LGE - LOGISTICS ENGINEERING (LGE)

LGE 2003 Logistics Principles and Supply Chain Management (3-1-3)
Provides a general overview of logistic elements. Exposure to manufacturing, trade and logistics service sectors, forwarding and transportation, logistic flows, and networks under cost and performance aspects will reinforce fundamental concepts. Provides opportunities to enhance knowledge and skills in analyses and project management through selected case studies.

LGE 2013 Transportation Modes (3-1-3)
Covers different technologies used in various transportation modes: road, rail, air, seaborne and combined transportation, role of logistics in company operations and the role of transportation in company logistics. Introduces road, rail, air, combined and sea transportation: equipment; measurements; handling-related transportation; units and intermodal transportation.
Prerequisites: LGE 2003

LGE 2203 Introduction to Enterprise Information Management (2-2-3)
Develops practical skills needed for study as well as for later employment. Students learn to manage enterprise data with a spreadsheet software (MS-Excel) and with a database software (MS-Access). Skills are developed through reading and many practical exercises using transparencies, a script, online materials and MS Excel and MS-Access example files.

LGE 2313 Managing People and Organizations (3-1-3)
Covers the linkage between organizations; human resource management (HRM) and business success. Exposure to the principles of organizational behavior and the fundamentals of HRM. Introduce concepts of: organization structure and design; power and politics; motivation and job satisfaction; recruitment and selection, employee development and reward management; and the role of HRM in gaining sustainable competitive advantage for the organization.

LGE 2902 Sophomore Design Project (1-2-2)
Introduces engineering design process, procedures and techniques. Identifies various components, resources, and common elements within a logistics engineering real life application. Considers the balance between the general knowledge of project management and available tools. Covers health, safety and environmental aspects related to logistics engineering discipline. Requires the formation of a team to apply gained knowledge, simple data and decision analysis techniques necessary to achieve a pre-assigned output.
Prerequisites: LGE 2003

LGE 3203 ERP I Principles (2-2-3)
Covers Enterprise Resource Planning (ERP) system in integrated software with applications in all business areas of an organization including: accounting and finance; HR; sales and distribution; production; purchasing; and inventory. Introduce ERP theory and practice including the role of ERP in business process improvement, comparison of ERP and ERP2, ERP functionality and risk issues.
Prerequisites: LGE 2203

LGE 3212 ERP II Applications (2-1-2)
Introduces ERP in modern business management: the basic concepts; applications; and their significance in business development. During the course students will work with reference models, acquire knowledge of possible solutions and action models for the development, adaptation and implementation of standard application systems. Focuses on financial modules, reporting, materials management and sales capabilities.
Prerequisites: LGE 3203

LGE 3413 Sales and Distribution in Logistics (3-1-3)
Examines the management of the flow of goods (inventory), services, and related information among members in the supply chain (i.e., suppliers, manufacturers, distributors, retailers, logistics service providers and the end customer). Provides up to date knowledge and modern know-how on planning, designing and controlling the flow of physical goods to a market, along with the information and service necessary to meet customer demand.
Prerequisites: LGE 2003

LGE 3503 Accounting for Managers (3-1-3)
Introduces management accounting as a tool to improve the operations and the profitability of the organization and examines management accounting field, its methods, purpose, and possibilities. The main content includes the basics of financial accounting, management accounting and decision making, cost management concepts, working capital and investment calculations, budgeting.

LGE 4003 National Transport and Planning Law (3-1-3)
Examines the basics of national and international transport and insurance law. Analyses the evaluation and negotiation of logistics contracts. Introduces transportation legislation, contract law, contract of sale, dispatch, incomers. Discusses obligations and rights of the sender and obligations and rights of the carrier. In the air transport rules, the students are introduced to the Warsaw- and the Montreal-conventions.

LGE 4013 Hazardous Goods Management (3-1-3)
Covers identification and assessment of risks when dealing with hazardous goods and materials. Introduces the design of appropriate measures of loss prevention and limitation of loss. Covers technical measures compatible with modern environmental, health-protection and safety systems. Covers the relationship between safety and quality management systems, principles of legislation and legal norms related to transport of dangerous goods by sea, road and air.

