operation	20	x		
4	Understand and apply appropriate state-of-the-art mathematical principles, quantitative models and techniques to formulate and solve inventory and supply chain management problems	15	x		
5	Discover how information technology and data analytics are adopted to improve existing supply chain systems, and to develop new business models for supply chains.	15	x	x	x

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	Lectures	1, 2, 3, 4, 5	33 hrs/sem
2	Group Work	Group project with a group paper	1, 2, 3, 4, 5	6 hrs/sem

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Group Project	1, 3, 4, 5	30	nil	No
2	Individual Coursework	1, 2, 3, 4	10	nil	No
3	Midterm Tests	1, 2, 3, 4, 5	10	nil	No

Continuous Assessment (%)
50

Examination (%)
50

Examination Duration (Hours)
2

Minimum Continuous Assessment Passing Requirement (%)
30

Minimum Examination Passing Requirement (%)
30

Assessment Rubrics (AR)

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

Criterion
ABILITY to identify novel applications of state-of-the-art data analytics tools in supply chain systems.

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
Individual Coursework (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
UNDERSTANDING of the principles of business operation.

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
Midterm Tests (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
UNDERSTANDING of the principles of business operation in supply chain systems.

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
UNDERSTANDING and ABILITY to describe the principles of business operation in supply chain systems.

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
Group Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to identify novel applications of state-of-the-art data analytics tools in supply chain systems.

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

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

Failure
(F) Not even reaching marginal levels

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

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Additional Information for AR

This is a Continuing Education Fund (CEF) Approved Course, to be eligible for reimbursement; students must achieve the following criteria;
- A minimum attendance rate of 70% (Students should sign on the attendance record for every lesson); and
- Grade C+ or above of the reimbursable course.

Part III Other Information

Keyword Syllabus

- Logistics systems and network
- Data collection, data management, and forecasting
- Inventory management and risk pooling
- Distribution strategies
- Information technology, bullwhip effect, and vendor managed inventory
- Freight transportation and logistics
- Transportation modelling and techniques

Reading List

Compulsory Readings

	Title
1	Lecture notes

Additional Readings

	Title
1	SUNIL CHOPRA & PETER MEINDL, Supply Chain Management, Pearson Education.