

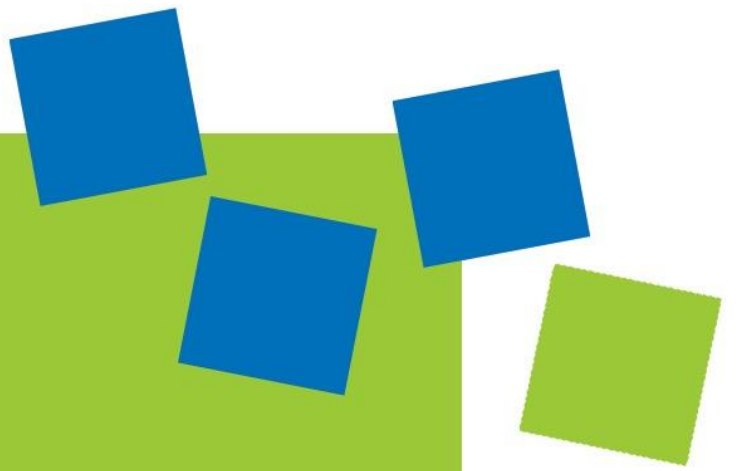


Modulhandbuch

*International Product and Service Management (SPO WS
16/17)*

Fakultät Wirtschaft

Stand Oktober 2026



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1 Introduction to the course of studies

Course of studies			
Short form:	IPM	SPO-Nr.:	HSAN-20161-1
Course management:	Prof. Dr. Barbara Hedderich		
Student advisory service:	Prof. Dr. Barbara Hedderich & Prof. Dr.-Ing. Anke Knoblauch		
ECTS:	90 points (+30 ECTS-points bridging modules for 6+4 Bachelor's programs or the need for a professional bridging semester)		
Standard period of study:	3 semesters (for 180 ECTS points Bachelor's degree or in the case of a professional bridging semester an additional semester might be needed)		
Admission requirements:	1. a university degree or equivalent with an overall examination mark of 2.0 or better in a course of study at a German or foreign university lasting at least a standard period of study of six semesters 2. proof of sufficient knowledge of German (at least Goethe-Zertifikat A1) and English (proven in the admission interview) 3. proof of above-average motivation as a special qualification requirement through an admission interview, especially for grades between 2 and 3		
Usability:	Master International Product and Service Management		
Learning Outcomes:			
The aim of the Master course "International Product and Service Management" is to convey the future master's graduates the professional, methodological and social skills that are necessary for the independent development and application of scientific knowledge and processes. The graduates also should learn how to act responsible in business and society. With the academic degree "Master of Arts", short form: "M.A.", the graduates receive the qualification for doctoral studies. The students acquire the requirements to face successfully the challenges of an internationalized world. The students develop their personality to be able to: • think and act entrepreneurially, • actively shape innovations, • reflect ethically on their actions. It is important to enable them to act as bridge builders between the disciplines. They are able to analyze complex contexts and to react flexibly in them. Therefore, corresponding knowledge, skills and abilities are established. The focus of the Master course "IPM" is the application-oriented, science-based preparation of the students for occupational acting in managerial as well as in leadership roles.			
Content:			
Each semester, students acquire 30 credit points. In the summer semester (1st or 2nd semester), a core module is offered. The operational processes are reflected in their complex entirety. The focus is the holistic and interdisciplinary consideration of the product. The core module is created as a cross-course module with combined, interdisciplinary courses, projects and case studies.			

In the winter semester, students can specialize in a focus module according to their personal inclinations in the technical or business area. In all orientations, the focus is on the product and the processes that are arranged around it. The focus modules are supplemented by elective modules (also language courses) and interdisciplinary, team-oriented project works or case studies. In Ansbach, the focus “Technologies” is offered. With this specialization in the technical field, students can qualify as intermediaries between the disciplines of engineers and businesspeople. At the TH Valencia, the focus is „Service Management“.

The last semester concludes the course with the preparation of a master’s thesis.

Because of the international cooperation, the language of instruction is in general English.

Graduation / Academic degree:
Master of Arts (M.A.)

2 Description of Modules

2.1 Core Module

Product Management			
Module abbreviation:	IPM-ProductManagement	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	core module	1 or 2
Responsible for module:	Prof. Dr. Barbara Hedderich, Prof. Dr. Anke Knoblauch		
Lecturers:	Prof. Dr. Barbara Hedderich, Prof. Dr.-Ing. Anke Knoblauch, Prof. Dr. Kaiser, Prof. Dr. Schnurpfeil, Prof. Dr. Schugk, Prof. Dr.-Ing. Slama, Prof. Dr. Konle, Mr. Hoyer, Mr. Eichinger		
Language of instruction:	English		
Credit points / SWS:	30 ECTS / 10 SWS		
Workload:	Contact hours:		140 h
	Self-study:		760 h
	Total:		900 h
Subjects of the module:	Product Management (IPM-ProductManagement)		
Frequency:	Summer semester		
Module duration:	1 semester		
Lecture types:	Project		
Examinations:	Seminar paper and presentation (during the examination period); graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan. Admission to the final exam can only be granted after taking part in Milestone 1 and Milestone 2.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students are acquainted with all relevant topics concerning all the different phases of the product process: from developing an idea by being innovative through market analysis, product design, planning of realization, market entry, summing everything up in a business plan. They know that a product can always be a material or an immaterial good and will be surrounded by service processes. They realize how interdependent those different parts are and how they influence each other.			

Professional skills

The students are able to organize themselves into efficient groups and solve the challenges posed by projects in the area of product development.

They are also able to evaluate their own progress and develop strategies for improving their performance.

Social skills

Students enhance their team competence.

They are able to work in intercultural environments.

They have experience in communicating in interdisciplinary settings.

Content:

The core module combines project work with theoretical stimuli. Students work on the project in groups and as far as possible independently. They will be attended to by a coach who introduces into the project and is there for the students whenever difficulties and questions arise concerning group dynamics. This takes into account that working in international and interdisciplinary groups poses specific challenges. The coach offers some systematic introductions into group work, mediates and reflects with the groups as required taking care that progress of the project is possible.

The project is complex enough to require students to attend to all the tasks necessary in a complete product process thus enabling them to experience firsthand all the interdependences of a real-life project. A project, on the other hand, can never cover in a systematic way all relevant aspects of the product process. Therefore, theoretical stimuli will be offered to the students parallel to the project work. Those stimuli give some relevant theoretical background and confront students with some examples of current research work allowing them some insights and possibilities for reflection even into those parts of the product process that might not be present or not in the foreground of their own project. At the same time the students get through the stimuli the chance to know our experts in those fields relevant to their project who will also be available for questions that might arise during their own project work.

The project will always be about a material or immaterial good that has to be developed for market launch. It can be a product or a service offered to us by a firm or it can be one that we hope might be marketable. Projects will always start with describing to the group a problem and the development of a convincing solution during the semester will be expected. Depending on the concrete project there will be challenges from different areas to be confronted while preparing designs, technical and non-technical solutions and a business plan. The development of the solution has to be presented in three milestones.

The first milestone will have a didactic character in the sense that students will get a feedback showing them areas where they have to develop further. Grades will take into account that this is the first feedback opportunity for the students. The presentations of the other two milestones will be evaluated following strictly professional criteria. The first two milestones take place during the semester to allow an evaluation of progress of the project and offer the students feedback. In the last milestone a finished business plan has to be presented in written and oral form.

