UAB
Universitat Autònoma de Barcelona

Logistics Management

Code: 44767
ECTS Credits: 13.5

2025/2026

Degree	Type	Year
Logistics and Supply Chain Management	OP	2

Contact

Name: Juan Jose Ramos Gonzalez

Email: juanjose.ramos@uab.cat

Teachers

(External) Jana Bikovska (Jana.Bikovska@rtu.lv)

Teaching groups languages

You can view this information at the end of this document.

Prerequisites

The student has to have successfully passed the following subjects:

- Decision making (44760)

Objectives and Contextualisation

This module has 1 course unit (CU):

Decision Synthesis Principles and Practice in Logistics (13.5 ECTS)

After the course the student will:

- Understand, identify and analyse different managerial problems in logistics and supply chain management taking into account general management concepts, human resource issues, information technology capability, and economic and commercial aspects
- Be able to describe and interpret general concepts and methods of decision synthesis and their application aspects to extended LSCM problem solving
- Know how to select and employ the right techniques and tools for decision analysis and synthesis in logistics management
- Design and integrate major functional components and IT tools for business modelling, managerial decision-making and information support in LSCM
- Be able to integrate knowledge and learning experiences in logistics and supply chain management practices.

Learning Outcomes

1. CA29 (Competence) Synthesise aspects (managerial, economic, commercial and technological) that should support decision-making processes in logistics.
2. CA30 (Competence) Develop arguments for decision-making based on quantitative methods for management and integration challenges: for internal logistics, focusing on production planning and control; for supply chain management, focusing on collaborative planning and inventory control, and for international logistics companies, focusing on their multi-functionality.
3. CA31 (Competence) Use and design different types of information systems and sources to support problem-solving and decision-making in logistics.
4. KA30 (Knowledge) Recognise the basic principles of decision theory.
5. SA43 (Skill) Identify and analyse management problems in logistics and supply chain management, taking into account the general principles behind management, human resources, information systems, financial and commercial considerations.
6. SA44 (Skill) Select and use the most appropriate techniques and tools for making decisions in logistics management based on the theoretical and practical foundations of synthesis and decision-making procedures.
7. SA45 (Skill) Apply methods and tools for business modelling and decision-making support in a virtual industrial environment by focusing on production planning, demand management, raw material purchasing and finance and quality management, among other aspects involved in logistics management.

Content

- Key issues and concepts in logistics management
- Theoretical principles of decision synthesis in logistics and supply chain management
- Managerial problems and integration solutions in internal logistics with focus on production planning and control
- Managerial problems and integrated solutions in supply chain management with focus on collaborative planning and inventory replenishment
- Managerial problems and integrated solutions in an international logistics company with focus on its multi-functionality
- Data analysis principles and IT tools to support decision making in logistics and supply chain management
- Innovative platforms, technologies and software

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lab Block 1	32	1.28	CA29, CA31, SA45, CA29
Lab Block 2	10	0.4	CA30, KA30, CA30
Lab Block 3	32.5	1.3	CA30, KA30, CA30
Lab Block 4	25	1	KA30, SA43, SA44, SA45, KA30
Theory lectures	48	1.92	CA29, CA30, CA31, KA30, SA43, SA44, SA45, CA29

Workshop	8	0.32	SA44, SA45, SA44
Type: Supervised			
Teamwork project	48	1.92	CA29, CA31, KA30, SA45, CA29
Use case development	48	1.92	CA29, SA44, SA45, CA29
Type: Autonomous			
Mastering teaching materials	84	3.36	CA29, KA30, SA43, SA44, CA29

The course is organized by means of traditional lectures combined with practical work and seminars. The practical part of the course explores special tools in the form of management simulation games that are used in dynamic laboratories to provide virtual business environments. In-class interactive seminars are introduced to explain technology issues and analyse intermediate results.

The learning process will combine the following activities:

- Theory lectures: Aim to understanding the state of the art in logistics management; explain theoretical principles of decision synthesis and procedure, methods and tools for business modelling, decision-making and information support in logistics and supply chain management.
- Interactive laboratory sessions: Aim to understand challenges, elements and solutions for logistics and supply chain management; get experiences in using and designing digital logistics management tools; split in four laboratory blocks:

Block 1. Internal logistics management: focuses on production and purchasing functions of an assembly plant. Includes teamwork (2-3 students in a group) to plan production and purchase orders, develop capacity plans and job schedules; perform simulation runs in a virtual production environment in order to estimate results of the planning decisions per a production week; study different control strategies and planning scenarios, and participate in classroom discussions. As the results of this work, students present *a teamwork project* aiming at implementing a dynamic production planning tool to allow data transfer and processing.

