FRANKFURT UNIVERSITY OF APPLIED SCIENCES

Module handbook

for a consecutive master program in

Global Logistics

Master of Science (M.Sc.)
Fb 3: Business and Law

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1. Qualification objectives

Graduates of the Master's degree program in Global Logistics (M.Sc.) are qualified to pursue a professional career in nationally and internationally operating logistics companies and respective departments in all industries as well as corresponding associations and organizations or to pursue a doctorate.

They are able to identify current logistical challenges within the area of global trade and facing individual companies and have in-depth technical and methodological competence in the fields of logistics and transport economics.

Graduates are able to independently identify, analyze and develop solutions to complex issues and problems in various logistical sub-areas, particularly using the quantitative methodological skills in the areas of planning, coordination, scheduling and production, as well as in purchasing or distribution, and to develop practical solutions suitable for the real world. Using the reflection and judgement skills acquired in the program, they can interpret relevant findings and derive well-founded recommendations for action.

They are able to independently develop scientific questions based on the current state of research, derive research approaches, and to process and document them using scientific procedures and methods. Graduates can present their own research results and complex topics to members of both the business community and scientific community in a manner appropriate to the respective target group and exchange information with them in a manner relevant to the field. Even in new and unfamiliar situations they will be able to use their technical knowledge and IT skills to critically evaluate and weigh information and to draw practical conclusions that take transport economics, business and social aspects into account.

Through application-oriented logistical project work, graduates have learned to structure, manage, lead and take responsibility in cooperation with others. They are able to reflect on their own role in the team, assume that role and drive decision-making processes forward. This enables them to apply their practical and scientific knowledge independently and in a manner appropriate to the situation. Graduates can plan and carry out projects methodically supported at management level independently and act as consultants, project managers or executives.

These are important building blocks of their professional and personal development as well as their own entrepreneurial, social and ethical responsibility.

2. Module overview of degree program

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3. ECTS-/Workload overview

No.	Module Title	ECTS [CP]	Gewich-tung	Duration [Sem.]	Examination Type	Language
1	Selected Topics in Corporate Logistics	5	7/120	1	Project report (submission period 8 weeks) with group presentation (30 to 45 min. per person, 180 min. max. for the whole presentation)	English
2	Hub Logistics and Transport Logistics	5	7/120	1	Written examination (120 min.)	English
3	Selected Topics in Logistics and Economics	5	7/120	1	Project report (submission period 8 weeks) with presentation (15 to 30 min.)	English
4	IT-based Process Management with ERP-Systems	5		1	Project report (submission period 12 weeks) with presentation (15 to 30 min.); Grading: passed/not passed	English
5	International Trade and International Business Law	5	7/120	1	Written examination (120 min.)	English
6	Empirical and Quantitative Methods	5	7/120	1	Written examination (120 min.)	English
7	Supply Chain Management	5	7/120	1	Written examination (120 min.)	English
8	Research Project in Applied Logistics and Economics	10	14/120	1	Project report (submission period 8 weeks) with presentation (15 to 30 min.)	English
9	IT-Technology in Logistics	5	7/120	1	Partial examination 1: Written examination (60 min.) with a weighting of 50 % Partial examination 2: Project report (submission period 8 weeks) with group presentation (15 to 30 min. per person; 120 min. max. for the whole presentation) with a weighting of 50 %	English
10	General Framework in Transport Economics	5	7/120	1	Written examination (120 min.)	English
11	Change Management	5	7/120	1	Project report (submission period 6 weeks) with presentation (15 to 30 min.)	English
12	Simulation in Logistics	5	7/120	1	Project report (submission period 8 weeks) with presentation (15 to 30 min.)	English
13	Master Thesis with Colloquium	25	36/120	20 weeks	Master Thesis (submission period 20 weeks) with Colloquium (30 to 45 min.)	English
14	Praxis-Transfer-Project	30		1	Project report (submission period 20 weeks) with presentation (30 to 45 min.)	English

4. Module description

Module 1: Selected Topics in Corporate Logistics

Module title	Selected Topics in Corporate Logistics
Module number	1
Module code	30xx1401
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	1st Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 8 weeks) and group presentation (30 to 45 min. per person, max. 180 min. for the group)
Learning outcomes and skills	Students are able to illustrate and constitute procurement strategies as well as concepts of procurement logistics and basic principles of production-synchronous procurement at the same time of production. They are also able to execute determination apply methods of material requirements planning. Students can recognize as well as evaluate contrary the requirements of logistics and production. In particular, the students develop an understanding for the needs of production and how to implement those. Students understand value chain based organizational structures of companies and their corresponding logistical requirements (network structure, flow principles) and may describe logistical structures and contents. The participants analyse and describe logistic-related trends and strategies for the main industries plus the consequences on the (inter-) national logistics. Students enhance and deepen their knowledge along the value stream chain of companies and their logistical competencies while deepening their knowledge of the logistical function in the context of the procurement, production, distribution and removal. The students can describe and execute the methods of production planning and control as well as quality management. Students are capable of explain coherencies of outbound logistics planning (especially transport planning) and to overview operating figures of the outbound logistics. Through application-oriented logistical project work graduates have learned to structure, manage, lead and take responsibility in cooperation with others. They are able to reflect on their own role in the team, assume that role and drive decision-making processes forward.
Module contents	Selected Topics in Corporate Logistics
Module teaching methods	Seminar
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Kirstin Zimmer
Comments	None