According to the different phases of the product process the stimuli offer the following subjects independent of the specific project but reflecting on the project if possible:

- **Innovation:** An introduction of the two relevant perspectives - economic and business - will be offered. The economic perspective allows students to classify their own project according to different approaches that are currently discussed. Apart from the economic content research tools will be introduced. The business perspective offers some insights into change management and the necessity of customer orientation of innovation. This stimulus will be complemented by an introduction into creativity techniques and rapid prototyping.
- **Product Development and Planning:** Some insights into technological, non-technological and business determinants for preparing the marketability of products are given. Some relevant methods like the KANO model are introduced. The difference between the treatment of material and immaterial products will be highlighted.
- **Product Realisation:** For material goods the layout of the plants and the workflow of the production process is planned. Concepts like lean production are introduced and the interdependence of the development and the production of the products is shown. For immaterial goods special service operations and service engineering are explained.
- **Sales, Service and Product Disposal:** Concepts of technical sales are introduced. An overview over the concepts of service quality and service marketing is given. Current issues in both areas are discussed. The necessity of soft skills like intercultural skills will also be covered.

Literature:

Will be specified at the beginning

2.2 Focus Modules

Technology

Biomaterials in Medicine			
Module abbreviation:	IPM-BiomaterialsinMedicine	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Boger, Andreas		
Lecturers:	Boger, Andreas		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 2 SWS		
Workload:	Contact hours:		22,5 h
	Self-study:		127,5 h
	Total:		150 h
Subjects of the module:	Biomaterials in Medicine (IPM-BiomaterialsinMedicine)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 60 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Professional Skills</u> Background on Biomaterials used in Medicine as described in content.			
• Making a research on a topic / question for themselves, followed by sharing and discussing the findings with the other participants (think-per-share). • By doing the research the students will learn to evaluate a special application concerning the questions: ○ does it really address a clinical need, ○ what is the relevance for the patients, ○ what are the pros and cons. Possible drawbacks and risks for the user of the product and the patient ○ how does the IP-situation looks like on the field of application			

Social Skills

The one connected to the teaching method think-per-share as mentioned above. The student has the competence to synthesize information from a wide range of sources, is able to present and document the work results systematically and is a team player.

Content:

Introduction to Biomaterials in Medicine by the contents asking the following questions:

- Why do we need / for what do we need Biomaterials especially in orthopedic: goals of fracture treatment?
- How Biomaterials are defined?
- Out of what materials (metals, ceramics, polymers, composite) Biomaterials made for a given application and why?
- Which different kinds - as defined by the origin of the Biomaterials exists ?
 - Synthetic Biomaterials, Allografts, Autografts, Xenografts etc.
- What are the special properties from those materials?
- What are the different applications of Biomaterials in Medicine and open questions behind them?
- What are the reason behind; using the Biomaterial (material group) for the given application (several examples will be discussed)?.
- How to define and describe the functional and Design requirements of Biomaterials products in principle?

Literature:

- BÁRTOLO, Paulo Jorge and Bopaya BIDANDA, 2008. *Bio-materials and prototyping applications in medicine*. New York, NY: Springer. ISBN 978-0-387-47682-7, 9780387476834
- RATNER, Buddy D. and others, 2004. *Biomaterials science: an introduction to materials in medicine*. 2. edition. Amsterdam [u.a.]: Elsevier, Academic Press. ISBN 0-12-582463-7, 978-0-12-582463-7
- Without author. *Biomaterials - Journals* [online]. [Accessed on:]. Available via: <http://www.sciencedirect.com/science/journal/01429612>

Chemical and Biotechnological Products and Production Processes			
Module abbreviation:	IPM-ChemBiotechnoProd	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Gaisser, Sibylle		
Lecturers:	Gaisser, Sibylle; Wilisch, Christian		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Chemical and biotechnological products and production processes		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar & practical training		
Examinations:	Seminar paper and presentation, 10minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Basic understanding in natural sciences			
Objectives:			
<u>Knowledge</u> The students are familiar with additive manufacturing and enzymatic, prokaryotic and eukaryotic production systems in the chemical and pharmaceutical sector. The students will understand the nature and the current state of the art of additive manufacturing. They have broad knowledge of the drug development pipeline, the applied research tools and develop an understanding of the mode of action of biopharmaceutical products.			
<u>Professional Skills</u> Students are able to assess additive manufacturing strategies and biotechnological processes and their implications for an industrial production process. They have basic skills in some aspects of practical microbiological methods and polymerization methods. The students will be able to select appropriate methods of additive manufacturing, depending on the specific requirements for the part(s) in question.			
<u>Social Skills</u> Students are able to carry out independent literature search in a new biotechnology related subject. The students will be able to appreciate the use of additive manufacturing. They can classify and structure the obtained material and are able to present and discuss their results in a case study presentation.			

Literature:

- WALSH, Gary, 2008. Pharmaceutical biotechnology: concepts and applications. Chichester, England: Wiley. ISBN 978-0-470-01244-4, 0-470-01244-7
- THIEMAN, William J. and Michael A. PALLADINO, 2020. Introduction to Biotechnology. F. edition. Harlow: Pearson Education Limited. ISBN 978-1-292-26177-5
- GEBHARDT, Andreas and Jan-Steffen HÖTTER, 2016. Additive manufacturing: 3D printing for prototyping and manufacturing. Munich: Hanser Publications. ISBN 978-1-5231-0442-0, 1-5231-0442-2
- GIBSON, I., ROSEN, D., STUCKER, B., KHORASANI, M., 2021. Additive Manufacturing Technologies. 3rd ed. Charn (CH). ISBN-10: 3030561267, ISBN-13: 978-3030561260

Additional literature will be specified at the beginning of the course.

Computer Simulation Technologies and Control Engineering			
Module abbreviation:	IPM-CompSimulTechnoContrEngi	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Moog, Mathias		
Lecturers:	Moog, Mathias; Schönegg, Martin		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Computer Simulation Technologies and Control Engineering (IPM-CompSimul-TechnoContrEngi)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar, practical training		
Examinations:	Oral exam, 15 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
Aims – Computer Simulation Technologies:			
<u>Knowledge</u>			
The students are able to			
• locate starting points for the successful use of simulation technologies in product development • understand and judge the use of different simulation tools in various application fields • get an insight in possibilities and limitations of simulation technologies			
<u>Professional skills</u>			
They are			
• familiar with basic concepts of computer simulation • able to choose the correct simulation techniques and the adequate simulation tools in complex problems and use them target-oriented			
<u>Social skills</u>			
They develop the ability to			
• communicate clearly and intelligibly about the use of computer simulation technologies			

- distribute tasks and to coordinate individual tasks with a team in projects containing simulation aspect
- asking target-oriented questions to simulation experts

Aims – Control Engineering:

Knowledge

The aim of the lecture is to give an introduction to control engineering and automation which means for the students on the one hand to gain an overview of the topics single loop control and feedback loop control in principle and on the other hand to get experienced with common control systems, actuators and sensors in real systems. Furthermore, a very broad overview is given on computer controlled machines.

Professional Skills

The students understand the principles and differences of single loop control systems and feedback loop control systems. By means of an integrated practical training, including three units, they are trained in the basics of pneumatics and designing of a pneumatic system (consisting of sources, drives, sensors and logic elements), corresponding to a simple control problem. The participants understand the principles of programmable logic controllers (PLC).

Social Skills

The students learn cooperation and mutual learning especially in the practical training units. Furthermore, they extend their English vocabularies by many technical terms and use them frequently in technical discussions.

