

Name of programme: **Supply Chain Management (MSc)**

Title of Module	Designing and Coordinating the Supply Chain
Responsible person	Prof. Dr. Fabian Tjon, Prof. Dr. Nadine Roth-Walther
Lecturer	Prof. Dr. Fabian Tjon, Prof. Dr. Nadine Roth-Walther
Module Code	SCM01
Type of Module	X obligatory module, O elective module
Level	O BA O BSc O BEng, O MA x MSc O MEng O MBA
Language	English
Related Degree Programme/s	Supply Chain Management (M.Sc.)
Department	Management and Communication
Location	O Gießen, x Friedberg
Availability/frequency of module	O every semester, O annually in the Winter Semester, x annually in the Summer Semester,
Hours per Week / Workload	4,5 HpW, contact hours per week 240 H in total
Number of CrP/ECTS	8 ECTS/CrP
Forms of instruction	x lecture, x seminar, O supervised training, x laboratory practical course
Qualifications and Goals	<p>This compulsory course covers the most fundamental aspects of supply chain management. It will prepare students to apply product/process design concepts and techniques at strategic and tactical levels relating to the flow of materials and information through a company's supply chain. The course covers qualitative as well as quantitative subjects.</p> <p>Students will be able to improve their problem-solving, team working and communication skills by solving authentic case studies in small groups and presenting their solutions to an audience made up of fellow students.</p> <p>By participating in a role-based simulation game, students will have the possibility to experience coordination problems in a supply chain and will discover suitable solutions in order to level the so-called "Bullwhip-Effect".</p> <p>After completion of the course, students are expected to be able to:</p> <ul style="list-style-type: none"> - explain the role/function of supply chain management and its importance to the success of a firm in a contemporary global operations setting, - understand the concept of strategic fit between the supply chain strategy and the competitive strategy of the firm, - develop a methodological framework for defining appropriate market-driven supply chain strategies, - develop a methodological framework for supply network design according to the supply chain strategy, - apply optimisation models and techniques for facility location, capacity allocation, aggregate planning and multi echelon inventory planning, - identify key obstacles in coordination of a supply chain and to propose managerial counteractions.
Short Description of Contents	<p>This compulsory course covers the most fundamental aspects of supply chain management. It will prepare students to apply product/process design concepts and techniques at strategic and tactical levels relating to the flow of materials and information through a company's supply chain. The course covers qualitative as well as quantitative subjects.</p>

Description of Contents	<p>Learning Unit 1: Designing Supply Chain Strategies</p> <ul style="list-style-type: none"> - Introduction to Supply Chain Strategies: - Product Design Strategies: - Process Design Strategies: <p>Learning Unit 2: Network Design and Tactical Planning</p> <ul style="list-style-type: none"> - factors influencing distribution and supply chain network design - framework for network design decisions - factors impacting global supply chain networks - making global supply network design decisions under uncertainty - models for facility location, capacity allocation and inventory positioning - models for demand forecasting, aggregate planning and multi echelon safety stock planning - managerial levers that help archive synchronization in a supply chain <p>Learning Unit 3: Coordination within a Supply Chain</p> <ul style="list-style-type: none"> - in-class simulation exercise - The Beer Game: identifying the Bullwhip-Effect as a result of a lack of coordination; measuring the Bullwhip-effect - key obstacles in coordination of a supply chain: incentive, information-processing, operational, pricing and behavioral. - counteracting the Bullwhip-effect by ICT-enabled supply chain reform initiatives - collaborative planning - counteracting the Bullwhip-Effect through defining new organizational relationships and aligning incentives - managing reverse flows in the supply chain (an overview)
Prerequisites	(1) Students should have completed at least one undergraduate level operations management and business administration/strategic management course; (2) B2 level in English; (3) matriculation on master level
Assessment	O oral (O examination of xx minutes, O presentation), x written (x examination of 120 minutes , O term paper)
Literature/Textbooks	TBA
Other	