

Module Description Quantitative Management Methods & Value Chain Management

Identifier	Category	Details / Content
General Information		
1.1	Module name	Quantitative Management Methods & International Value Chain Management
1.2	Contained courses	a) Quantitative Management Methods (QMM) b) Intentional Value Chain Management (IVCM)
1.3	Module code	MSB.2.0124.0.V.1 (IVCM) MSB.2.0124.0.V.2 (QMM Seminar) MSB.2.0124.0.V.3 (QMM Tutorium)
Timing		
2.1	Frequency of offer	Winter semester
2.2	Attend in which semester	in 1st. semester (for first semester students) in 2nd. Semester (for second semester students) Incoming students
Link to study programs		
3.1	Offered in study program	Master International Marketing and Sales
3.2	Mandatory courses in module or Electives	Mandatory
Workload		
4.1	Lecture form a) QMM Lecture form b) VCM	Seminarian lessons Seminarian lessons
4.2	Contact time a) QMM Contact time b) VCM	2 semester weekly hours = 30 hours per semester 2 semester weekly hours = 30 hours per semester
4.3	Self-study time a) QMM Self-study time b) VCM	60 hours per semester 60 hours per semester
4.4	Total workload	180 hours
4.5	Workload in credits	6 ECTS
Intended learning outcomes & learning content		
Intended learning outcomes a) QMM		
	ILO QMVCM 1	Graduates have the ability to apply the acquired specialist knowledge to practical problems.
	ILO QMVCM 2	Graduates can critically reflect for which problems and under which conditions which subject-specific methods and systems can be used.
	ILO QMVCM 3	Graduates can present their results in a targeted manner.

Contribution of module ILOs to study programme ILOs (only most relevant contribution is highlighted)

→	A1	Graduates can apply theoretical knowledge of the international marketing & sales discipline enabling them to take decisions on the development of appropriate strategies and measures solving business problems within a changing multicultural environment, to meet stakeholder interests in for example: marketing conception, sales management, international management, and business innovation.
→	K2	Graduates can prepare effective decision taking by identifying knowledge gaps, formulating research questions for e.g. analysing customers or international markets, selecting and using appropriate quantitative and qualitative skills , making use of suitable communication and information systems, demonstrating cognitive skills of critical thinking, analysis and synthesis in order to derive strategic and operational recommendations for action in the professional fields of international marketing & sales.
→	S1	Graduates can effectively communicate in English or in the teaching language of their study abroad country on advanced academic and professional level , oral and in writing, in person and using a range of media and communication systems, which are widely used in business. They can precisely represent their own views and convictions in discussions in a natural - looking manner and act and react in socially adequate ways in intercultural, negotiation and ethically demanding situations .

5.1	ILO QMVCM 4	Graduates can classify Quantitative Management Standard Software Tools and critically evaluate their uses.
	ILO QMVCM 5	Graduates can apply empirical research methods.
	ILO QMVCM 6	Graduates can use and evaluate forecasting models to optimize decision-making.
	ILO QMVCM 7	Graduates can use multivariate analysis techniques to solve business problems.
	ILO QMVCM 8	Graduates can discuss digital business models.
	ILO QMVCM 8	Graduates can develop a multivariate analysis in Python
Intended learning outcomes b) IVCM		
5.1	ILO QMVCM 9	Graduates can explain challenges in international corporate networks and the relationship between departments behaviour, company strategy and supply chain strategy.
	ILO QMVCM 10	Graduates can apply methods and tools of (international) transport network planning, evaluate their effectiveness and efficiency in terms of cost, time, quality and emissions.
	ILO QMVCM 11	Graduates are able to evaluate logistics variables in the field of transport, handling and storage.
	ILO QMVCM 12	Graduates can understand and plan international business processes (especially distribution processes) in (and between companies) and continually measure and optimize performance based on metrics.
Learning content a) QMM		
5.2	Learning content 1	Introduction to Quantitative Analyses
	Learning content 2	Empirical research methods
	Learning content 3	Segmentation methods
	Learning content 4	Multiple forecasting models
	Learning content 5	Digital business models
Learning content b) IVCM		

