

SYE6111: TRANSPORTATION AND LOGISTICS MANAGEMENT

Effective Term

Semester A 2026/27

Part I Course Overview

Course Title

Transportation and Logistics Management

Subject Code

SYE - Systems Engineering

Course Number

6111

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

ADSE6111 Transportation and Logistics Management (offered until 2023/24)

Exclusive Courses

Nil

Part II Course Details

Abstract

This course aims to introduce the design and operations of transportation and logistics systems, and their significance for smart cities and industry. Emphasis will be placed on systems engineering approaches including use of modelling, data and decision analytics. Students will also learn about how effective transportation and logistics operations could support economy industrial and enterprise management. This course showcases the roles of transportation and logistics engineers in today's information era, and the importance of information driven and innovative thinking. Students' learning in this course will further be supported by real world cases presented in class.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Elaborate on the implications of technologies on modern transportation and logistics systems	30	x	x	
2	Apply skills of systems modelling and analytics in transportation and logistics	30		x	x
3	Discuss societal issues related to transportation and logistics operations	20	x		
4	Develop effective communication skills in the context of transportation and logistics management	20		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 activity	Weekly lectures with discussion	1, 2, 3, 4	2 hrs/week
2	Tutorials	Weekly sessions, case studies, and student presentation.	1, 2, 3, 4	1 hr /week

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Weekly tutorials	1, 2, 3, 4	25	Students will participate, present, and discuss weekly case studies assigned in tutorials.	Yes

2	Group project	1, 2, 3, 4	25	Students will work in groups, conduct a self-selected case study and present it to the class toward the end of the semester. A final report would also need to be submitted.	Yes
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Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Minimum Continuous Assessment Passing Requirement (%)

40

Minimum Examination Passing Requirement (%)

40

Additional Information for ATs

Students should receive at least 40% of the total marks in both continuous assessment and final exam components in order to pass the course.

Assessment Rubrics (AR)**Assessment Task**

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

Criterion

Assessed through the weekly tutorial discussion - ability to understand and communicate the studied concepts and methodology in realistic and practical situations

Excellent

(A+, A, A-) Excellent understanding of subject matter

Good

(B+, B, B-) Good understanding of subject matter

Fair

(C+, C, C-) Fair understanding of subject matter

Marginal

(D) Marginal familiarity with the subject matter

Failure

(F) Little familiarity with the subject matter

Assessment Task

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

Criterion

Ability to understand and communicate the studied concepts and methodology, and apply it to practical situations; ability to contribute as a team and present work clearly

Excellent

(A+, A, A-) Excellent understanding and presentation of subject matter

Good

(B+, B, B-) Good understanding and presentation of subject matter

Fair

(C+, C, C-) Fair understanding and presentation of subject matter

Marginal

(D) Marginal familiarity with the subject matter

Failure

(F) Little familiarity with the subject matter

Assessment Task

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

Criterion

Ability to understand and communicate the taught concepts and methodology and procedures in realistic and practical situations

Excellent

(A+, A, A-) Excellent understanding of subject matter

Good

(B+, B, B-) Good understanding of subject matter

Fair

(C+, C, C-) Fair understanding of subject matter

Marginal

(D) Marginal familiarity with the subject matter

Failure

(F) Little familiarity with the subject matter

Assessment Task

Weekly tutorials (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Assessed through the weekly tutorial discussion - ability to understand and communicate the studied concepts and methodology in realistic and practical situations

Excellent

(A+, A, A-) Excellent understanding of subject matter

Good

(B+, B) Good understanding of subject matter

Marginal

(B-, C+, C) Marginal familiarity with the subject matter

Failure

(F) Little familiarity with the subject matter

Assessment Task

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

Criterion

Ability to understand and communicate the studied concepts and methodology, and apply it to practical situations; ability to contribute as a team and present work clearly

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Assessment Task

Final exam (for students admitted from Semester A 2022/23 to Summer Term 2024)

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Ability to understand and communicate the taught concepts and methodology and procedures in realistic and practical situations

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Part III Other Information

Keyword Syllabus

logistics operations, supply chains, distribution planning, facility locationing, network optimization and routing, scheduling, inventory management.

Reading List

Compulsory Readings

Title	
1	Lecture notes and materials to be distributed on Canvas

Additional Readings

Title	
1	Coyle, Langley, Novack, and Gibson (2017) Supply Chain Management - A Logistics Perspective. Cengage Learning.
2	Brandimarte, P. and Zotteri, G. (2007) Introduction to Distribution Logistics. Wiley NJ.
3	Snyder, L, and Shen, Z. (2019) Fundamentals of Supply Chain Theory. Wiley NJ.