Unit description of Module 1: Selected Topics in Corporate Logistics

Unit title	Selected Topics in Corporate Logistics
Code	30xx14011
Module title	Selected Topics in Corporate Logistics
Unit contents	Procurement Management • Procurement Concepts • Material Requirements Planning • Economic Order Quantity Model • Operational Procurement Processes • Material Supply Concepts • E-Procurement Distribution • Distribution Structure • Warehouse structures • Warehouse technology • Location Planning • Vehicle Routing • Special Trade Logistics Concepts • Demand Planning Reverse Logistics • Legal Requirements • Logistical Principles
Teaching methods	Seminar
Semester periods (hours) per week	4 SWS
Workload (h)	150
Class hours (h)	60
Total time of examination incl. preparation (h)	22
Total time of individual study (h)	60 (including supervision of lecturer)
Total time of practical training (h)	8
Unit language	English
Lecturer	Prof. Dr. Kirstin Zimmer and all other logistic professors
Recommended reading	Chopra, S., Meindl, P.: Supply Chain Management: Strategy, Planning, and Operation, Pearson Grant, D.B.: Logistics Management, Pearson Handfield et al.: Sourcing and Supply Management, Pearson Mangan, J., Lalwani C., Butcher T.: Global Logistics and Supply Chain Management, Wiley Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	The seminar will partly take place at the House of Logistics and Mobility. The seminar will be organized in group wise tasks which are organized in cooperation with companies. The presentations have to be attended by the entire class.

Module 2: Hub Logistics and Transport Logistics

Module title	Hub Logistics and Transport Logistics
Module number	2
Module code	30xx1402
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	1st Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Written examination (120 min.)
Learning outcomes and skills	Participating students will be able to achieve fundamental competencies in Hub and Transport Logistics. Students will be able to analyze systematically, evaluate and solve complex situations while planning or operating logistical ports using applicable methods. Expanding and deepening theoretical knowledge while implementing practical tests with logistical problems the students will train their social skills and organization method during the group work. This is done by performing case studies as well as workshops with companies. With the aid of decision support systems to develop solutions, students can not only discuss alternative solutions but also evaluate those. Working out case studies in common strengthens social skills of the students. Improving cooperation and communication skills and training their conflict ability.
Module contents	Selected content of Hub Logistics Transport Logistics
Module teaching methods	Seminar
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Susanne Koch
Comments	The seminar will partly take place at the HOLM (House of Logistics and Mobility). Excursions and external experts support the learning outcome.

Unit description of Module 2: Hub Logistics and Transport Logistics

Unit title	Selected content of Hub Logistics
Code	30xx14021
Module title	Hub Logistics and Transport Logistics
Content of unit	The focus of this unit is the area of hubs (e.g. airports, transshipment facilities, terminals, ports) from the company's point of view. Besides material and information flows there also will be discussed processes regarding aspects like layouts, company strategies, resource and planning issues. In addition, the management of handling agents (product/program planning, resource and personnel planning, cost accounting and controlling) and possible applications of information and communication technologies (tracking and tracing, data collection and evaluation) are covered.
Teaching methods	Seminar
SWS of Unit	2 SWS
Total workload	75 h
Attendance Time	30 h
Part of exam time incl. exam preparation	15 h
Independent study	30 h
Practical time	0 h
Language of the module of Unit	English
Lecturers	Prof. Dr. Susanne Koch, other logistic professors or assistant lecturers
Literature	Christopher, M.: Logistics & Supply Chain Management, Pearson Goldsby, T.: Definitive Guide to Transportation, Principles, Strategies, and Decisions for the Effective Flow of Goods and Services, Pearson Current editions
Type of performance record of Unit	
Evaluation of performance record of Unit	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Further information	None

Unit description of Module 2: Hub Logistics and Transport Logistics

Unit title	Transport Logistics
Code	
Module title	Hub Logistics and Transport Logistics
Unit contents	Core Areas of transport Logistics Infrastructure, Technologies, Services, Information and Communication Technologies in traffic, port and airport ▪ Development of the Transport Industry, ▪ Basic Knowledge of the Traffic Industry, ▪ Transport Mode, ▪ Transport Infrastructure, ▪ Transport Vehicle, ▪ Legal Fundaments, ▪ Transport Markets, ▪ Service Creation and Traffic Service, Public Transport
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	15
Total time of individual study (h)	30
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Susanne Koch, other logistic professors or assistant lecturers
Recommended reading	Christopher, M.: Logistics & Supply Chain Management, Pearson Goldsby, T.: Definitive Guide to Transportation, Principles, Strategies, and Decisions for the Effective Flow of Goods and Services, Pearson Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 3: Selected Topics in Logistics and Economics

