Global Supply Chain Management

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| **Course code** | *MNG 243* |
| **Compulsory in the programmes** | *International Business and Communication, Business Management and Marketing, Industrial Technology Management* |
| **Level of studies** | *Undergraduate* |
| **Number of credits** | *6 ECTS (48 in-class hours + 6 consultation hours + 3 exam hours, 105 individual work hours)* |
| **Course coordinator** | *Prof. Dr. Fabio Sgarbossa*  *Assoc. Prof. Dr. Mirco Peron* |
| **Prerequisites** | *None* |
| **Language of instruction** | *English* |

# THE AIM OF THE COURSE:

This course will introduce you to the key aspects of supply chain management and place them in a global context. The course lays the foundations that will allow you to expand your knowledge in global supply chain management, developing a problem-solving oriented mindset. You will gain an awareness of key theories and practical techniques in global supply chain management, and you will apply them to conceptual exercises and case studies. You will also explore and experience the digital transformation of global supply chain management. All these aspects of the course will build your professional skills, rendering you an attractive resource for companies.

**MAPPING OF COURSE LEVEL LEARNING OUTCOMES (OBJECTIVES) WITH LEARNING OBJECTIVES (See Annex), ASSESMENT AND TEACHING METHODS:**

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| **Course level learning outcomes (objectives)** | **Degree level learning objectives** | **Assessment methods** | **Teaching methods** |
| CLO1. Introduce students to the core concepts of global supply chain management | LO1.1.; LO2.1. | Mid-term test | Lecture, self-study |
| CLO2. Understand the importance of supply chain network design and acquire practical skills on the topic | LO1.2.; LO2.1.; LO3.1.; LO3.2.; LO4.1.; LO4.2 | Mid-term test, final assignment, coursework | Lecture (theory and software), self-study |
| CLO3. Understand the importance of inventory management and learn inventory management techniques | LO1.2.; LO2.1.; LO3.1.; LO3.2.; LO4.1.; LO4.2 | Mid-term test, final assignment, coursework | Lecture (theory and teamwork), self-study |
| CLO4. Understand the importance of demand forecasting and learn demand forecasting techniques | LO1.2.; LO2.1.; LO3.1.; LO3.2.; LO4.1.; LO4.2 | Final exam, final assignment, coursework | Lecture (theory and teamwork), self-study |
| CLO5. Learn the different sourcing and transportation policies and understand when to adopt them | LO1.2.; LO2.1.; LO3.1.; LO3.2.; LO4.1.; LO4.2 | Final exam, final assignment, coursework | Lecture (theory and software), self-study |
| CLO6. Understand the risks affecting the global supply chain and how to manage them | LO1.2.; LO2.1.; LO3.1.; LO3.2.; LO4.1.; LO4.2 | Final exam, final assignment, coursework | Lecture (theory, coursework and software), self-study |

**ACADEMIC HONESTY AND INTEGRITY**

The ISM University of Management and Economics Code of Ethics, including cheating and plagiarism are fully applicable and will be strictly enforced in the course. Academic dishonesty, and cheating can and will lead to a report to the ISM Committee of Ethics. With regard to remote learning, ISM remind students that they are expected to adhere and maintain the same academic honesty and integrity that they would in a classroom setting.

**COURSE OUTLINE**

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| **Topic** | **Sub-Topic** | **Hours** | **Readings** |
| Introduction to the GSCM course | (Basic definitions, course aims, structure, requirements, assessment criteria, reading list) | 2 | Simchi-Levi, Kaminsky, Simchi-Levi: Chapter 1 |
| GSC network design I: theory | (Centralized vs. decentralized GSC: variables involved, pros and cons, decision strategies) | 4 | Simchi-Levi, Kaminsky, Simchi-Levi: Chapter 3 |
| GSC network design I: AnyLogistix | (Introduction to AnyLogistix, step-by-step guide, Greenfield analysis) | 4 | Ivanov : Introduction & Chapter 1 |
| Inventory management & Distribution strategies I: theory | (Introduction, Inventory control policies (continuous review policy, periodic review policy, …), risk pooling, distribution strategies) | 4 | Simchi-Levi, Kaminsky, Simchi-Levi: Chapter 2 & 7 |
| Inventory management & Distribution strategies II: AnyLogistix\_part 1 | (Step-by-step guide, Network Optimization and Advanced Simulation with Inventory and Transportation Control, Simulation with Production Factories and Sourcing Policies) | 4 | Ivanov : Chapters 2&3 |
| Inventory management & Distribution strategies II: AnyLogistix\_part 2 | (Step-by-step guide, Network Optimization and Advanced Simulation with Inventory and Transportation Control, Simulation with Production Factories and Sourcing Policies) | 4 | Ivanov : Chapters 2&3 |
| Mid-term | (Mid-term exam & review) | 2 |  |
| Project assignment | Group work | 4 |  |
| Demand forecasting | (The role and characteristics of forecasting, forecasting methods, basic approaches to demand forecasting) | 4 | Ivanov, Tsipoulanidis, Schönberger: Chapter 11 |
| Operational risk in GSC I: theory | (Introduction to the Bullwhip effect, quantifying the bullwhip effect, methods for coping with the bullwhip effect, beer game) | 4 | Simchi-Levi, Kaminsky, Simchi-Levi: Chapter 5 |
| Disruptive risk in GSC I: theory | (Introduction to disruptive risks and disruptions, ripple effect, methods for coping with disruptions, data-driven GSC digital twin) | 4 | Ivanov, Tsipoulanidis, Schönberger: Chapter 15 |
| Operational and disruptive risk in GSC II: AnyLogistix\_part 1 | (Step-by-step guide, Risk Analysis in the Supply Chain (Bullwhip Effect and Ripple Effect)) | 4 | Ivanov : Chapter 4 |
| Operational and disruptive risk in GSC II: AnyLogistix\_part 2 | (Step-by-step guide, Risk Analysis in the Supply Chain (Bullwhip Effect and Ripple Effect)) | 4 | Ivanov : Chapter 4 |
|  | **Total: 48 hours** |  |  |
| **Consultations** | 6 |  |  |
| **Final Exam** | 3 |  |  |