Content:

Computer Simulation Technologies Content:

- Reasons for the use of computer simulation
- Classification of simulation tools, engineering and applications
- Dynamical systems, models of growth, parameter sensitivity
- Modelling e.g.: CO₂ in atmosphere
- Process control simulation
- Event Driven Systems: state charts, application fields
- Introduction to statistical models

Control Engineering Content:

- Control Systems
- Sensors and Actuators
- Signals and Systems
- Feedback Control Systems
- Computer-controlled Machines
- Automated Process Control

Literature:

- VELTEN, Kai, 2009. *Mathematical modeling and simulation: introduction for scientists and engineers*. Weinheim: WILEY-VCH. ISBN 978-3-527-40758-3, 3-527-40758-8
- GOULD, Harvey, Jan TOBOCHNIK and Wolfgang CHRISTIAN, 2007. *An introduction to computer simulation methods: applications to physical systems*. 3. edition. San Francisco ; Munich [u.a.]: Pearson-Addison-Wesley. ISBN 0-805-37758-1

- HANNON, Bruce and Matthias RUTH, 2001. *Dynamic modeling*. 2. edition. New York [u.a.]: Springer. ISBN 0-387-98868-8
- GERSHENFELD, Neil A., 2003. *The nature of mathematical modeling*. R. edition. Cambridge [u.a.]: Cambridge Univ. Press. ISBN 0-521-57095-6
- ACHESON, David J., 1997. *From calculus to chaos: an introduction to dynamics*. Oxford [u.a.]: Oxford Univ. Press. ISBN 0-19-850257-5, 0-19-850077-7
- NISE, Norman S., 2011. *Control systems engineering*. 6. edition. Hoboken, N.J.: Wiley. ISBN 978-0-470-64612-0
- TEWARI, Ashish, 2002. *Modern control design with MATLAB and SIMULINK*. Chichester: John Wiley. ISBN 0-471-49679-0
- BRAMER, Max A., 2007. *Principles of data mining*. London: Springer. ISBN 978-1-84628-765-7, 1-84628-765-0
- WILKIE, Jacqueline, Michael JOHNSON and Reza KATEBI, 2002. *Control engineering: an introductory course*. 1. edition. Basingstoke [u.a.]: Palgrave. ISBN 0-333-77129-X, 978-0-333-77129-7
- HOOPER, Jay F., 2013. *Basic pneumatics: an introduction to industrial compressed air systems and components*. R. edition. Durham, N.C.: Carolina Academic Press. ISBN 978-1-61163-411-2, 1-61163-411-3
- BOLTON, W., 2009. *Programmable logic controllers*. 5. edition. Oxford: Newnes. ISBN 978-1-85617-751-1, 1-85617-751-3

Food Technology			
Module abbreviation:	IPM-Food Technology	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Knoblauch, Anke		
Lecturers:	Knoblauch, Anke		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Food Technology (IPM-Food Technology)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar, practical training		
Examinations:	Seminar paper and presentation, 30 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The student knows processes for food production as well as some basics in the fields of food sensory analysis, nutrition, food packaging and food hygiene. The student is able to describe and evaluate processes and consider aspects of sustainability.			
<u>Professional skills</u> The student understands food production processes, can discuss and analyse them from different points of view. New fields of knowledge can be developed, presented, analysed and discussed.			
<u>Social skills</u> The student has the competence to synthesize information from a wide range of sources, is able to present and discuss the work results systematically and can work as team player.			
Content:			
Current topics in the field of food technology, examples are chosen from the following areas:			
• flow charts • influence of processing parameters • unit operations (for example drying, freezing, separation processes)			

- quality management
- nutritional aspects
- sensory analysis
- packaging
- hygiene and food preservation
- sustainability

Literature:

- VACLAVIK, Vickie, Elizabeth W. CHRISTIAN and Tad CAMPBELL, 2021. *Essentials of Food Science*. 5. edition. Cham: Springer. ISBN 978-3-030-46813-2
- CAMPBELL-PLATT, Geoffrey, 2018. *Food science and technology*. S. edition. Hoboken, NJ, USA: Wiley Blackwell. ISBN 978-0-470-67342-3

Introduction to Chemistry and Physics for Non-Scientists			
Module abbreviation:	Intr. to Chem. and Physics f. Non.-Scientists	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Hedderich, Barbara		
Lecturers:	Rychkov, Dmtry; Wilisch, Christian		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:	45 h	
	Self-study:	105 h	
	Total:	150 h	
Subjects of the module:	Introduction to Chemistry and Physics for Non-Scientists (Intr. to Chem. and Physics f. Non.-Scientists)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper and presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students gain a basic understanding of scientific principles that is essential in our technological world. They understand basic chemical processes, the pathways to chemical mass products and the relationship between marketing claims for consumer products and the critical ingredients supporting that claim. They also gain a fundamental understanding of how physicist describe our world.			
<u>Professional skills</u> The students gain the ability to facilitate, for instance, the discussions between project scientists and product managers. They gain a basic understanding of laboratory procedures and the analyses of experimental results. The students also learn to identify critical components of consumer products.			
<u>Social skills</u> Students can carry our independent literature search in a chemical or physical topic as it relates to consumer product creation. During group work in the laboratory, they learn to function in small teams.			

Content:

Chemistry: structure of matter, types of chemical bonds, nuclear chemistry, chemical reactions and equilibria, catalysis, introduction to organic chemistry, chemistry and the environment

Physics: basic concepts of: mechanics, electricity and magnetism, molecular physics and modern physics

Literature:

- BROWN, Theodore L., Harold Eugene LEMAY and Bruce Edward BURSTEN, 2018. *Chemistry: the central science*. 14. edition. Harlow: Pearson. ISBN 978-1-292-22132-8
- CARDAMONE, Michael J., 2007. *Fundamental concepts of physics*. Boca Raton, Fla.: BrownWalker Press. ISBN 978-1-59942-433-0, 978-1-59942-434-7
- CHAICHIAN, Masud, Hugo PEREZ ROJAS and Anca TUREANU, 2014. *Basic concepts in physics: from the cosmos to quarks*. Berlin [u.a.]: Springer. ISBN 978-3-642-19597-6, 978-3-642-19598-3

Physics for Non-Science Majors			
Module abbreviation:	IPM- Physics for Non-Science Ma- jors	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Hedderich, Barbara		
Lecturers:	Rychkov, Dmitry		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Physics for Non-Science Majors (IPM- Physics for Non-Science Majors)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 60 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accord- ance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students gain a basic understanding of the fundamental concepts of physics that is essential in our techno- logical world. They understand how physicists describe nature using models, measurements, conservation laws and fundamental interactions, and recognize connections between physical principles, modern technologies and everyday phenomena.			
<u>Professional skills</u> The students are able to interpret physical information presented in words, diagrams, graphs and simple equa- tions, apply fundamental principles to qualitative and basic quantitative problems, and evaluate physics-related information in technological and societal contexts. They gain the ability to facilitate communication between scientific or technical experts and non-specialists.			

Social skills

Students can discuss scientific questions in interdisciplinary groups, explain physical ideas to non-specialists, compare arguments on the basis of evidence and communicate conclusions clearly. Collaborative problem solving strengthens teamwork and scientific communication.

Content:

Physics and the scientific worldview: measurement, models, scales, units and orders of magnitude
 Motion and forces: velocity, acceleration, Newton's laws, momentum and gravitation
 Energy: work, kinetic and potential energy, conservation of energy and power
 Thermal physics: temperature, heat, microscopic interpretation, thermodynamics and efficiency
 Waves and sound: oscillations, wave properties, resonance and sound
 Electricity and magnetism: charge, electric fields, voltage, current, circuits, magnetism and induction
 Light and electromagnetic radiation: wave properties, optics and the electromagnetic spectrum
 Atoms, nuclei and radiation: atomic structure, radioactivity, nuclear energy and radiation
 Modern physics: central ideas of relativity and quantum physics and their technological consequences
 From particles to the universe: elementary particles, stars, galaxies and cosmology
 Connections between physics, technology and society, including energy, climate, communication and medical technologies

Literature:

- HOBSON, Art. Physics: Concepts and Connections. Pearson/Addison-Wesley. The edition used will be specified at the beginning of the course.
- Additional literature, current articles and selected multimedia resources will be specified at the beginning of the course.