Module title	Selected Topics in Logistics and Economics
Module number	3
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	1st Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 8 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	Students are able to select, apply, analyze and present results of appropriate logistic and supply chain models to solve diverse complex practical business problems. They are able to implement the models using computational tools and popular spread sheet programs according to accepted standards for systematic and structured modelling, and automate procedures to obtain the required results. Students learn about different logistic concepts and economic models and how to adjust logistic models dependent on the respective cause of problem. The computational and implementational approach deepens the understanding of the potentials and limitations of the basic models and enhances problem-solving and creative thinking skills. The students apply themselves to demanding topics in the logistics and economics, sharpen their scientific and technical expertise as well as develop research questions and topics based on demanding projects from companies in relation to original literature.
Module contents	Selected Topics in Logistics and Economics
Module teaching methods	Seminar type course with case studies
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Kai-Oliver Schocke
Comments	None

Unit description of Module 3: Selected Topics in Logistics and Economics

Unit Title	Selected Topics in Logistics and Economics
Code	
Module title	Selected Topics in Logistics and Economics
Unit contents	In this module, the class learns to read, understand, discuss and present the results of scientific articles. The students are guided to learn the requirements of scientific papers. The content of this module spans over the entire content of this master program: logistics, economics and business informatics and will be taught by the respective colleague.
Teaching methods	Research Seminar
Semester periods (hours) per week	4 SWS
Workload (h)	150
Class hours (h)	60
Total time of examination incl. preparation (h)	30
Total time of individual study (h)	60
Total time of practical training (h)	0
Unit language	English
Lecturer	Logistic and economic Professors of the faculty, associate lecturers
Recommended reading	Will be published during course
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 4: IT based Process Management with ERP-Systems

Module title	IT based Process Management with ERP-Systems
Module number	4
Module code	30651304
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	1st Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 12 weeks) with presentation (15 to 30 min.); Grading: passed / not passed
Learning outcomes and skills	The students acquire deepened knowledge in the area of applied business process management and selected logistical processes. They are able to document, classify and analyze essential processes in this area. Students know and are proficient to use the methods of designing decision and business processes and the methods to implement them in an ERP-system, especially with SAP. In particular, they will gain practical experiences by performing the case studies at a computer system. The students are able to reflect own thoughts and methods and compare them critically performing team exercises. They have a method competency in analysis and synthetically ability to transform learnt knowledge into practice. They are also able to identify and analyze problems and errors caused by implementing decision and business processes and solve those if necessary. The students present project plans, methods and solutions to an expert audience and reflect and discuss different views of processes.
Module contents	IT based Process Management with ERP-Systems
Module teaching methods	Seminar
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Ralf Banning, Prof. Dr. Judith Winter
Comments	None

Unit description of Module 4: IT based Process Management with ERP-Systems

Unit title	IT based Process Management with ERP-Systems
Code	
Module title	IT based Process Management with ERP-Systems
Unit contents	IT-based modelling of business and decision processes. ERP-case studies focussing on logistics (e.g. sales, materials management, production planning and, where appropriate, corresponding areas like controlling, finance or human resources). The cases studies will be performed on a market-leader ERP system (e.g. SAP). The project deliverable requires the practical implementation of the required objects in the ERP system, a documentation of the case studies in written form and a presentation of the final result or intermediate status of work.
Teaching methods	Seminar
Semester periods (hours) per week	4 SWS
Workload (h)	150
Class hours (h)	60
Total time of examination incl. preparation (h)	30
Total time of individual study (h)	60
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Ralf Banning, Prof. Dr. Judith Winter, external lecturers
Recommended reading	Krishnamoothy, V. and Carvalho, A.: Discover SAP, SAP Press, ISBN 978-1-59229-987-4 Kurbel. K. E.: Enterprise Resource Planning and Supply Chain Management: Functions, Business Processes and Software for Manufacturing Companies, Heidelberg: Springer, ISBN 978-3-64231-572-5 Manish P.: Discover SAP ERP Financials, SAP Press, ISBN 978-1-59229-429-9 Murray, M.: Discover Logistics with SAP. SAP Press, ISBN 978-1-59229-926-3 Murray, M.: Understanding the SAP logistics information system, Galileo Press Current editions
Assessment type and form	
Assessment grading	Grading passed / not passed according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	Integrated practical exercises („hands on“) and the explorative teaching form are key characteristics of this unit.