➔	K2	Graduates can prepare effective decision taking by identifying knowledge gaps, formulating research questions for e.g. analysing customers or international markets, selecting and using appropriate quantitative and qualitative skills , making use of suitable communication and information systems, demonstrating cognitive skills of critical thinking, analysis and synthesis in order to derive strategic and operational recommendations for action in the professional fields of international marketing & sales.
➔	K3	Graduates can conduct research into business and management issues, either individually or as part of a team for projects / thesis / presentations. They can apply research methods appropriate to the research question, critically evaluate the quality of their work and scientific contribution and create a publication-ready Master's thesis.
➔	A1	Graduates can apply theoretical knowledge of the international marketing & sales discipline enabling them to take decisions on the development of appropriate strategies and measures solving business problems within a changing multicultural environment, to meet stakeholder interests in for example: marketing conception, sales management, international management, and business innovation.
➔	A1	Graduates can apply theoretical knowledge of the international marketing & sales discipline enabling them to take decisions on the development of appropriate strategies and measures solving business problems within a changing multicultural environment, to meet stakeholder interests in for example: marketing conception, sales management, international management, and business innovation.
➔	S1	Graduates can effectively communicate in English or in the teaching language of their study abroad country on advanced academic and professional level , oral and in writing, in person and using a range of media and communication systems, which are widely used in business. They can precisely represent their own views and convictions in discussions in a natural - looking manner and act and react in socially adequate ways in intercultural, negotiation and ethically demanding situations .
➔	D1	Graduates will be able to identify the main effects of digitization on companies and markets, to manage information & communication systems in order to demonstrate data literacy, technological literacy and digital interaction competence for application in the professional fields of international marketing & sales
➔	K1	Graduates can effectively self-manage (in terms of motivation, time, planning and behaviour) an IT-system supported learning process to gain knowledge on strategy & leadership, organisations, external environment and management in the professional fields of international marketing & sales.
➔	A1	Graduates can apply theoretical knowledge of the international marketing & sales discipline enabling them to take decisions on the development of appropriate strategies and measures solving business problems within a changing multicultural environment, to meet stakeholder interests in for example: marketing conception, sales management, international management, and business innovation.
➔	K2	Graduates can prepare effective decision taking by identifying knowledge gaps, formulating research questions for e.g. analysing customers or international markets, selecting and using appropriate quantitative and qualitative skills , making use of suitable communication and information systems, demonstrating cognitive skills of critical thinking, analysis and synthesis in order to derive strategic and operational recommendations for action in the professional fields of international marketing & sales.
➔	K2	Graduates can prepare effective decision taking by identifying knowledge gaps, formulating research questions for e.g. analysing customers or international markets, selecting and using appropriate quantitative and qualitative skills , making use of suitable communication and information systems, demonstrating cognitive skills of critical thinking, analysis and synthesis in order to derive strategic and operational recommendations for action in the professional fields of international marketing & sales.

5.2	Learning content 6	The lecture "International Value Chain Management" conveys practice-relevant knowledge about the planning, control and control of international corporate networks. The lecture focuses on the methods, techniques and systems of international logistics management.
	Learning content 7	Transportation Network Planning
	Learning content 8	Warehouse Structure and Inventories
	Learning content 9	Logistics Optimization in Dimensions of Costs, Time, Quality and Sustainability
	Learning content 10	International Distribution Planning and eCommerce
	Learning content 11	Basic Concepts of Supply Chain Management
Requirements & examination		
6	Participation requirement	Content: Basic knowledge of univariate and multivariate statistics and market research, basics of project management and business process management
7.1	Requirements for the award of credit points	Passed module (min. 50% of points)
7.2	Assessment method a) QMM	Assignment
7.2	Assessment method b) IVCM	Open Book Exam
7.3	Requirements for admission to the examination	
7.4	Importance of the mark for total mark	5% (6 ECTS of 120 ECTS)
8.1	Lecture language	English
8.2	Module supervisor	Prof. Dr. Reiner Kurzahls
8.3	Lecturers	Prof. Dr. Reiner Kurzahls Prof. Dr. Michael Dirksen, Sandra Lechtenberg M. Sc.
8.4	Maximum number of participants	
8.5	Supplementary information	
Recommended reading QMM		
Reiner Kurzahls, Wiley-Schnellkurs Statistik, 2015, Wiley Verlag		
Thomas Haslwanter: An Introduction to Statistics with Python, 2016, Springer Verlag		
Backhaus u.a.: Multivariate Analysemethoden, 15. Auflage, 2018, Springer Verlag		
Recommended reading IVCM		
Bozarth, Cecil C.; Handfield, Robert B. (2016): Introduction to Operations and Supply Chain Management. Fourth edition, global edition. Essex, England: Pearson		
Chopra, Sunil; Meindl, Peter (2016): Supply chain management. Strategy, planning, and operation. Sixth edition, global edition. Boston, Columbus, Indianapolis, New York, San Francisco, Amsterdam, Cape Town, Dubai, London, Madrid, Milan, Munich, Paris, Montréal, Toronto, Delhi, Mexico City, São Paulo, Sydney, Hong Kong, Seoul, Singapore, Taipei, Tokyo: Pearson (Always learning).		
Christopher, Martin (2011): Logistics & Supply Chain Management. Fourth edition. Harlow: Pearson Education Limited.		
Gudehus, Timm (2004): Logistik. Grundlagen - Strategien - Anwendungen. 2., aktualisierte und erw. Aufl. Berlin: Springer (Engineering online library).		
Lambert, Douglas M.; Burduglu, Renan (2000): Measuring and Selling the Value of Logistics. In: Int Jnl Logistics Management 11 (1), S. 1-18. DOI: 10.1108/09574090010806038		
Ohno, Taiichi (2014): Toyota production system. Beyond large-scale production. London: CRC Press.		
Pfohl, Hans-Christian (2010): Logistiksysteme. Betriebswirtschaftliche Grundlagen. 8., neu bearb. und aktualisierte Aufl. Berlin: Springer. Online verfügbar unter http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10355135 .		
Porter, Michael E. (2010): Wettbewerbsvorteile. Spitzenleistungen erreichen und behaupten = (Competitive Advantages). 7. Aufl.		
Schulte, Christof (2013): Logistik. Wege zur Optimierung der Supply Chain. 6. Aufl. München: Franz Vahlen (Vahlens Handbücher der Wirtschafts- und Sozialwissenschaften).		
Thonemann, Ulrich (2005): Operations Management. München u.a.: Pearson (Wi Wirtschaft).		