Plastics Processing Technology			
Module abbreviation:	IPM-PlasticsProcessingTech	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Hedderich, Barbara		
Lecturers:	Wacker, Marco		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Plastics Processing Technology (IPM-PlasticsProcessingTech)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	seminar paper and presentation, 15 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students have knowledge of the basics of polymeric materials, their properties and processing technologies as well as their economic importance. They understand the main production methods and the possible applications. The students also gain knowledge about the intricacies of polymer recycling.			
<u>Professional skills</u> The students can understand the difference between the essential polymeric materials and the processing technologies used for the production of different components.			
<u>Social skills</u> Teamwork and communication skills by solving tasks in small groups, self-reflection.			
Content:			
• Introduction to plastics materials (structure, monomers, polymers) • Development and economic importance of polymer materials • Classification of plastics (thermoplastics, thermosets and elastomers; description, structure and properties)			

- Rheology (brief overview)
- Processing of plastics: Extrusion; Injection Moulding; Thermoforming; Casting; Rapid prototyping
- Design and development of plastic components
- Plastic assembly techniques (welding)
- Applications with examples
- Recycling

Literature:

- OSSWALD, Tim A., 2017. *Understanding polymer processing: processes and governing equations*. 2. edition. Munich: Hanser Publishers. ISBN 978-1-56990-647-7, 1-56990-647-5
- AGASSANT, Jean-François, Pierre AVENAS and Pierre J. CARREAU, 2017. *Polymer processing: principles and modeling*. 2. edition. Munich ; Cincinnati: Hanser. ISBN 978-1-56990-605-7

Project			
Module abbreviation:	IPM-Project	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	focus or elective	Every semester
Responsible for module:	Director of the program		
Lecturers:	Every professor of IPM		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 1 SWS		
Workload:	Contact hours:		12 h
	Self-study:		138 h
	Total:		150 h
Subjects of the module:	Project (Elective or focuse module)		
Frequency:	Winter and summer semester		
Module duration:	1 semester		
Lecture types:	Project		
Examinations:	Project work, seminar paper; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The student is able to apply theoretical and practical knowledge gained during their preceding studies or work experience depending on the content of the individual project.			
<u>Professional Skills</u> The student is able to independently plan, execute and document a small scientific project in the field of the given task. The student can discover and independently learn new technologies and/or applications. The student has experience in report writing, can present and discuss academic projects.			
<u>Social Skills</u> In the case of team projects the student is able to integrate and work in a team, in the case of individual projects especially self-organization skills will be strengthened.			
Content:			
• The student will be given a task by a professor or can suggest a topic, which has to be closely related to the field of product management and has to be evaluated by a professor. • Individual or team projects are possible. • The student submits a seminar paper covering the project work and reflecting it considering the scientific discussion in that area. Important criteria are: • Time and project management			

- | |
|---|
| <ul style="list-style-type: none">• Management of knowledge• Quality of documentation, presentation and discussion |
| Literature: |
| Will be specified at the beginning |

Websites & Digital Commerce			
Module abbreviation:	IPM-Websites & Digital Commerce	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Focus Module	1 or 2
Responsible for module:	Knüpffer, Wolf		
Lecturers:	Knüpffer, Wolf; Lämmermann, Stefanie		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		28 h
	Self-study:		122 h
	Total:		150 h
Subjects of the module:	Websites & Digital Commerce (IPM – Websites & Digital Commerce)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	e-Learning, Lecture, Exercise		
Examinations:	Project Report; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Fachkompetenz und Methodenkompetenz</u> Die Studierenden kennen die wesentlichen ökonomischen Grundlagen des elektronischen Vertriebs und sind mit der praktischen Anwendung eines marktführenden Werkzeugs zum Aufbau von Websites und elektronischen Vertriebsplattformen vertraut.			
<u>Persönlichkeitskompetenz und Sozialkompetenz</u> Die Studierenden sind in der Lage, aktuelle Geschäfts- und Vertriebsmodelle im Internet zu bewerten, Chancen zu erkennen und eigene Lösungen zu entwickeln.			
<u>Handlungskompetenz</u> Die Studierenden können auf Basis der erworbenen Fachkompetenz selbstständig eigene Websites und Plattform für den elektronischen Vertrieb aufbauen.			

Content:

In dem Kurs werden die wesentlichen Grundlagen vermittelt, um für den digitalen Vertrieb individuelle Lösungen zu entwickeln und in die Praxis umzusetzen.

Dazu werden die wesentlichen ökonomischen und technischen Grundlagen zum Aufbau von Websites und digitaler Vertriebsplattformen vermittelt. Auf dieser Basis entwickeln die Studierenden eigene Projektideen.

Diese werden unter Anleitung selbstständig in einem marktführenden Werkzeug umgesetzt.

- Einführung in die ökonomischen Grundlagen und Potenziale des Digital Commerce,
- Methoden und Tools zur Evaluierung digitaler Geschäftsmodelle,
- Technische Grundlagen zum Aufbau digitaler Vertriebsplattformen,
- Werkzeuge zum Aufbau und KI-unterstützten Generierung digitaler Vertriebsplattformen,
- Praktische Übung: Aufbau einer digitalen Vertriebsplattform

Literature:

- Knüpffer, W. et al. (2017): Integration mobiler IT-Systeme; Einsatzfelder – Management – Strategie. Erich Schmidt Verlag 2017.

2.3 Elective Modules

Business English - Advanced Writing and Cultural Studies			
Module abbreviation:	IPM-BusinEnglAdvanWritCultStud	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	McIntosh, Sabine		
Lecturers:	McIntosh, Sabine		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 2 SWS		
Workload:	Contact hours:	22,5 h	
	Self-study:	127,5 h	
	Total:	150 h	
Subjects of the module:	Business English - Advanced Writing and Cultural Studies (IPM-BusinEnglAdvanWritCultStud)		
Frequency:	Winter and Summer semester		
Module duration:	1 semester		
Lecture types:	Seminar Teaching		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan. According to the study and examination regulations and the study plan, participants will submit homework assignments regularly.			
Recommended prerequisites:			
English knowledge according to the European Frame of Reference level B2/C1; Students of Business Administration should have passed Written and Oral Communication Skills			
Objectives:			
Professional and methodological competence - Acquisition of the ability to work in an international/English-speaking company by consolidating technical terminology Operational competence - Consolidation of written and oral communicative competence in the foreign language Social competence - Ability to integrate in international companies by acquiring in-depth language skills and knowledge of intercultural aspects			
Content:			
Analysis and discussion of texts dealing with the economic sector or cultural aspects			

- Superior understanding of the writing process and writing techniques (memos, reports, minutes etc.)
- Stylistic elements of text production and creative writing with special regard to sentence structure and punctuation
- Analysis and evaluation of differences in intercultural communication
- Who are we - cultural backgrounds, attitudes and values
- Identifying the challenges faced by people working in an intercultural environment
- Dimensions of culture: some models

Literature:

- Teaching scripts on Moodle
- Use of online, visual and audio materials in the language lab

Business English - Oral Communication Skills			
Module abbreviation:	IPM-BusEnglOralComSkills	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	McIntosh, Sabine		
Lecturers:	McIntosh, Sabine; Gabbey, Lynne		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Business English - Oral Communication Skills (IPM-BusEnglOralComSkills)		
Frequency:	Winter and Summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Oral exam, 15 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Students of Business Administration should have passed Written Communication Skills			
Objectives:			
<u>Knowledge</u> Ability to speak fluently in English using appropriate grammar, vocabulary and pronunciation on an intermediate to advanced level			
<u>Professional skills</u> Ability to use spoken English in a business and international context			
<u>Social skills</u> Understanding of intercultural aspects			
Content:			
In this course, students will improve their proficiency, accuracy and vocabulary in spoken English and improve their listening skills.			
- Introduction into regional and cultural aspects of English speaking countries with special emphasis on intercultural aspects and behaviour - Improvement of English language functions such as requesting, greeting, clarifying, apologizing, inviting and so on in business situations (face to face)			