Module 5: International Trade and International Business Law

Module title	International Trade and International Business Law
Module number	5
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	1st Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Written examination (120 min.)
Learning outcomes and skills	Students will be able to analyze the development of the world economy in the 21st century based on relevant models of international trade, including new theoretical approaches. Particularly, they will understand the links between foreign trade (economic openness), technological dynamics and economic growth. Students will be able to illustrate and explain the legal principles of the European integration process, the decision procedures of the EU institutions and the functioning of the Single European Market. They have learned to deal with conflict of laws in business transactions and to interpret the principles of Private International Law and World Trade Organization law. Students have trained their ability of analytical thinking and formal structure thinking. They are able to discuss and evaluate consequences of economic and legal fundaments connecting to operating processes and possible means of action.
Module contents	International Trade International Business Law
Module teaching methods	Seminar
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Andreas Lueg-Arndt
Comments	None

Unit description of Module 5: International Trade and International Business Law

Unit title	International Trade
Code	
Module title	International Trade and International Business Law
Unit contents	Foreign Trade Theory: technological differences and comparative advantage; factor endowment and foreign trade; returns to scale; foreign trade and internationalization of the production. Foreign Trade Policy: tools of the trade policy (duties, import rate, ex-port restrictions and their impacts); economic integration (preference zone, free trade zone, tariff union, common market); multilateral trade policy (GATT;GATS;TRIPS; WTO).
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	15
Total time of individual study (h)	30
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Andreas Lueg-Arndt, professors from faculty and assistant lecturers
Recommended reading	Krugman, Obstfeld and Melitz: International Economics – Theory and Policy, Pearson Carbaugh: Global Economics, South Western Love and Lattimore: International Trade – Free, Fair and Open? OECD Insight, OECD Publishing Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	

Unit description of Module 5: International Trade and International Business Law

Unit title	International Business Law
Code	
Module title	International Trade and International Business Law
Unit contents	International Business Law: Private International Law, European Regulations (Rome I, Rome II, Brussels I, Brussels II) , CSIG, WTO law. European Business Law: Legal and institutional framework of the EU, relation between Union law and national legislation, role of legal integration, acquis communautaire, Lisbon Treaty
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	15
Total time of individual study (h)	30
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Domenik Wendt, professors from faculty and assistant lecturers
Recommended reading	Briggs: The Conflict of Laws, Oxford University Press Van Calster: European Private International Law, Hart Publishing Collier and Rogerson: Collier's Conflict of Laws, Cambridge University Press Van den Bossche and Zdouc: The Law and Policy of the World Trade Organization, Cambridge University Press Lester and Mercurio: World Trade Law, Hart Publishing Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 6: Empirical and Quantitative Methods

Module title	Empirical and Quantitative Methods
Module number	6
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	1st Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Written examination (120 min.)
Learning outcomes and skills	The students know quantitative and qualitative methods of economic and social sciences and are able to adopt those into practice. They have learned to structure and analyze optimization problems in logistics. They are able to describe optimization problems in mathematical terms and have mastered mathematical optimization techniques to solve these problems. Based on the mathematical solution, they are able to draw practical conclusions that take economics and social aspects into account. Furthermore students are able to define and answer empirical questions. They are able to propose hypotheses and derive predictions from evidence collected. They use statistical formulas and methods of result analysis to forming logical, valid conclusions.
Module contents	Methods in Empirical Research Quantitative Methods in Logistics
Module teaching methods	Seminar
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Kirstin Zimmer
Comments	None

Unit description of Module 6: Empirical and Quantitative Methods

Unit title	Methods in Empirical Research
Code	
Module title	Empirical and Quantitative Methods
Unit contents	Theoretical basic knowledge of empirical research Introduction into empirical economic and social sciences. Basic knowledge of market research Logistical research planning and processing empirical operations Overview of different methods and used statistical techniques • Qualitative vs. quantitative methods in economic and social sciences • Methods of verifying and justifying theories and hypothesis • Survey methods, questionnaire construction, preparation and performance of questioning Base of research, preparation and analysis of secondary data Analysis methods of competitive intelligence Methods of result analysis corresponding data interpretation, preparation and presentation Use of empirical analysis methods
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75 h
Class hours (h)	30 h
Total time of examination incl. preparation (h)	15 h
Total time of individual study (h)	30 h
Total time of practical training (h)	0 h
Unit language	English
Lecturer	Prof. Dr. Martin Harsche and assistant lecturers
Recommended reading	Will be published during course
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Unit description of Module 6: Empirical and Quantitative Methods

Unit title	Quantitative Methods in Logistics
Code	
Module title	Empirical and Quantitative Methods
Unit contents	Linear optimization, examples: production planning, transport problems, vehicle routing (travelling salesman problem), location planning, over-view of solution algorithms, outlook of non-linear programing. Graphs, trees, network, network plan, examples: critical path analysis, logistical networks. Queuing models Linear optimization, examples: production program planning, transport problems, mixture problems, travelling salesman problem, overview of solution algorithms, outlook of non-linear programing. Graphs, trees, network, network plan, examples: critical path analysis, logistical networks. Queuing theory, examples: logistical chain.
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	15
Total time of individual study (h)	30
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Kirstin Zimmer and assistant lecturers
Recommended reading	Taha, H.A.: Operations Research – An Introduction, Pearson Heizer, J., Render, B.: Operations Management, Pearson Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 7: Supply Chain Management