Block 2. Collaborative planning and inventory replenishment: focuses on general mechanisms andmethods of in multi-echelon supply chain management with a particular focus on supply chain dynamics and inventory management;

Block 3. International logistics management: focuses on different functional aspects of international logistics company management (production and purchasing, distribution and transportation, marketing and investments, facility location and demand forecasting as well as finances);

Block 4. Logistics data analysis: focuses on dashboard development methods and tools to support decision making in logistics and supply chain.

- Workshop on innovative platforms, technologies and software: Independent learning and technology testing, search and study of literature and selected software, use case development and in-class presentation with further discussions.
- Autonomous work: reading, self-testing, reflecting. Retrieve and analyse information from different sources; reflect learning and problem solving processes in order to derive lessons learned.

Use of Generative Artificial Intelligence Tools - Policy Statement

This module acknowledges the increasing role of generative artificial intelligence (AI) as a support tool in academic work. Accordingly, the use of such tools is permitted on a limited basis, strictly for enhancing the formal aspects of student submissions. Acceptable uses include improving writing quality, style, clarity of exposition, linguistic accuracy, and translation, as well as obtaining occasional technical assistance.

However, the use ofgenerative AI to create the substantive content of assessed work is strictly prohibited. This includes, but is not limited to: the development of methodological approaches, the design or execution of experiments, the analysis or interpretation of results, the formulation of ideas, and the drafting of conclusions. These tasks must be carried out entirely by the student, as they constitute the essential intellectual and creative contributions required to successfully complete the subject.

Students are required to explicitly declare the use of any generative AI tools in each submitted piece of work. This declaration must include:

- The specific tools used
- The purpose for which they were used
- The extent of their contribution

Excessive, irresponsible, or unnecessary use of such tools may negatively affect the final grade. Any undeclared or inappropriate use of generative AI may result in failure of the subject.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Final exam	30%	2	0.08	CA31, KA30, SA43, SA44, SA45
Lab Block 1 incl. teamwork project	20%	0	0	CA29, CA31, KA30, SA44
Lab Block 2	10%	0	0	CA30, KA30
Lab Block 3	20%	0	0	CA30, KA30
Lab Block 4	10%	0	0	KA30, SA43, SA44, SA45
Workshop (a scientific report and presentation)	10%	0	0	SA44, SA45

The final mark of this course will be calculated from the assessment of following evaluation activities:

- Lab Blocks from 1 to 4. For Block 1, a teamwork project has to be developed and presented. For each other block, a report is required that follows given structural guidelines. All reports are marked according to formal and contents aspects. All reports are electronically submitted on the course page at the university e-platform.
- Workshop (scientific report and presentation). The topic can either be chosen from a given list or proposed by the student. Each student has to submit electronically his/her topic together with a 200 words abstract. Teachers decide about acceptance/rejection of the topic. In the report, students analyse functionality of the selected platform/IT tool, technologies applied in the software, its innovation aspects and perspectives, and gives a use case example. Student reports and presentations will be marked by the teachers (peer review).
- Final exam. Theoretical questions on topics addressed throughout the semester in order to present an understanding of management and decision synthesis in logistics.

The student passes course if all lab reports, a teamwork project, a scientific report and the final exam are evaluated as 'sufficient' (by grade 4.0 corresponding to a minimum of 50% of the maximum performance per

evaluation activity) at least. The student fails if performance in at least one of the evaluation activities does not reach the 50% threshold or if a teamwork project and other reports are not submitted within the due date specified by the professor.

The weights of each evaluation activity are given in the table below.

Bibliography

1. F. Robert Jacobs, William Lee Berry, David Clay Whybark, Thomas E Vollmann. Manufacturing Planning and Control for Supply Chain Management: APIC/CPIM Certification Edition, McGraw-Hill Profesional, 2011.
2. Sunil Chopra, Peter Meindl. Supply Chain Management. Strategy, Planning, and Operations. Pearson Education, 2018.
3. Michael Pidd. Tools for thinking. Modelling in management science. John Wiley&Sons, 2012.
4. Laudon K.C., Laudon J.P. Management Information Systems, Managing the Digital Firm, 14th Edition, Pearson Education International, 2016.
5. Merkuryev Y., Merkuryeva G., Bikovska J., Hatem J., Desmet B. Business simulation game for teaching multi-echelon supply chain management. International Journal of Simulation and Process Modelling. Volume 5, No 4, 2009, p. 289.-299.
6. Merkurjeva G., Bikovska J., Grubbstrom R., Weber J. Development of learning scenarios for network-based logistics simulation game. Scientific Proc., Ser. 5. Computer Science. Vol. 20. Information Technology and Management Science. RTU, 2004, p. 148-156.
7. RASMUSSEN, N.; CHEN, C. Y.; BANSAL, M. Business Dashboards : A Visual Catalog for Design and Deployment. Hoboken, N.J.: Wiley, 2009.

Software

No specific S/W is foreseen

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.