- Organizing or running a debate or discussion and stating one's own opinion in business situations (meetings)
- Ability to understand difficult and complex subjects and to rephrase them (telephoning)
- Making and delivering a presentation
- Interpreting and explaining graphs and charts

Literature:

Will be specified at the beginning

Business English - Written Communication Skills			
Module abbreviation:	IPM-BusEnglWrittComSkills	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	McIntosh, Sabine		
Lecturers:	Gabbey, Lynne		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Business English - Written Communication Skills (IPM-BusEnglWrittComSkills)		
Frequency:	Winter and Summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
English knowledge according to the European Frame of Reference level B2/C1			
Objectives:			
<u>Knowledge</u> Acquirement of intermediate to advanced skills in written interaction using appropriate terminology and expressions in business contexts.			
<u>Professional skills</u> Ability to use the English language in relation to a specialized and professional context in an international environment.			
<u>Social skills</u> Awareness of intercultural differences and diversity			
Content:			
- Repetition and consolidation of grammatical knowledge and emphasis on syntactical structures - Expansion of basic language skills and proficiency - Analysis and discussion of specially selected authentic articles from magazines, newspapers and text-books - Expansion of language skills with regard to specific and general business situations			

- Individual writing of texts with a focus on business and economic topics on the one hand and on the requirements of later professional life on the other hand. Writing business letters in English is a major objective of this class.
- Knowledge of the internationally used terminology (INCOTERMS)

Literature:

- WESSELS, Dieter, 2004. *Commercial Correspondence - Advanced Commercial Correspondence - B2/C1*. Berlin: Cornelsen. ISBN 978-3-464-02790-5

Business Excellence			
Module abbreviation:	IPM-BusinessExcellence	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Knoblauch, Anke		
Lecturers:	David, Volker		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 2 SWS		
Workload:	Contact hours:		22,5 h
	Self-study:		127,5 h
	Total:		150 h
Subjects of the module:	Business Excellence (IPM-BusinessExcellence)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> Students are becoming familiar with success factor analysis and the EFQM Excellence Model as a success factor based framework for corporate management. They understand model criteria and criterion parts for a systematic corporate development, identify cause and effect chains by using Key Performance Indicators (KPI) and are getting acquainted with EFQM's Business Excellence concepts. Benchmarking and Self-Assessment are focused as kick-off concepts for corporate change.			
<u>Professional skills</u> Students are able to get a holistic view of an organization by using the EFQM Excellence Model. They are able to identify the drivers for an organization's future success, how approaches are deployed and results are measured by appropriate key performance indicators. Students learn how to assess an organization by using the EFQM Excellence Model. They have the skills for using the lecture as a drive-up ramp for EFQM's licensed assessor trainings.			
<u>Social skills</u> The students are able to discuss case study results in groups, achieve consensus by critical but constructive discussions and present final work results as a team in their research study project.			

Content:

- Introduction to Success Factor Research and Success Factor Analysis,
- EFQM Excellence Model - Model Development, Criteria, Criterion Parts,
- Fundamental Concepts of Excellence and RADAR® Methodology (Overview),
- Case Study - Good Practice Analysis and Presentation,
- Self-Assessment und Change Management,
- Benchmarking - Methodology and Practical Case Study.

Literature:

- Without author. *EFQM Publications* [online]. Brussels: EFQM [Accessed on:]. Available via: <https://www.efqm.org/>

Business German - Oral Communication Skills			
Module abbreviation:	IPM-BusinGermOralCommunSkil	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Dr. Leòn		
Lecturers:	Junek, Teresa		
Language of instruction:	German		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Business German - Oral Communication Skills (IPM-BusinGermOralCommunSkil)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Oral exam, 15 minutes (electronic remote exam § 2 Abs. 3 BayFEV)		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Students of Business Administration should have passed Written Communication Skills			
Objectives:			
<u>Knowledge</u> - Professional and methodological competence, - Improvement of the lexical and grammatical knowledge of the German language <u>Professional skills</u> - To be able to meet the requirements in one’s studies, everyday life and business in writing as well as orally <u>Social skills</u> - To be able to take part in student life, business and spare time activities			
Content:			
- Relevant oral skills in difficult everyday situations, study and business - Improvement of articulation and intonation, use of non-verbal and para-verbal skills - Detailed knowledge in the correct use of prepositions - Clarification of verbal structures, verbs with prefixes - Business letters			

- Oral presentations

Literature:

- FÖLDEAK, H., 2001. *Sags besser! Arbeitsbuch für Fortgeschrittene Teil 2*. ISBN 978-3190074549
- HALL, K. and B. SCHEINER, 2001. *Übungsgrammatik Deutsch als Fremdsprache für Fortgeschritten* . 1. edition. Ismaningen: Hueber / Verlag für Deutsch. ISBN 9783190074488

Business German - Written Communication Skills			
Module abbreviation:	IPM-BusinGermWrittCommunSkil	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Dr. Leòn		
Lecturers:	Schmidt, Budimir		
Language of instruction:	German		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Business German - Written Communication Skills (IPM-BusinGermWrittCommunSkil)		
Frequency:	Summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> Competence in subject and methodology: Ability to activate, reinforce and enhance vocabulary and grammar knowledge of the German language			
<u>Professional skills</u> To be able to meet oral and written standards needed for successful participation in academic courses taught in German			
<u>Social skills</u> Ability to better integrate in day-to-day activities of student life as well as recreation			
Content:			
- Listening comprehension of advanced audio and video material covering current events in economy, technology, politics, culture and civilization; oral and written reproduction, summaries or reports are required - Ability to answer questions and complete tasks based on advanced texts, interpretation of graphs, production of conclusions or summaries, writing reports			

- Knowledge of noun-verb complements and ability to produce and transform temporal, causal, conditional, concessive, final and modal relations
- Linguistic preparation of presentations and papers

Literature:

- FÖLDEAK, Hans, . *Sag's besser! Arbeitsbuch für Fortgeschrittene Teil 1*. 2. edition. Ismaningen: Hueber Verlag. ISBN 978-3-19-007453-2
- DREYER, and SCHMITT, . *Lehr- und Übungsbuch der deutschen Grammatik*. 1. edition. Ismaningen: Hueber Verlag. ISBN 978-3193072559

Business Model Innovation			
Module abbreviation:	IPM-Business Model Innovation	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for the module:	Kögel, Dominik		
Lecturers:	Kögel, Dominik		
Language:	English		
Credit Points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact Hours:	60 h	
	Self-study:	90 h	
	Total Effort:	150 h	
Subjects of the module:	Business Model Innovation (IPM-Business Model Innovation)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper and presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan. The number of participants is limited to a maximum of 40 persons for didactic and examination reasons. Registration on Moodle. If necessary, the dates and/or times of the events will be adjusted in Moodle.			
Recommended prerequisites:			
The module should preferably be taken towards the end of your studies, when you have a basic knowledge of the central subject areas of business administration - from marketing to organization to controlling and more. This module is addressed to German as well as international students. To allow participation of international students, this module will be taught in English. However, please feel free to write your assignment (Seminararbeit) in German if you like. We can always switch to German, where necessary: language should not be a problem.			
Objectives:			
In this module you will learn how to analyse existing and create new business models. Whether you aim to one day create your own company, you plan to invest (some of) your money on the stock exchange, you are an engineer or product manager, aim to make it into top management or inherit your family business or become a consultant, this subject will prepare you for it. <u>Knowledge</u> Understanding of what a business model is, what makes it successful (or less so), and how it all works together. <u>Professional Skills</u> Ability to create, analyse and adjust business models and to use the relevant tools and concepts. <u>Social Skills</u> Improve your understanding and communicate your ideas.			