Module title	Supply Chain Management
Module number	7
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	2nd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	Module 1 and 2
Module prerequisites	None
Module examination requirements	None
Module examination	Written examination (120 min.)
Learning outcomes and skills	The students acquire a deepened understanding of problems in supply chain design and coordination. They become acquainted with established approaches how to tackle those issues and with the existing academic research addressing this problem area. The students have the ability to analyze and optimize integrated, efficient and flexible processes including customers, suppliers, manufacturers and service providers. Their competence to optimize processes will be strengthened. According to the requirements of companies, who are linked to each other through an economical and technical chain, the students achieve a cross-company view on the Supply Chain. Self-depended usage and enhancement of functional skills; valuated analysis of organization and functions. The lecture course addresses fundamental topics in supply-chain design and coordination and is featuring a range of operations from research/management science approaches to the associated decision making via mathematical modelling and model-based analysis. • Building a strategic framework to analyze supply Chains • Designing the supply chain network • Planning and coordinating demand and supply in a supply chain • Planning and managing inventories in a supply chain • Designing and planning transportation networks • Managing cross-functional drivers in a supply chain The students learn social competence through the joint preparation of smaller and bigger case studies. They improve their cooperational and communicational skills and possess better conflict handling skills.
Module contents	Supply Chain Management
Module teaching methods	Seminar
Module language	English
Module availability	Each summer semester
Module coordination	Prof. Dr. Kai-Oliver Schocke
Comments	Lecture will take place at the HOLM (House of Logistics and Mobility).

Unit description of Module 7: Supply Chain Management

Unit Title	Supply Chain Management
Code	
Module title	Supply Chain Management
Unit contents	The lecture course addresses fundamental topics in supply chain design and coordination and is featuring a range of operations from research/management science approaches to the associated decision making via mathematical modelling and model-based analysis • Building a strategic framework to analyze supply Chains • Designing the supply chain network • Planning and coordinating demand and supply in a supply chain • Planning and managing inventories in a supply chain • Designing and planning transportation networks • Managing cross-functional drivers in a supply chain
Teaching methods	Seminar
Semester periods (hours) per week	4 SWS
Workload (h)	150
Class hours (h)	60
Total time of examination incl. preparation (h)	30
Total time of individual study (h)	60
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Kai-Oliver Schocke, logistic Professors of the faculty, associate lecturers
Recommended reading	Chopra, S., Meindl, P.: Supply Chain Management, Pearson Mangan, J. et. al.: Global Logistics and Supply Chain Management, Wiley Stadtler, H.; Kilger, C.; Meyr, H.: Supply Chain Management and Advanced Planning, Springer Stadtler, H., et. al.: Advanced Planning in Supply Chains, Springer Harvard Case Studies Current edition
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 8: Research Project in Applied Logistics and Economics

Module title	Research Project in Applied Logistics and Economics
Module number	8
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	2nd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	10 / 300
Recommended previous knowledge	Module 3
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 8 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	Students are able to select, apply, analyze, present and work independently on selected models in logistics and economics. They are able to adopt results of research paper to practical problems and to enhance the findings, recently. Students learn about different logistic concepts and economic models and how to adjust logistic models dependent on the respective cause of problem. The approach of this module deepens the understanding of the potentials and limitations of the extended models from scientific papers and enhances problem-solving and creative thinking skills. The students apply themselves to demanding topics in the logistics and economics, sharpen their scientific expertise as well as improve their scientific writing and presentation skills. Through application-oriented logistical project work, students have learned to structure, manage, lead and take responsibility in cooperation with others. They are able to reflect on their own role in the team, assume that role and drive decision-making processes forward. This enables them to apply their practical and scientific knowledge independently and in a manner appropriate to the situation. Graduates can plan and carry out projects methodically supported at management level independently and act as consultants, project managers or executives.
Module contents	Research Project in Applied Logistics and Economics
Module teaching methods	Project work with team coaching
Module language	English
Module availability	Each summer semester
Module coordination	Prof. Dr. Kai-Oliver Schocke
Comments	None

Unit description of Module 8: Research Project in Applied Logistics and Economics

Unit title	Research Project in Applied Logistics and Economics
Code	
Module title	Research Project in Applied Logistics and Economics
Unit contents	The task is typically in line with the reality of a company or another institution and the project can be conducted in collaboration with such an institution. The cases have to be solved according to academic and scientific standards and will generally contain empirical and theoretical components. Data collection can be an integral part of the project.
Teaching methods	Project work with team coaching
Semester periods (hours) per week	4 SWS
Workload (h)	300
Class hours (h)	60
Total time of examination incl. preparation (h)	60
Total time of individual study (h)	60
Total time of practical training (h)	120
Unit language	English
Lecturer	Prof. Dr. Kai-Oliver Schocke, logistic professors of the faculty, associate lecturers
Recommended reading	Will be published during course
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 9: IT-Technology in Logistics