**FINAL GRADE COMPOSITION**

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| **Type of assignment** | **%** |
| *Group Components 20%* |  |
| Final assignment | 20 |
| *Individual Components 80%* |  |
| Mid-Term Exam | 40 |
| Final Exam | 40 |
| **Total:** | **100** |

**DESCRIPTION AND GRADING CRITERIA OF EACH ASSIGNMENT**

**Midterm and Final Exams.** The midterm examination counts for 40% and will cover topics 1-6. The final examination counts for 40% of the final grade and will cover topics 7-11. The lecturer reserves the right to choose the form of the exam. Details about the structure of the exam and the grading policy will be presented on the first day of the lectures and will be published online. The lecturer reserves the right to choose the form of the exam. Details about the structure of the exam and the grading policy will be presented on the first day of the lectures and will be published online.

**Final assignment:** students (divided in groups) will be asked to present their final assignment. Details about the presentation scope and the grading policy will be presented on the first day of the lectures and will be published online.

**RETAKE POLICY**

If final (cumulative) mark of the course, including final exam score, is insufficient, students will be allowed to exercise their right of retake. The retake exam will cover all lectures and case-discussion topics discussed in class during the course. It will be held during the last week of the exam session and will replace the score of the mid-term and the final exam (so 80% of the final grade). Acquired scores from all assignments will be summed up and the final (cumulative) grade will be given. The lecturer reserves the right to choose the form of the exam.

**ADDITIONAL REMARKS**

Attendance and participation in the lectures are not obligatory, however strongly recommended. Studying solely from slides/ course book is not considered to be a sufficient preparation for the exam.

Bonus points. The instructor has the right to award active students with up to 0,2 extra (grade) points. These “bonus points” will only be awarded to students whose (rounded) final grade would increase after all.

Specific rules apply for in-class/online presentations.

* The presentation of the final assignment can neither be re-scheduled nor be retaken. Students failing to sign up for the presentation or failing to show up for the presentation, will be allowed to submit a group report presenting and discussing the final assignment within one week after the date of the presentation.
* In case of serious reasons, individual students may be allowed to switch with another student. Students are responsible for arranging the changes and must inform the lecturer MINIMUM 1 week in advance.
* Within one week of the day of the presentation, each group will receive an evaluation.

Due to the dynamic nature of the content of the course additional material can be assigned during the course. In case of unforeseen events the schedule will be adapted. The lecturer is trying to include actual and relevant materials – therefore the reading list may differ. Slide handouts and readings will be prepared for each class and available for download. The slides are the intellectual property of teaching instructor and students may not distribute or duplicate these notes without written consent.

**REQUIRED READINGS**

Simchi-Levi, Kaminsky, Simchi-Levi; Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies; McGraw-Hill Education (3rd ed.); 2008

Ivanov, Tsipoulanidis, Schönberge; Global Supply Chain and Operations Management; Springer Nature (3rd ed.); 2021

Ivanov; Supply chain simulation and optimization with anyLogistix; Berlin School of Economics and Law (5th ed.); 2021

**ANNEX**

**DEGREE LEVEL LEARNING OBJECTIVES**

**Learning objectives for the Bachelor of Business Management**

*Programmes:*

*International Business and Communication,*

*Business Management and Marketing, Finance,*

*Industrial Technology Management*

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| **Learning Goals** | **Learning Objectives** |
| Students will be critical thinkers | LO1.1. Students will be able to understand core concepts and methods in the GSCM disciplines |
| LO1.2. Students will be able to conduct a contextual analysis to identify a problem associated with their discipline, to generate managerial options and propose viable solutions |
| Students will be expert in their discipline | LO2.1. Students will be knowledgeable about GSCM |
| Students will be technologically agile | LO3.1 Students will demonstrate proficiency in SC software packages |
| LO3.2. Students will be able to make decisions using appropriate IT tools |
| Students will be effective communicators | LO4.1. Students will be able to convey their ideas effectively through an oral presentation |
| LO4.2. Students will be able to convey their ideas effectively in a written paper |