Content:

Based on the relevant theories, amongst others, from Osterwalder & Pigneur as well as Gassmann and others, we will explore what a business model is, its parts, the way everything fits together. We will analyse existing successful business models and try to create new ones. You will get an understanding of related concepts, such as megatrends...

Literature:

Osterwalder & Pigneur (2011) Business Model Generation
Gassmann et al. (2015) The Business Model Navigator
Additional literature will be announced during the seminar.

Corporate Innovation & Entrepreneurship			
Module abbreviation:	IPM-Corporate Innovation & Entrepreneurship	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Schöllhammer, Sarah		
Lecturers:	Schöllhammer, Sarah		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Corporate Innovation & Entrepreneurship (IPM-Corporate Innovation & Entrepreneurship)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Objectives:			
<u>Knowledge</u>			
<u>Professional skills</u>			
<u>Social skills</u>			
Content:			
•			
Literature:			
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Creativity and Innovation			
Module abbreviation:	IPM-Creativity and Innovation	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Schöllhammer, Sarah		
Lecturers:	Schöllhammer, Sarah		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Creativity and Innovation (IPM-Creativity and Innovation)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Presentation, 30 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Objectives:			
<u>Knowledge</u>			
<u>Professional skills</u>			
<u>Social skills</u>			
Content:			
•			
Literature:			
•			

Cross-cultural Management and Communication			
Module abbreviation:	IPM-CrossCulturMgmtComm	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Schugk, Michael		
Lecturers:	Schugk, Michael		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Cross-cultural Management and Communication (IPM-CrossCulturMgmtComm)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes and seminar paper; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u>			
Knowledge of extensive theoretical basics for identification of intercultural differences and management practices			
<u>Professional skills</u>			
- Capability to select situation specifically the relevant theoretical basics for different situations in business practice - Capability to apply situation specifically the relevant theoretical basics in the field of cross-cultural management for problem-solving			
<u>Social skills</u>			
Development of intercultural (communication) competence			
Content:			
- Definition and models in regard to the culture term - Intercultural manifestations and instruments for interpersonal intercultural communication			

- Culture-comparing studies according to Kluckhohn and Strodtbeck, Hall, Hofstede, Trompenaars and House
- Cultural neuroscience
- Intercultural communication psychology

Literature:

- BROWAEYS, Marie-Joëlle and Roger PRICE, 2011. *Understanding cross-cultural management*. 2. edition. Harlow ; Munich [u.a.]: Prentice Hall. ISBN 978-0-273-73295-2

Customer Insights & Data Science			
Module abbreviation:	IPM-Customer Insights & Data Science	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Piazza, Alexander		
Lecturers:	Piazza, Alexander		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Customer Insights & Data Science (IPM-Customer Insights & Data Science)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Project Report; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Objectives:			
<u>Knowledge</u>			
<u>Professional skills</u>			
<u>Social skills</u>			
Content:			
•			
Literature:			
•			

Data science and empirical research in business and economics			
Module abbreviation:	Data science and empirical research	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Scholz, Stefanie		
Lecturers:	Scholz, Stefanie		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:	45 h	
	Self-study:	105 h	
	Total:	150 h	
Subjects of the module:	Data science and empirical research in business and economics (Data science and empirical research)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Presentation, 30 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Basic statistics			
Objectives:			
<u>Knowledge</u> Students become familiar with different types of data and gain hands-on experience working with real-world datasets. They learn to use the programming language Python and relevant data science libraries to perform data preparation, management, visualization, and basic descriptive analyses. Furthermore, students learn how to structure and write an empirical research paper and become familiar with key principles and standards of academic writing.			
<u>Professional skills</u> This course enables students to conduct basic empirical data analyses using Python. They develop the ability to critically assess empirical findings encountered in business environments and to distinguish between correlation and causation. Students acquire practical competencies in data management, analysis, visualization, and communication of results. They learn how to approach complex analytical tasks, efficiently process information, and derive evidence-based insights for managerial decision-making. In the short term, the course prepares students for writing an empirical master's thesis and increases their attractiveness to organizations seeking analytically skilled interns and graduates. In the medium term, it provides a solid foundation for advanced courses in data analytics and data science. In the long term, it prepares students for careers in data-driven and analytical professions.			

Social skills

By working collaboratively in teams, students strengthen their communication and teamwork skills. They learn to organize their workload effectively, coordinate project activities, and manage time and responsibilities within a group setting. Through jointly completing a data analysis project, students enhance their problem-solving abilities, self-organization, and confidence in presenting and discussing analytical results.

Content:

The ongoing digital transformation enables organizations to collect and store growing amounts of data on business processes, employees, customers, products, and markets. These data can be used to improve forecasting, support managerial decision-making, and evaluate the effects of organizational strategies and interventions.

In this practice-oriented course, students learn how to work with and analyze real-world datasets to address business-related research questions. They apply fundamental statistical methods and use the programming language Python together with modern data science tools for data management, analysis, and visualization. Students learn to distinguish between correlation and causality and to critically interpret empirical findings. In addition, they develop skills in documenting, visualizing, and communicating analytical results in a structured academic research paper. The course combines lectures, practical exercises, project work, and guided online learning.

The course combines lectures, practical computer-based exercises, and project work. Selected DataCamp courses on Python programming, data manipulation, data visualization, and exploratory data analysis complement the classroom sessions and provide students with opportunities for self-paced skills development. Students are expected to complete designated online learning units prior to selected practical sessions. Student groups independently analyze data to address a given research question and present their findings. Assessment is based on a seminar paper (approximately five pages, excluding tables and figures) and a presentation summarizing the results of the group project.

Major topics of the course

- The role and value of empirical research in business and economics
- Fundamentals of empirical research design and the distinction between correlation and causation
- Introduction to business-relevant data sources
- Data management and data preparation
- Descriptive statistics and exploratory data analysis
- Data visualization and communication of analytical results
- Introduction to Python for empirical data analysis
- Applying Python for data management, analysis, and visualization
- Structuring an empirical research paper or master's thesis
- Principles and best practices of academic writing

Literature:

- Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani, and Jonathan Taylor. An Introduction to Statistical Learning with Applications in Python. Springer Texts in Statistics. Springer Cham, 2023. ISBN 978-3-031-38747-0. URL: <https://doi.org/10.1007/978-3-031-38747-0>
- Thomas Haslwanter. An Introduction to Statistics with Python. Statistics and Computing. Springer Cham, 2022. ISBN 978-3-030-97371-1. URL: <https://doi.org/10.1007/978-3-030-97371-1>

- C. Huang and A. Petukhina. Applied Time Series Analysis and Forecasting with Python. Statistics and Computing. Springer International Publishing, 2022. ISBN 9783031135842. URL: <https://doi.org/10.1007/978-3-031-13584-2>

E-Business			
Module abbreviation:	IPM-EBusiness	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Knüpffer, Wolf		
Lecturers:	Knüpffer, Wolf		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 2 SWS		
Workload:	Contact hours:		22,5 h
	Self-study:		127,5 h
	Total:		150 h
Subjects of the module:	E-Business (IPM-EBusiness)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students know about the potentials and limits of e-business. They are familiar with the economic effects in the "new economy" and the basic structure business models in e-business and they have basic knowledge of methods to manage e-business projects.			
<u>Professional skills</u> The students are able to evaluate the business models of existing offerings on the internet and they can develop concepts of sustainable e-business solutions. They are familiar with the tasks and problems that have to be solved in order to implement and operate such solutions.			
<u>Social skills</u> The students are familiar with the most important impacts of e-business on society. They understand the interdisciplinary problems within e-business project teams and know approaches to handle them.			
Content:			
• Introduction to e-business (definition and potential, most important current developments), • Impacts of e-business on society and vice versa, • Evaluation and development of business models for e-business,			

- Characteristics and management of e-business projects,
- Specific problems of the implementation and the operation of e-business systems.