Module title	IT-Technology in Logistics
Module number	9
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	2nd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	Module 4
Module prerequisites	None
Module examination requirements	None
Module examination	Partial examination 1: Written examination (60 min.) with a weighting of 50 % Partial examination 2: Project report (submission period 8 weeks) with group presentation (15 to 30 min. per person; 120 min. max. for the whole presentation) with a weighting of 50 %
Learning outcomes and skills	Professional skills: Students will • receive an overview on major information systems used in the logistics domain such as Advanced Planning Systems (APS) • be able to understand and apply different types of data exchange formats (XML, EDI, product classification etc.) and to analyze data structures of typical case data in the logistics domain • analyze and describe processes, e.g., used in APS systems, in process modeling languages (BPMN) Key skills: Students will work in groups • developing solution approaches and design specifications for Information Systems in selected areas of the logistics domain • applying the acquired knowledge on data structures, data transformation techniques and process modelling; alternatively, students will analyze the impact of new technology and frameworks (e.g., Big Data, Block Chain, ITIL, SCRUM) • applying project management methods to a specific problem and communicate project status and requirements within IT projects.
Module contents	Advanced Planning Systems Information Systems in Logistics
Module teaching methods	Seminar
Module language	English
Module availability	Each summer semester
Module coordination	Prof. Dr. Markus Grüne
Comments	None

Unit description of Module 9: IT-Technology in Logistics

Unit title	Advanced Planning Systems
Code	
Module title	IT-Technology in Logistics
Unit contents	Application of quantitative methods to solve logistical problems supported by software (e.g. planning function of SAP SRM) Overview, classification and attributes of ERP and APS systems Evaluation and limitations of the application for the logistical area and the supply chain management Case Study based on ERP or SCM Tool (SAP SCM)
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	10
Total time of individual study (h)	27
Total time of practical training (h)	8
Unit language	English
Lecturer	Prof. Dr. Markus Grüne, professors of the faculty, associate lecturers
Recommended reading	Stadtler, H./Kilger, C.: Supply Chain Management and Advanced Planning, Springer Stadtler, H.,: Advanced Planning in Supply Chains, Springer Dickersbach, J. T.: Supply Chain Management with SAP APO, Springer SCM case study university competence center Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	Associate lecturer: Klaus Hamp (Ernst & Young Wirtschaftsprüfungsgesellschaft mbH) Ernst & Young Certificate after successful completion

Unit description of Module 9: IT-Technology in Logistics

Unit title	Information Systems in Logistics
Code	
Module title	IT-Technology in Logistics
Unit contents	Data structure in logistics, analysis and application of logistical information systems. • Application software in logistics • Typical data types and structure in logistics (XML, EDI, Product Code standards, etc.) • Conception of structures for data analysis, e.g., Business Intelligence systems • Data transformation between systems and for reporting purposes (Extract Transform Load, Data supply chains) • Hands-on application of data analysis using state-of-the-art analytics software (e.g., Microsoft Power BI, Tableau) • Process modeling fundamentals with BPMN and methods for process optimization
Teaching methods	Seminar, practice, group work, presentations
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	10
Total time of individual study (h)	27
Total time of practical training (h)	8
Unit language	English
Lecturer	Prof. Dr. Markus Grüne, professors of the faculty, associate lecturers
Recommended reading	Grus, J.: Data Science from Scratch, O'Reilly Han, J., Kamber, M., Pei, J.: Data Mining – Concepts and Techniques, Morgan Kaufmann Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Module 10: General Framework in Transport Economics

Module title	General Framework in Transport Economics
Module number	10
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	2nd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	Module 5
Module prerequisites	None
Module examination requirements	None
Module examination	Written examination (120 min.)
Learning outcomes and skills	The students know and are able to apply the basic models to analyze transport markets and transport industries. They can judge the relevance of these approaches for business as well as for economic decisions. The students know and can use the tools of economic geography to explain where economic activities occur. Furthermore, they can assess the relevance of spatial networks, agglomerations, core and periphery structures for business and economic processes and decisions. The students can apply abstract theoretical models to analyze complex processes and to reach decisions. They can adapt abstract theoretical models to concrete real-life decision processes.
Module contents	Transport Economics Economic Geography
Module teaching methods	Seminar
Module language	English
Module availability	Each summer semester
Module coordination	Prof. Dr. Andreas Lueg-Arndt
Comments	None