LGE 4203 GIS in Logistics (2-2-3)
Covers GIS technology for tracking daily fleet movements and maintenance schedules, for integrating data from existing workforce, fleet, and customer management systems.
Prerequisites: IET 2103

LGE 4303 Quality Control and Management (3-1-3)
Introduces the students to qualitative and quantitative analytical tools used in a quality management system. An opportunity to study international quality management systems and how efficiently these tools are used to support strategic decision making in managing organizations. Identify problems with workflows within various parts of real organizations. Develops the students' ability to use appropriate quality management tools and to measure their effectiveness towards quality improvement from a strategic perspective.
Prerequisites: MTH 1113

LGE 4313 International Human Resource Management (3-1-3)
Introduces the opportunities and challenges with managing employees in international and cross-cultural contexts. Covers HR processes in international, multi-national and trans-national corporations, and analysis of internationalization and globalization of HRM.
Prerequisites: LGE 2003

LGE 4403 Port Management (3-1-3)
Covers business aspects of harbor management and cargo-handling, key issues and principles of implementation of logistics planning structures in harbor areas. Includes logistics interfaces to other transport systems, and the planning principles of ports. Covers the cost analysis and performance developments in ports. Covers relevant case studies of harbor infrastructures and the customer relations.
Prerequisites: LGE 2003

LGE 4413 Airport Management (3-1-3)
Provides a fundamental understanding of the broad aspects of managing airports and the basic logistics concepts behind air cargo systems. Includes options of strategic decision-making in airport and air cargo management. Presents a short introduction of the major legislation affecting aviation, and the rules and regulations governing airport operations. Additional topics studied include: air traffic control; terminal management; and ground infrastructure of airports; and introduction to planning and running of air cargo systems.
Prerequisites: LGE 2003

LGE 4423 Intermodal Freight Transport (3-1-3)
Introduces the concept of intermodal freight transport, the means of delivering goods using two or more transport modes. Detailed explanations are given of the road and rail vehicles, the loading units and the transfer equipment used in such operations.
Prerequisites: LGE 2013

LGE 4453 Management of Distribution Networks (3-1-3)
Covers forging plans, steering and optimizing global distribution networks and relevant modern analysis tools. Includes conditions of distribution network transformation, analysis and evaluation of value chains and the current challenges of the management of global value. Includes practice work with SCM Systems like SAP SCM.
Prerequisites: LGE 2003

LGE 4463 Maritime Transport (3-1-3)
Introduces current maritime transportation concepts from a geographic point of view, focusing on the transportation practices in the world markets.
Prerequisites: LGE 2003

LGE 4543 Simulation of Logistics Systems (2-2-3)
Covers in-depth knowledge of the techniques of computer simulation in general industrial and logistics systems. Understand the role of simulation in design, planning, and control of industrial and logistics systems. Identify how discrete event simulation can be used to model and analyse the performance of industrial and logistics systems. Assess available simulation packages in the market. Plan and manage the design and development of industrial and logistics systems using relevant simulation software.
Prerequisites: LGE 2003

LGE 4603 Transport and Economic Geography (3-1-3)
Covers geography and transportation intersection in terms of movement of people, goods, and information. Commuting, supplying energy needs, distributing goods, and acquiring personal wants. Introduces location theory and the rationale for the location of industry, cities, and systems in their current location.
Prerequisites: LGE 2013

LGE 4803 Special Topics in Logistics Engineering (3-1-3)
Presents a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit.

LGE 4893 Directed Study (3-1-3)
Explore and investigate a topic beyond the existing course material under the supervision of a faculty member.

LGE 4902 Capstone Design Project I (1-3-2)
Coordinate to form project teams to propose, plan and design an engineering product. Gain the knowledge to identify design problems to meet industrial needs. Define design projects" criteria, components, resources, implementation schedule, and estimated costs.
Prerequisites: LGE 2902, (EGN 3812 or EGN 3806)

LGE 4911 Capstone Design Project II (0-3-1)
Perform all aspects of a logistics engineering design project including the formation of a team to propose, plan and design an industrial engineering project. Carry total responsibility for the completion of the project milestones and course objectives while working under the mentorship of a faculty or industry engineer. The team is evaluated on its ability to coordinate efforts to propose the project design criteria, components, resources, implementation schedule, and estimated cost.
Prerequisites: LGE 4902