ÇANKAYA UNIVERSITY
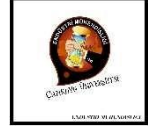## FACULTY OF ENGINEERING
Department of Industrial Engineering
IE 555
Logistic Engineering
Spring 2025

TENTATIVE COURSE SYLLABUS

Course Code:	IE 555	Credit Hours :	(3 0 3) 7.5 ECTS
Students:	Industrial Engineering	Semester :	Spring '25
Course Title:	Logistic Engineering	Level:	Graduate

Instructor: ***Assistant Prof. Dr. S. Shah Sultan M. QADRI***
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Catalogue Description. This Master-level course in Logistic Engineering covers the comprehensive study of logistics systems through historical, economic, and engineering lenses, using key texts like G. Don Taylor's "Introduction to Logistics Engineering," Laurent Deroussi's "Metaheuristics for Logistics," and Benjamin S. Blanchard's "Logistics Engineering and Management." The curriculum integrates lectures, case studies, and practical applications to explore topics such as logistics metrics, system design, and metaheuristic optimization.

Course Objectives. The goal of this course is to provide students with a robust understanding of logistics engineering. Students will learn to analyze logistic systems, apply optimization techniques, and manage logistics operations effectively. The course prepares students for advanced logistical roles by developing their strategic thinking and problem-solving capabilities in real-world scenarios.

Course Outline: The following topics will be covered

Weeks	Title
1	Introduction to Logistics
2	Economic Impact of Logistics
3	Basic Concepts and Logistics Problems
4	Metaheuristics Introduction
5	Logistics Engineering Tools
6	Metrics and Performance Evaluation in Logistics
7	Facility Location and Layout Design
8	Inventory Control Models
9	Material Handling and Warehousing
10	Material Handling and Warehousing (Continue)
11	Distribution and Transportation System
12	Advanced Metaheuristics for Logistics
13	Logistics in Service Industries
14	Logistics in Management

Reference Books:

- **"Introduction to Logistics Engineering" by G. Don Taylor** - This reference book provides a comprehensive overview of logistics engineering, covering topics from historical perspectives to modern tools and techniques.

- **"Logistics Engineering and Management" by Benjamin S. Blanchard, Sixth Edition** - A detailed book that covers the lifecycle of logistics from system design and development through production and phase-out.

- **"Metaheuristics for Logistics" by Laurent Deroussi** - This book offers an in-depth exploration of various metaheuristic techniques tailored for solving complex logistics problems.

- **"Supply Chain Management: Strategy, Planning, and Operation" by Sunil Chopra and Peter Meindl** - A key resource for understanding the strategic and operational aspects of supply chain management that are essential for logistics.

- **"Logistics and Supply Chain Management" by Martin Christopher** - Renowned for its clear explanation of the integration between logistic networks, products, and strategic sales and marketing management.

- **"The Handbook of Logistics and Distribution Management: Understanding the Supply Chain" by Alan Rushton, Phil Croucher, and Peter Baker** - This handbook provides extensive coverage of all major aspects of logistics and distribution management, rich with diagrams and case studies.

- **"Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies" by David Simchi-Levi, Philip Kaminsky, and Edith Simchi-Levi** - Offers insights into the design and management of systems and processes controlling the flow of goods across the supply chain.

Teaching Method:- The teaching methodology will be based on enabling the students to understand and apply the concepts and procedures in each topic mentioned in the above section. Due to unfortunate circumstances, the mode of education is not clear. So it will be announced later whether the classes will be online or face-to-face.

Recommendation: During the lectures, it would be difficult for the instructor to repeat the concepts that have been taught in the previous lectures. In order to better understand the lecture material and participate in the class discussion, students are recommended to read the previous lecture material before the class. In that way, students will find lectures more interesting and will get more benefit from discussions if they are well-prepared.

Tutorials: In addition to the regular lectures, there will be tutorial sessions conducted in the classroom/laboratory by the assistant, according to the perceived need. During these hours the assistant will do extra example problems and give tutorials on computer applications and show videos related to the lecture materials.

Home Work: Students should work on two separate sets of assigned questions in order to get prepared for midterm and final exams.

Exams: Exams will cover material from lectures and tutorials and require advance study to master concepts, procedures, and techniques. To discourage cramming, no questions will be answered during the exam week.:

Midterm Exam: There will be <u>one midterm examination</u> that covers all the material up to the date of the examination.

Final Exam: The Final Examination will cover all the material covered post-midterm and follow the same format.

Make-up Exams: A make-up exam will only be offered to students who missed the **midterm or final exam** and provided adequate documentation for the reason of their absence.

Academic Dishonesty: Unsuitable behavior for university students will not be tolerated and may result in formal disciplinary action. This includes having someone else take exams on your behalf, misrepresenting work, cheating, aiding others in cheating, or disrupting class discipline.

Grading Policy: Although the student's overall grade will be based on the general assessment of the instructor, the following percentages may give an idea about the relative importance of various assessment tools.

Attendance (Conditional*)	10 %
Homework /Project	20 %
Midterm Exam	30 %
Final Exam	40 %
TOTAL	100 points

Attendance Policy: *Attendance (10% of total grade)

Attendance is a significant component of the course grade and is subject to the following conditions:

1. **Minimum Attendance Requirement:** Students must attend at least **11** out of **14** lectures to qualify for attendance points.
2. **Tardiness:** Arriving more than **10 minutes** late to a lecture will result in a mark of 'late', which equates to an absence for that day.
3. **Leaving Early:** Students who leave early during the three-hour lecture will be considered absent for the entire duration.
4. **In-Class Conduct:**
   o *Sleeping:* Students found sleeping during lectures will be marked absent. Those feeling unwell should seek medical attention, but medical certificates will not be considered for excusing absences.
   o *Mobile Phone Use:* The use of mobile phones is strictly prohibited during lectures. Violations will result in the student being marked absent for the day.
   o *Photography:* Taking pictures of the lecture or board is strictly prohibited to encourage active note-taking and participation.

NA Grading: Not attending **both the Final Exam and Midterm Exam without a valid excuse** might lead to an **"NA" grade.**

NOTE THAT EVERYTHING ON THIS SYLLABUS IS SUBJECT TO CHANGE. STUDENTS WILL BE NOTED ABOUT SIGNIFICANT CHANGES. INSTRUCTOR RESERVES THE RIGHT TO MODIFY THESE PERCENTAGES IN CASE HE FINDS IT NECESSARY