Unit description of Module 10: General Framework in Transport Economics

Unit Title	Transport Economics
Code	
Module title	General Framework in Transport Economics
Unit contents	Introduction: Transport and Economics Transport, Transport Markets, and the Transport Industries The Demand for Transport The Direct Costs of Transport The External Costs of Transport Pricing of Transport Services Containing the Environmental Costs of Transport Economics of Transport Logistic Transport and Development
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	15
Total time of individual study (h)	30
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Andreas Lueg-Arndt, Professors from the faculty, associate lecturers
Recommended reading	Braeutigam, R. R.: Learning About Transport Costs, in: Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer, José A. Gómez-Ibáñez, William B. Tye, and Clifford Winston, editors, The Brookings Institution Button, K.: Transport Economics, Cheltenham, UK; Northampton, MA, USA Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Unit description of Module 10: General Framework in Transport Economics

Unit Title	Economic Geography
Code	
Module title	General Framework in Transport Economics
Unit contents	Traditional Economic Geography: Traditional Location Theory; Modeling Economic Geographies New Economic Geography: Conceptual Foundations and Basic Models (Monopolistic Competition, Transport Costs, Core and Periphery) Making the Spatial Economy: Cities, States, Countries; Mobility of Goods and Production Factors (Labor and Capital) Organizing Economic Space: Commodity Chains; Technological Change; International Trade; Transnational Corporations Agglomerations and Clusters
Teaching methods	Seminar
Semester periods (hours) per week	2 SWS
Workload (h)	75
Class hours (h)	30
Total time of examination incl. preparation (h)	15
Total time of individual study (h)	30
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Andreas Lueg-Arndt, Professors from the faculty, associate lecturers
Recommended reading	Coe, N.M., Kelly, P.F., Yeung, H.W.C.: Economic Geography: A Contemporary Introduction, Malden, MA, USA; Oxford, UK, Victoria, AUS Fujita, M., Krugman, P., Venables, A. J.: The Spatial Economy, Cambridge, MA, USA; London, UK Wood, A.: Economic Geography, New York Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	Associate lecturer: Thomas Braun at the HOLM (House of Logistics and Mobility)

Module 11: Change Management

Module title	Change Management
Module number	11
Module code	30651311
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	2nd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 6 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	The students are able to • Understand the importance of change and the difference to stability • Be aware of the connection between management and change • Describe all different types of change and the connection to consequences of the working environment • Identify and apply the different types of change in daily business • Recognize the necessity of change in daily business • Apply change management processes and concepts • Identify barriers of change • Understand the phenomenon, reasons and consequences of conflicts • Deal with different type of conflicts and use conflict management tools Students will be sensitized identifying and solving possibilities and challenges involved by an organizational change process. They are able to identify change concepts and transfer them into real situations or case studies as well as to evaluate the results. They are also able to work successfully in a team and can apply the learnt conflict and change concepts to achieve a productive teamwork while performing numerous exercises during class hours.
Module contents	Change Management
Module teaching methods	Project work
Module language	English
Module availability	Each summer semester
Module coordination	Prof. Dr. Martina Voigt
Comments	The lecture will take place at the HOLM (House of Logistics and Mobility).

Unit description of Module 11: Change Management

Unit title	Change Management
Code	
Module title	Change Management
Unit contents	• Impact of Change and Stability • Relation of Management and Change • Types of Change • Models of Change • Causes of Change • Implementation of Change Management Processes
Teaching methods	Seminar
Semester periods (hours) per week	4 SWS
Workload (h)	150
Class hours (h)	60
Total time of examination incl. preparation (h)	30
Total time of individual study (h)	60
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Martina Voigt und Konstantin Montasem
Recommended reading	Cameron, E., Green, M.: Making Sense of Change Management: A complete guide to the models, tools & techniques of Organizational Change, Kogan Page Carnall, C.A.: Managing Change in Organizations, Prentice Hall Hayes, J.: The Theory and Practice of Change Management, Palgrave Macmillan; Jick, T.D., Peiperl, M.A.,: Managing Change, Cases and Concepts, McGraw-Hill Kotter, J. P.: Leading Change, Harvard Business School Press Current editions Additional literature will be published
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	Associate lecturer: Konstantin Montasem (Innergy GmbH)

Module 12: Simulation in Logistics

Module title	Simulation in Logistics
Module number	12
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	3rd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	5 / 150
Recommended previous knowledge	Module 1, Module 2, Module 7
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 8 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	The students • Know the basic structure of event based simulation models • Own the ability to use computer based simulation systems • Are able to structure and implement simulation cases according to a specific methodology • Have a deeper understanding of logistical problems and know the importance of and apply statistical methods for modelling and analysis of simulation studies • Are able to explain and use the link between simulation and meta-heuristical algorithms and are able to characterize simulation software
Module contents	Simulation in Logistics
Module teaching methods	Seminar
Module language	English
Module availability	Each winter semester
Module coordination	Prof. Dr. Kai-Oliver Schocke
Comments	The lecture will take place at the HOLM (House of Logistics and Mobility).

