MBA Module:	Operations Management
Key words:	Industrial Solutions, Operations and Supply Chain Management, Quality Management
Module number:	
Target group(s):	1st semester MBA students (ca. September – February)
ECTS credits:	7
Language of instruction:	English
Responsible:	Prof. Dr. Siegfried Zürn

Extent of work (hours)

Workload	Contact hours	Self study	Exam preparation
210	90	45	75

Prerequisites:	Participants should have a basic knowledge in economics and some experience in any field of operations.
Objectives:	This module is designed to make the students understand the importance of operations in business. They know tools and methods needed and are able to apply them. This includes an understanding of: • Responsibilities and possibilities of an operations manager within the industrial environment such as facilities, work, capacities, scheduling and controlling of operating systems • The fields of operations management • Modern supply chain and methods and tools • How to set up an operating system • Using state-of-the-art tools • The importance of Quality Management • Learning from companies about their way to meet operational challenges and be competitive
Module content:	The module covers the following three courses: • Industrial Solutions: Analysing competitive advantages of a company including Digital Transformation (Industry 4.0) • Operations and Supply Chain Management: Fundamentals of all operations functions within industrial companies • Quality Management: Impact of quality management on business performance, quality management tools including SPC, quality audits and certifications
Applicability:	This module is the basis for the modules International Management, Methods & Tools and Business Planning.
Requirements for credits:	Operations and Supply Chain Management: written exam (60 minutes) Quality Management: written exam (60 minutes) Industrial Solutions: study assignment All three requirements must be passed in order to receive the ECTS for the whole module. A minimal personal attendance of 80% in Industrial Solutions is a prerequisite for the study assignment.

Submodules and assessment

Submodule 1 of 3	Industrial Solutions		
Exam number:	1201011		
Lecturer:	Prof. Dr. Siegfried Zürn		
ECTS credits:	3		
Type of assessment:	Study assignment		
Learning objectives:	• Students are able to apply the knowledge of “Operations Management”, “Quality Management”, “Industrial Marketing”, “Corporate Strategy” and “Corporate Finance” on a fictional company. • Students learn to compare their knowledge with the actual status of real companies • Students are capable to make proposals for future strategies • Students are able to write an academic paper • Graduates are able to analyze the competitive advantages of a company		
Methods:	Haptic Gamification on Industry 4.0, company visits, discussions, exchange of experience, independent research work done by students.		
Literature:	• Study assignments, cases and texts for further reading will be provided in electronic form • Internet pages of the visited companies		
Contents:	• Gamification on the managerial implications of Industry 4.0: - Analyzing the actual status of a company - Developing a competitive operational strategy for a company - Assessing risks and opportunities of a company - Factory layout of a company using IoT • Visiting different companies that apply Industry 4.0 aspects in their operations. • Writing an academic report on specific aspects concerning real-life industrial solutions in the operations management field.		
Workload 90	Contact hours 30	Self study 10	Study assignment preparation 50

Submodule 2 of 3	Operations and Supply Chain Management (OSCM)		
Exam number:	1201009		
Lecturer:	Prof. Dr. Siegfried Zürn		
ECTS credits:	2		
Type of assessment:	Written exam (60 minutes)		
Learning objectives:	• Students understand the importance of OSCM in Business • Students understand the difference between Production and OSCM • Students know the fundamentals of all operations and supply chain functions within business providing goods and/or services • Students understand relations between operations, finance and marketing • Students are able to assess how to run an operating system • Students are able using state-of-the-art tools • Graduates are able to assess the importance of making decisions in OSCM		
Methods:	Lectures, discussions, exercises, participant presentations, case studies.		
Literature:	• Stevenson, W.J.: Operations Management; 12th edition, McGraw- Hill • Jacobs, F.R., R.B. Chase: Operations and Supply Chain Management, McGraw-Hill • Assignment materials, script and cases will be provided in electronic form Additional: • Chase, R.B., N.J. Aquilano: Operations Management for competitive advantage, McGraw-Hill • Evans, R.: Principles of Operations Management, Mason • Barnes, D.: Operations Management an International Perspective, Cengage Learning		
Contents:	Operation Systems and Operations Management Forecasting System Design Process and Work Design Supply Chain Management Operations Control		
Workload 60	Contact hours 30	Self study 20	Exam preparation 10

Submodule 3 of 3	Quality Management (1201010)		
Exam number:	1201010		
Lecturer:	Prof. Dr. Siegfried Zürn		
ECTS credits:	2		
Type of assessment:	Written exam (60 minutes)		
Learning objectives:	• Students understand the role of quality management in industrial businesses • Students acquire knowledge of the fundamentals of quality management • Students acquire an overview of all quality related aspects in management providing goods and/or services • Students understand the fields of quality management • Students understand why quality is so important • Students are able to apply state-of-the-art tools • Graduates understand the impact of quality management on business performance		
Methods:	Lectures, discussions, exchange of experience, cases		
Literature:	• Pyzdek Thomas, Keller Paul: The Handbook for Quality Management. A Complete Guide to Operational Excellence, McGraw- Hill, New York, 2012 • Pfeifer, T.: Quality Management, Hanser • Assignment materials, script and case studies will be provided in electronic form Additional: • Dale H. Besterfield: Quality control Prentice Hall • International Standard Organisation: ISO 9001: 2015		
Contents:	The student will learn about the needs and responsibilities of a manager in today's business in the industrial environment such as: the role of quality, quality control, quality assurance, quality management systems and TQM Quality philosophies and aspects QM tools QM in the product lifecycle Quality management systems (example: ISO 9001:2015) TQM		
Workload 60	Contact hours 30	Self study 15	Exam preparation 15

Submodule 4 of 4	Scientific Methodology		
Exam number:	1203001		
Lecturer:	Prof. Dr. Andrew Borchers		
ECTS credits:	1		
Type of assessment:	Study Assignment		
Learning objectives:	In order to write an academic paper or a master's thesis, students have to fulfil certain criteria. They learn how to: • structure a scientific study • write an academic paper in a scientific manner • know which formalities they have to fulfil		
Methods:	Presentation of the lecturer, questions & answers, individual practise of writing an academic paper, group study assignment on literature review through analysis and research.		
Literature:	• Committee on Graduate Training in Scientific Writing, Bethesda • Ebel H.F., C. Bliefert, W.E. Russey: The art of Scientific Writing: From Student Reports to Professional Publications, Wiley-VCH • Malmfors, B., Ph. Garnsworthy, :m. Grossman: Writing and Presenting Scientific Papers, Nottingham University Press • Turabian, K.L.: A Manual for Writers of Term Papers, Theses, and Dissertations: Chicago Style for Students and Researchers, University of Chicago Press		
Contents:	• Preparations • Structure of a scientific work • Formal requirements • Writing techniques • Outcome		
Workload 30	Contact hours 15	Self study 5	Exam preparation 10