

English Version

Modul: Basics of International Logistics and Supply Chain Management

Modulbezeichnung: Basics of International Logistics and Supply Chain Management
Modulbezeichnung (engl.): Basics of International Logistics and Supply Chain Management
Studiengang: Module Certificate "International Logistics and Supply Chain Management"
Code: ILSCM-01
SWS/Lehrform: 80hrs total contact time, 5 units with 2 days (16 hrs) reading per course unit
ECTS-Punkte: 5
Studiensemester: 2
Pflichtfach: Yes
Arbeitssprache: English
Prüfungsart: Examination (120 Minutes, no repetition, with rating)
Zuordnung zum Curriculum: ILSCM-01 Basics of International Logistics and Supply Chain Management (part of Module Certificate, 2 semesters), 1 st semester, compulsory course
Arbeitsaufwand: Compulsory course attendance includes 80 hours / 10 days incl. supervised self-learning. Total time for this module is 150 hours with 5 ECTS points. Therefore, 70 hours are available for preparation and follow-up of the course units.
Empfohlene Voraussetzungen (Module): none
Als Vorkenntnis empfohlene Module: none
Modulverantwortung: Prof. Dr. Thomas Korne
Dozent: Prof. Dr. Thomas Korne, others with logistical background
Lernziele/Kompetenzen: Course unit International Transportation: At the end of the course, the students will be able to <ul style="list-style-type: none">• appropriately use terminology of international transportation,• explain the structure of the European Logistics market and the role of the main operators,• describe transportation principles and modes of international logistics as well as their benefits and disadvantages,• know the offers of KEP- and third party logistics providers,• to calculate freight costs based on a land transportation example. Course unit Fundamentals of Logistics and Supply Chain Management: At the end of the course, the students will be able to <ul style="list-style-type: none">• appropriately use terminology of international logistics,• explain and understand the drivers and enablers of Supply Chain Management,• to illustrate the benefits of cooperation beyond corporate boundaries,• to explain the role of logistics in our economy and the organizational set-up of logistics in and between companies,• understand the need of standardized processes between supply chain partners for efficient cooperation,• explain the basic instruments of supply chain management. Course unit Warehousing and Inventory Management: At the end of the course, the students will be able to <ul style="list-style-type: none">• appropriately use terminology of material and inventory logistics,

- describe the organization and processes of material replenishment as well as functions and types of warehouses,
- understand the meaning and objectives of inventory management and the basic instruments to analyze and optimize material storage,
- explain the different types of inventory policies.

Course unit Network Planning and Distribution:

At the end of the course, the students will be able to

- appropriately use terminology of network planning and distribution,
- use basic applications of "Operations Research" for decision support to optimize transportation and distribution logistics
- to understand heuristically or exact mathematical models for simple transport and tour problems,
- to interpret the outcomes of the models under economic considerations based on a case study

Course unit Project Management and Performance Management in Logistics:

At the end of the course, the students will be able to

- appropriately use terminology of project and logistics performance management,
- apply and analyse logistics key performance indicators for logistics service providers,
- understand generic problem solving techniques and methods of project management,
- describe the set-up of a logistics controlling system and to understand the importance of robust management processes,
- apply basic risk management strategies for supply chain management and to know about the role of trust.

Inhalt:

Course unit International Transportation:

- English terminology of transportation modes
- European freight corridors and gateways
- International land (motor carrier) and intermodal/multimodal transportation
- Carrier development, challenges and opportunities
- Railway transportation and hinterland
- Air transportation
- Pipelines
- Ocean and inland waterway transportation
- Specialized carriers (incl. KEP, 3rd party logistics)
- Packaging and containerization
- Transportation regulation and public policy
- Costing and pricing in transportation based on land transportation example
- Carrier and shipper strategies
- On-site visits in the Greater Region

Course unit Fundamentals of Logistics and Supply Chain Management:

- English Terminology of international logistics and supply chain management
- Evolution of logistics and supply chain management
- Logistics in the organization with role/functions
- Economic value of logistics
- Challenges of international logistics
- The Bullwhip effect (4h beer game simulation)
- Drivers and enablers of supply chain management
- Information management and technology
- Instruments of supply chain management (VMI, postponement, etc.)
- The SCORE model as a means of SCM standardization
- Supply chain financials, controlling & risk management
- Trust/Win partnerships

- Case study

Course unit Warehousing and Inventory Management:

- English terminology of warehousing and inventory,
- Functions and types of warehouses
- Commissioning
- Warehouse processes
- Assignment of storage space
- Warehouse transportation
- Inventory cost and service level
- Economic order quantity/lot size model
- Safety stock calculation to achieve service levels
- Types of inventory policy
- Exercises
- On-site visits in the Greater Region

Course unit Network Planning and Distribution:

- English terminology of network planning and distribution
- Network design
- Single- and multiple level transportation design
- Warehouse location problem
- Roundtrip and transportation planning problem
- Basic models of operation research, e.g. savings-method
- Examples of optimization software solutions
- Qualitative method for location planning
- Case study and exercises