Literature:

- CHAFFEY, Dave, 2009. *E-business and e-commerce management: strategy, implementation and practice*. 4. edition. Harlow [u.a.]: FT Prentice Hall. ISBN 978-0-273-71960-1 (pbk.), 0-273-71960-2 (pbk.)
- TURBAN, Efraim, 2010. *Electronic commerce 2010: a managerial perspective*. 6. edition. Boston ; Munich u.a.: Pearson. ISBN 978-0-13-703465-9, 0-13-703465-2

English for Specific Purposes			
Module abbreviation:	English f. specific purposes	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	McIntosh, Sabine		
Lecturers:	McIntosh, Sabine		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	English for Specific Purposes (English f. specific purposes)		
Frequency:	Winter and summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper and presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
English knowledge according to the European Frame of Reference level B2/C1			
Objectives:			
<u>Professional and methodological competence</u>			
- Students deepen existing language knowledge in a specific subject area and expand their knowledge of specific terminology. - Students apply existing subject knowledge and competences from the two other fields of study (business and culture) in the foreign language. - Students independently access information via the Internet. - Students describe and evaluate strategies and concepts from the chosen subject area, orally or in writing, depending on the task. - They further develop existing meeting strategies, expand their subject-related techniques for discussion, moderation and presentation and improve their negotiation skills with special consideration of intercultural relations and intercultural communication.			
<u>Personal competence</u>			
Students reflect on the goals they have reached and design the necessary processes independently and sustainably.			

<u>Social competence</u> • Students engage responsibly and in a collegial manner in the team and solve problems and tasks together and with foresight. • They explain complex topics in an understandable and correct way, argue their point of view and develop it further with their peers. • Students give their fellow students appreciative feedback within the framework of their presentation • They describe and evaluate strategies and concepts from the chosen topic area, orally or in writing, depending on the assignment. Operational competence • The students design the processes necessary for the development of the subject area in a goal-oriented and efficient way, taking into account the team constellation as well as their own goals, and use the necessary linguistic means correctly. • They design their texts in the target language in an inclusive, fair and gender-neutral way. Specific competence • Intercultural competence: Students are aware of the cultural diversity in modern companies and the need for special consideration of intercultural relations and intercultural communication in everyday professional life. • Language competence Students have a competent command of appropriate specialised language. • Digital competences Students use electronic tools to organise their group work, to communicate in the target language and to create presentations, posters, etc.
Content: • The module teaches context-related specialist language from a professionally relevant thematic target area at level B2/C1. The target area can vary depending on the students' interests. • The module introduces the conventions of subject-oriented communication in a global context. Students determine and apply specialised language, which they will use in their future professional environment. They develop strategies to promote effective addressee-specific specialised language competence. These are either specific skills (e.g. creating a professional application portfolio) or appropriate specialised language register, e.g. for the chosen focus. • Subject areas may include: - Job Application / Recruitment / Human Resources - Hospitality and Tourism - Accounting and Finance / International Trade - Marketing / International Management / Working Across Cultures
Literature: Will be specified at the beginning

Entrepreneurial Finance			
Module abbreviation:	IPM-Entrepreneurial Finance	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Gollisch, Simon		
Lecturers:	Gollisch, Simon		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Entrepreneurial Finance (IPM-Entrepreneurial Finance)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper and presentation, 30 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
Qualifikationsziele: <i>Fach- und Methodenkompetenz</i> - Die Studierenden verfügen über wichtige Kenntnisse in der Finanzierung, dem Rechnungswesen und dem Controlling, speziell mit dem Fokus auf Unternehmensgründungen - Sie kennen entsprechende Konzepte der Unternehmensrechnung (inkl. einschlägiger KPIs) und können ihre Relevanz einschätzen - Sie kennen aktuelle Entwicklungen in den Themenbereichen Finanzierung/Fundraising und können Vor- und Nachteile verschiedener Finanzierungsformen begründet gegeneinander abwägen <i>Handlungskompetenz</i> - Die Studierenden sind in der Lage, aufgrund ihres erworbenen Wissens real auftretende Herausforderungen bei der Finanzierung und finanziellen Führung ihres eigenen Gründungsprojektes zu analysieren, zu bewerten und zu reflektieren - Sie können entsprechende Planungs- und Controllingsysteme selbst erstellen - Sie verfügen über die Fähigkeit zur Bewertung von einschlägigen Unternehmenskennzahlen <i>Sozialkompetenz</i> - Unternehmerisch-kreatives Denken			

- Analytische Fähigkeiten
- Moderation und Kommunikation

Content:

- Business Plan
- Grundlagen der Unternehmensrechnung
 - Rechnungswesen
 - Bilanzierung
 - Kennzahlen
 - Kennzahlensysteme
- Unternehmensplanung
 - Aufbau eines Prognosemodells
 - Implementierung der Unternehmensplanung in MS Excel
- Gründungsfinanzierung
 - Fremdfinanzierung
 - Eigenfinanzierung
 - Hybride Formen
 - Zuschüsse und Förderungen

Literature:

- Diehm, Jürgen (2017): Controlling in Start-up-Unternehmen, Springer Gabler, Wiesbaden.
- Espinal, Carlos (2021): Fundraising Field Guide, Reedsy, o.a.O.
- Fundraising Akademie (Hrsg, 2016): Fundraising, Springer Gabler, Wiesbaden.
- Haag, Patrick (Hrsg, 2021): KMU- und Start-up-Management, Springer Gabler, Wiesbaden.
- Hahn, Christopher (2018): Finanzierung von Start-up-Unternehmen, Springer Gabler, Wiesbaden.
- Kühnapfel, Jörg (2019): Prognosen für Start-up-Unternehmen, Springer Gabler, Wiesbaden.

Fundamentals of Digital Marketing			
Module abbreviation:	IPM-Fundamentals of Digital Marketing	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:			
Lecturers:	Pilz, Anna		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Fundamentals of Digital Marketing (IPM-Fundamentals of Digital Marketing)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 60 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Objectives:			
<u>Knowledge</u>			
<u>Professional skills</u>			
<u>Social skills</u>			
Content:			
•			
Literature:			
•			

German 1 as a Foreign Language (beginners)			
Module abbreviation:	IPM-Germ1ForeignLanguaBegin	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Dr. Leòn		
Lecturers:	Dr. León		
Language of instruction:	German		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:	45 h	
	Self-study:	105 h	
	Total:	150 h	
Subjects of the module:	German 1 as a Foreign Language (beginners) (IPM-Germ1ForeignLanguaBegin)		
Frequency:	Winter and summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students have command of the basic principles of the German language so that they can interact in a simple way successfully. Students can ask and answer simple questions (eg for the way, time, library matters, lunch in university canteen etc.), initiate and respond to simple statements in areas of immediate need or on very familiar topics. Students can discuss everyday practical issues in a simple way e.g. what to do, where to go and make arrangements to meet. Students learn understand everyday expressions aimed at the satisfaction of simple needs of a concrete type. Furthermore the students become familiar with cultural specifications of Germany.			
<u>Professional skills</u> Reception and production strategies are employed constantly during interaction. Students can recognize familiar names and words and very basic phrases on simple notices in the most common everyday situations. The Students can get an idea of the content of simpler informational material and short descriptions. Students can understand phrases and the highest frequency vocabulary related to areas of most immediate relevance eg. shopping, local area, employment, university issues. Students can catch the main points in short, clear messages and announcements which is essential eg. for travelling etc.			