Unit description of Module 12: Simulation in Logistics

Unit title	Simulation in Logistics
Code	
Module title	Simulation in Logistics
Unit contents	Simulation of logistic systems are a cross-sectional area. It links expertise from logistics and production as well as operations research with knowledge in mathematics and statistics / computer science. Basis in event-based simulation • Random numbers • Procedure model in simulation • Statistical methods for modelling and analysis • Case studies in simulation software
Teaching methods	Seminar
Semester periods (hours) per week	4 SWS
Workload (h)	150
Class hours (h)	60
Total time of examination incl. preparation (h)	30
Total time of individual study (h)	60
Total time of practical training (h)	0
Unit language	English
Lecturer	Prof. Dr. Kai-Oliver Schocke and professors of the faculty and associate lecturers
Recommended reading	Law (2006): Simulation Modelling and Analysis Banks, Carson, Nelson (2005): Discrete-Event Simulation Manuals for Plant Manager / Siemens Current editions
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	Associate lecturer: Dr. Burges (Board Member of SimPlan AG)

Module 13: Master Thesis with Colloquium

Module title	Master Thesis with Colloquium
Module number	13
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	3rd Semester
Module type	Compulsory module
ECTS-Credits (CP) / Workload (h)	25 / 750
Recommended previous knowledge	None
Module prerequisites	Min. 50 ECTS-points
Module examination requirements	Min. 50 ECTS-points
Module examination	Master Thesis (submission period 20 weeks) with Colloquium (30 to 45 min.)
Learning outcomes and skills	The master thesis is a supervised final dissertation in a certain period proving the candidate's ability to apply scientific methods on a base of deepened or specialized knowledge in the field of logistics. Editing problem solutions, present final results and justify those results. The master thesis is a written scientific paper.
Module contents	The students can choose topics. The topic should be interdisciplinary and with a business administrative, macroeconomic or traffic economic orientation.
Module teaching methods	
Module language	English
Module availability	Each semester
Module coordination	Prof. Dr. Kai-Oliver Schocke
Comments	None

Unit description of Module 13: Master Thesis with Colloquium

Unit title	Master Thesis with Colloquium
Code	
Module title	Master Thesis with Colloquium
Unit contents	Depending on the individual topic of the master's thesis
Teaching methods	Independent work
Semester periods (hours) per week	
Workload (h)	750
Class hours (h)	0
Total time of examination incl. preparation (h)	720 (Completion time of master thesis) 30 (Colloquium preparation)
Total time of individual study (h)	
Total time of practical training (h)	0
Unit language	
Lecturer	Entitled examiners of the faculty
Recommended reading	
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None

Additional Module 14: Praxis-Transfer-Project

Module title	Praxis-Transfer-Project
Module number	14
Module code	
Study program	Global Logistics (M.Sc.)
Module usability	
Module duration	1 Semester
Recommended semester	
Module type	Additional module for students with a grade in a 180 ECTS-Credits (CP) Bachelor
ECTS-Credits (CP) / Workload (h)	30 / 900
Recommended previous knowledge	None
Module prerequisites	None
Module examination requirements	None
Module examination	Project report (submission period 20 weeks) with presentation (30 to 45 min.)
Learning outcomes and skills	The students are able to reflect the in studies acquired knowledge and method competencies. They can discuss practical examples from the business administrative area and connect those into their theoretical knowledge as well as either way relevance of content and methods. Students improve their argumentation ability. Students perform an own reflectional process and get to know a reflectional method. They are able to identify and analyze theoretical developments and classify those into practice. They recognize the aim of an academic education and can transfer scientific method's competencies into practice. They are able to reflect and compare critically own considerations and procedures. They acquire self-employed and independently knowledge and confront critically their own theoretical learning progresses.
Module contents	Praxis-Transfer-Project
Module teaching methods	Project
Module language	English
Module availability	Each semester
Module coordination	Prof. Dr. Kai-Oliver Schocke
Comments	None

Unit description of Module 14: Praxis-Transfer-Project

Unit title	Praxis-Transfer-Project
Code	
Module title	Praxis-Transfer-Project
Unit contents	The students are able to reflect the in studies acquired knowledge and method competencies. They can discuss practical examples from the business administrative area and connect those into their theoretical knowledge as well as either way relevance of content and methods. Students improve their argumentation ability. Students perform an own reflectional process and get to know a reflectional method. They are able to identify and analyze theoretical developments and classify those into practice. They recognize the aim of an academic education and can transfer scientific method's competencies into practice. They are able to reflect and compare critically own considerations and procedures. They acquire self-employed and independently knowledge and confront critically their own theoretical learning progresses.
Teaching methods	Project
Semester periods (hours) per week	2 SWS
Workload (h)	900
Class hours (h)	30
Total time of examination incl. preparation (h)	370
Total time of individual study (h)	0
Total time of practical training (h)	500
Unit language	English
Lecturer	Prof. Dr. Kai-Oliver Schocke
Recommended reading	The standard literature recommended in the corresponding modules and the supplemental literature relevant for the respective field of practice.
Assessment type and form	
Assessment grading	Differentiated grading according to the general regulations for the bachelor and master degrees of the Frankfurt UAS
Comments	None