Course unit Project Management and Performance Management in Logistics:

- English terminology of project and performance management
- Problem solving methodology
- Structured working for successful logistic project
- Uncertainty (risk) management
- Pipelining
- Buffer management
- Priority management
- Key Performance Measurements
- Trust & Objectiveness
- Execution and Task Management
- Portfolio Decision Management
- Logistics controlling
- Case study or exercises

Literatur:

- Branch, Alan E.: Global Supply Chain Management and International Logistics, Routledge, New York, London, 2010.
- Christopher, M.. Logistics and Supply Management, 4th edition, Harlow, 2011.
- Krajewski, Lee J., Ritzman, Larry P., and Manoj K. Malhotra. Operations management, 10th release, Upper Saddle River, N.J., Pearson Education, 2013
- Chopra, S., Meindl, P.: Supply Chain Management, 4th release, Upper Saddle River, NJ, 2010.
- Simchi-Levi, D., Kaminsky, P., Simchi-Levi, E.: Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies, 3rd release, Boston, 2008.

English Version

Modul: Advanced Logistics

Modulbezeichnung: Advanced Logistics
Modulbezeichnung (engl.): Advanced Logistics
Studiengang: Module Certificate "International Logistics and Supply Chain Management"
Code: ILSCM-02
SWS/Lehrform: 80hrs total contact time, 5 units with 2 days (16 hrs) reading per course unit
ECTS-Punkte: 5
Studiensemester: 2
Pflichtfach: Yes
Arbeitssprache: English
Prüfungsart: Examination (120 Minutes, no repetition, with rating)
Zuordnung zum Curriculum: ILSCM-02 Advanced Logistics (part of Module Certificate, 2 semesters), 2 nd semester, compulsory course
Arbeitsaufwand: Compulsory course attendance includes 80 hours / 10 days incl. supervised self-learning. Total time for this module is 150 hours with 5 ECTS points. Therefore, 70 hours are available for preparation and follow-up of the course units.
Empfohlene Voraussetzungen (Module): ILSCM-01
Als Vorkenntnis empfohlene Module: none
Modulverantwortung: Prof. Dr. Thomas Korne
Dozent: Prof. Dr. Thomas Korne, others with logistical background
Lernziele/Kompetenzen: Course unit Logistics and Law: At the end of the course, the students will be able to <ul style="list-style-type: none">• appropriately use logistics terminology relevant for law,• explain the role and impact of government on the global transportation system,• describe the legal environment of logistical activities incl. transport documents, contracts, liabilities, dangerous goods, counterfeiting, custom & tariffs,• describe current policies, problems and issues of international logistics,• recognize basic aspects of contracting with logistics service providers. Course unit Industrial Logistics using the Example of the Automobile Industry: At the end of the course, the students will be able to <ul style="list-style-type: none">• appropriately use terminology of industrial logistics,• describe the functions of international procurement, return logistics, production planning and scheduling,• explain the basic production planning and scheduling process with sales and operation plan, master production schedule and material requirement planning.• describe tasks of purchasing department and system sourcing from external suppliers,• understand how material flow is synchronised in and in between companies,• explain the benefits of LLP & 4PL in the automotive industry. Course unit Air Cargo Platform Findel/Luxembourg: At the end of the course, the students will be able to <ul style="list-style-type: none">• appropriately use terminology of air cargo logistics,

- understand management practices and problems with respect to air cargo industry and the importance of air cargo service to the economy and to economic development,
- describe characteristics of the air cargo industry with regard to aircraft, facilities, alliances, regulations and market complexity,
- explain the effects of competition and liberalisation on air carriers, freight forwarders and third party providers,
- explain rate structures, tariff problems, aircraft requirements and terminal facility requirements.

Course unit Pharma and Healthcare Logistics:

At the end of the course, the students will be able to

- appropriately use terminology of pharma- und healthcare logistics,
- to understand the peculiarities in logistics of in pharma-companies and healthcare organisations, such as quality requirements, information systems and need for traceability
- to adapt their logistical knowledge to that business and recognize opportunities to improve and secure logistical processes.

Course unit Sustainable Logistics:

At the end of the course, the students will be able to

- appropriately use terminology of sustainable Logistics,
- describe the environmental impact of logistics and the developments in governmental regulations on logistics,
- explain the environmental and social requirements for sustainable logistics and how this will drive change in the business of SCM and international logistics,
- describe the need for compliance and social responsibility and the effects on supply chain management,
- describe available instruments for sustainable logistics.

