SDSC4051: FACILITIES AND DISTRIBUTION MANAGEMENT

Effective Term
Semester A 2024/25

Part I Course Overview

Course Title
Facilities and Distribution Management

Subject Code
SDSC - School of Data Science
Course Number
4051

Academic Unit
School of Data Science (DS)

College/School
School of Data Science (DS)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
MA2506 Probability and Statistics or MA2510 Probability and Statistics
and SDSC3027 Smart Logistics and Transportation

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

Logistics managers and engineers have to make decisions in facilities and distribution planning and scheduling. In this course, students will learn necessary concepts, modelling skills and solution techniques for solving a variety of simple practical problems in facilities and distribution management.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Define logistics products and logistics customer service and process orders	10	x		
2	Evaluate and select transport modes and apply appropriate optimization models and techniques in transport decision-making	10	x		
3	Formulate basic inventory policies and make purchasing and scheduling decisions	30	x	x	
4	Define storage system functions, design and operate a storage handling system, formulate facility-location strategy and apply appropriate methods in the selection of facility location	20	x	x	
5	Formulate appropriate models for planning and scheduling problems in facilities and distribution management and solve them using computer software packages	30	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	Lectures	Introduction and Explanation of Theory through Examples	1, 2, 3, 4, 5	3 hours/week
2	Tutorials	Further Learning Theory from Solving Problems together by Members in a Group	3, 4, 5	In or after class

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Assignments	1, 2, 3, 4	10	
2	Projects	3, 4, 5	30	

Continuous Assessment (%)

40

Examination (%)

60

Examination Duration (Hours)

2

Additional Information for ATs

Note: To pass the course, apart from obtaining a minimum of 40% in the overall mark, a student must also obtain a minimum mark of 30% in both continuous assessment and examination components.

Assessment Rubrics (AR)

Assessment Task

Assignments

Criterion

Submitted solutions to individual assignments.

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

Projects

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

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

Part III Other Information

Keyword Syllabus

Logistics strategy and planning
Transport fundamentals
Transport decision
Vehicle routing and scheduling
Inventory Policy
Storage and handling
Facility location
Network planning

Reading List

Compulsory Readings

	Title
1	Lecture notes

Additional Readings

	Title
1	Business Logistics/Supply Chain Management, 5th Edition, Ronald H. Ballou, Pearson Prentice Hall.