Inhalt:

Course unit Logistics and Law:

- English terminology of law and logistics
- Regulation of the market at European and national level / influence of WTO
- The freedom to provide services within the EU transport policy
- Rules governing access to the transport activities
- Special items, e.g. IP rights, counterfeiting, dangerous goods, waste materials, animals
- Most common clauses and other important clauses (Incoterms 2010, choice of the law of the contract, judicial competence, HGB for Germany, CMR)
- Responsibility (with special consideration given to transportation)
- Tax and tariffs, customs clearance, e-customs, trends and development in taxation
- Relationship between indirect taxation and supply chains, tax optimisation
- International logistics security
- Logistic service contracting

Course unit Industrial Logistics using the Example of the Automobile Industry:

- English terminology of industrial logistics
- Classification and types of production
- Manufacturing and resource planning (PPS)
- Up-stream logistics
- Push- and Pull-systems
- Kanban
- Just-In-Time and Just-In-Sequence
- The supply chain pyramid of the Automobile Industry
- Logistic service providers in the Automobile Industry (LLP/4PL)
- International procurement
- Maintenance logistics
- Quality requirements in the Automobile Industry (ISO 9001, TS16949)

- On-site training and visit in the greater region

Course unit Air Cargo Platform Findel/Luxembourg:

- English terminology of air cargo logistics
- Carrier, consolidators and integrators
- Global and European cargo aviation business environment and statistics
- Major air cargo aircraft types and types of unit load devices (ULD)
- Special cargo and warehousing, bellyloading, split charter, consolidation charter, plain load charter and road feeder service, emergency uplift, air freight security
- Pricing and carrier strategies in air transportation, cargo terms and conditions
- Major air freight hubs and cargo airlines/alliances
- The role of ICAO, IATA, air cargo associations and their impact on future prospects of the air cargo industry
- Freedoms of the air
- The airwaybill
- Free zones
- Case study
- Outlook on aircargo development
- On-site visit at airport Findel/Luxembourg

Course unit Pharma and Healthcare Logistics

- English terminology of hospital and pharma logistics
- Added value of the hospital logistician
- Operational traceability in Logistics (RFID solutions)
- Logistical information and information systems
- Pharmaceutical logistics
- Quality requirements in the pharmaceutical supply chain HACCP, ISO 9001
- Case study hospital logistics
- Case study pharmaceutical logistics
- On-site training and visit in a hospital or company in the greater region

Course unit Sustainable Logistics:

- English terminology of green logistics
- Changing legal and social environment for logistics
- Green logistics within challenge and competitive advantage
- Carbon footprint and POLIS project
- Compliance and social responsibility
- Technological development of transportation modes
- Measures and actions for sustainable logistics
- Transparency as driver for green logistics (RFID/EPC, Track&Tracing)
- Urban logistics to reduce city traffic
- Outlook on future development of logistics
- Case studies

Literatur:

- Branch, Alan E.: Global Supply Chain Management and International Logistics, Routledge, New York, London, 2010.
- Christopher, M.. Logistics and Supply Management, 4th edition, Harlow, 2011.
- Krajewski, Lee J., Ritzman, Larry P., and Manoj K. Malhotra. Operations management, 10th edition, Upper Saddle River, N.J., Pearson Education, 2013.
- Chopra, S., Meindl, P.: Supply Chain Management, 4th edition, Upper Saddle River, NJ, 2010.
- Simchi-Levi, D., Kaminsky, P., Simchi-Levi, E.: Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies, 3rd edition, Boston, 2008.

Deutsche Fassung

Modul: Logistikprojekt und Colloquium

Modulbezeichnung: Logistics project and Colloquium
Modulbezeichnung (engl.): Logistics Project and Colloquium
Studiengang: Module Certificate "International Logistics and Supply Chain Management"
Code: ILSCM-03
SWS/Lehrform: 16h total contact time for Colloquium, logistics project of 134h
ECTS-Punkte: 5
Studiensemester: 2
Pflichtfach: Yes
Arbeitssprache: English
Prüfungsart: Written report (20 pages) and presentation (20 min + 10 min Q&A), with rating
Zuordnung zum Curriculum: ILSCM-03 Logistics Project and Colloquium (part of Module Certificate, 2 semesters), 2 nd semester, compulsory course
Arbeitsaufwand: Compulsory course attendance includes 16hours colloquium. Total time for this module is 150 hours with 5 ECTS points. Therefore, 134 hours are available for the project work and preparation of report and presentation.
Empfohlene Voraussetzungen (Module): ILSCM-01 ILSCM-02
Als Vorkenntnis empfohlene Module: none
Modulverantwortung: Prof. Dr. Thomas Korne
Dozent: Prof. Dr. Thomas Korne, others with logistical background
Lernziele/Kompetenzen: At the end of the course, the students will be able to <ul style="list-style-type: none">• Choose and deliver a practical project in a given period of time,• apply efficient communication skills with other team members,• provide a written project report,• provide a presentation in front of a trainer and, followed by a 10 minute discussion.
Inhalt: Project topics will be selected in a company by the participants in accordance with a trainer and should focus on current logistics issues. A trainer will supervise the participants. Final results of the project are written report of approx. 20 pages as well as a presentation (20 minutes) of the topic, the methodical approach and the results. The presentation will be followed by a 10 minutes question and answer session. If no practical project topic is available, a theoretic topic may be provided.
Literatur: <ul style="list-style-type: none">• Special literature provided by the supervising trainer