Content:
It is the subject of the course to offer exchange students the chance to communicate easily and interculturally adequate in a German environment and continually advance their language competences in order to deal with different subjects in different situations and scenarios in Germany effectively.
Literature:
Will be specified at the beginning

German 2 as a Foreign Language (intermediate)			
Module abbreviation:	IPM-Germ2ForeignLan-gualInterm	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Dr. Leòn		
Lecturers:	Wittmann, Dimitra		
Language of instruction:	German		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:	45 h	
	Self-study:	105 h	
	Total:	150 h	
Subjects of the module:	German 2 as a Foreign Language (intermediate) (IPM-Germ2ForeignLan-gualInterm)		
Frequency:	Winter and summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students can understand main points of clear standard of familiar matters regularly encountered at uni-versity and areas linked (internship) etc., they can make arrangements and understand topics of personal or professional interest. They can enter unprepared into conversation on topics that are familiar, of personal interest or pertinent to everyday life. The students can deal with most situations likely to arise whilst travel-ling in an area where the language is spoken.			
<u>Professional skills</u> The students can understand texts that consist mainly of high frequency everyday or job-related language. Reception and production strategies are employed constantly during interaction. They can describe experi-ences, events and ambitions which are university- and job-related issues (concerning internship). They can communicate with colleagues at their internships in an adequate way if communication is based on topics which are familiar. The students can briefly give reasons and explanations for opinions and plans in an ap-propriate way (related to B1-level). Furthermore, the students become familiar with cultural specifications of Germany especially related to professional environments.			

Content:

It is the subject of the course to offer exchange students the chance to communicate easily and intercultur-ally adequate in a German environment and continually advance their language competences in order to deal with different subjects in different situations and scenarios in Germany effectively. On an adequate level according to level B1.

Literature:

- MITTLER, Alexandra, 2012. *DaF kompakt A1-B1 Grammatik: Deutsch als Fremdsprache für Erwachsene*. 1. edition. Stuttgart: Klett. ISBN 978-3-12-676193-2

Global Marketing			
Module abbreviation:	IPM-Global_Marketing	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Schugk, Michael		
Lecturers:	Schugk, Michael		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Global Marketing (IPM-Global_Marketing)		
Frequency:	Summer semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Written exam, 90 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> - Competence and applicability in the learned theoretical contents with an orientation towards problems which arrive when coordinating - The ability to use one's learned problem solving skills in all parts of International Marketing <u>Professional skills</u> - Complete overview over the approach towards International Marketing according to Backhaus et al - Expertise in Going international and Being international as fundamental topics of International Marketing - Understanding of the special features of International Marketing <u>Social skills</u> - Recognition of international and intercultural differences - Development of soft skills in an international context			

Content:

Going international:

- Problem of coordination concerning International Marketing
- Evaluation and selection of markets
- Strategies for market entry

Being international:

- Problem of coordination on markets growing together
- Coordination strategies on markets growing together
- Strategies for market entry
- Coordination demand covering strategies
- Coordination demand reducing strategies

Literature:

- BACKHAUS, Klaus, Joachim BÜSCHKEN and Markus VOETH, 2006. *International marketing*. [. edition. Houndmills, Basingstoke [u.a.]: Palgrave Macmillan. ISBN 978-0-333-96388-3

Idea to Business			
Module abbreviation:	IPM-Idea to Business	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Schöllhammer, Sarah		
Lecturers:	Schöllhammer, Sarah		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Idea to Business (IPM-Idea to Business)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper and presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
None			
Recommended prerequisites:			
None			
Objectives:			
Knowledge Students understand the theoretical foundations of creativity and innovation, are familiar with the end-to-end process of human-centred product and business development, and can classify different innovation types and business model patterns. They know the logic of experiment-based validation and understand when and how to apply different prototyping fidelities.			
Professional Skills Students are able to apply Design Thinking methods to real-world problems, generate and systematically evaluate ideas, build prototypes of varying fidelity, and design and execute business experiments. They can construct a Value Proposition and Business Model Canvas, derive testable hypotheses, and make evidence-based pivot-or-persevere decisions.			
Social Skills Students develop the ability to work creatively and collaboratively in interdisciplinary teams. They practice iterative, user-centred ways of working and build confidence in presenting and defending early-stage concepts under conditions of uncertainty.			

Content:

The module prepares students for the Product Management core project by equipping them with a practical toolkit spanning the full innovation and validation process. Teaching combines short inputs, hands-on workshops, and semester-long running case where student teams develop and validate a business /startup idea of their own choice.

1 Introduction: Creativity & Innovation

- Definitions and dimensions of innovation
- Creativity: myths, research findings, individual and organisational enablers and blockers
- Overview of the module process; introduction of the semester application project (own startup topic)

2 Understand & Frame the Problem

- Design Thinking mindset and principles
- Empathy interviews and observation methods
- Empathy Map and Personas
- Point of View Statement and How Might We questions

3 Ideate

- Divergent and convergent thinking
- Creativity techniques: Crazy 8s, SCAMPER, Analogical Thinking, ...
- Idea evaluation methods: dot voting, Impact/Effort Matrix, weighted scoring, ...

4 Prototype

- Why prototype early: fail cheap, learn fast
- Fidelity ladder and choosing the right prototype for the right question
- Design Thinking prototypes
- Value Proposition prototypes
- Service prototyping
- Digital prototypes: from wireframes to MVP
- AI-assisted prototyping

5 Test & Learn

- Testing with (AI & real) users
- Evaluating user feedback & iterations

6 Business Model Development

- Value Proposition Canvas
- Types and patterns of business models

- Business Model Canvas

7 Business Experimentation & Lean Startup

- Lean Startup cycle: Build – Measure – Learn
- Deriving hypotheses
- Experiment types: discovery, validation, and learning experiments
- Defining metrics and success criteria
- Interpreting results and deciding: pivot vs. persevere

Literature:

- BLAND, D.J. & OSTERWALDER, A. (2019). *Testing Business Ideas*. Wiley.
- BROWN, T. (2009). *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*. HarperBusiness.
- Dark Horse Innovation (2016). *Digital Innovation Playbook*. Murmann Publishers.
- HASSO PLATTNER INSTITUTE OF DESIGN AT STANFORD (d.school). *Design Thinking Bootleg*. Available at: <https://dschool.stanford.edu/resources/design-thinking-bootleg>
- LEWRICK, M., LINK, P. & LEIFER, L. (2018). *The Design Thinking Playbook*. Wiley.
- OSTERWALDER, A. & PIGNEUR, Y. (2010). *Business Model Generation*. Wiley.
- OSTERWALDER, A., PIGNEUR, Y., BERNARDA, G. & SMITH, A. (2014). *Value Proposition Design*. Wiley.
- RIES, E. (2011). *The Lean Startup*. Crown Business.

Additional literature will be specified during the course.

Introduction to Quality Management			
Module abbreviation:	IPM - Introduction to Quality Management	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Hedderich, Barbara		
Lecturers:	Wilisch, Christian		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Introduction to Quality Management		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> The students gain a basic understanding of the historic developments that led to today's culture of quality management. They understand the concept of 'quality' in an industrial and B2B environment. They have a fundamental understanding of modern quality management philosophies and their implementation.			
<u>Professional Skills</u> The students gain the ability to understand quality management in organizational contexts. The students can apply quality management and quality assurance techniques.			
<u>Social Skills</u> Students can carry out independent literature search in a quality management topic and present their findings in a seminar setting.			
Content:			
• What is 'quality'? • Historical context of quality management • Financial aspects of quality management			

- Quality techniques and their applications
- Process control techniques
- Critical assessment of QM approaches

Literature:

- IMAI, Masaaki, 2012. *Gemba kaizen: a commonsense approach to a continuous improvement strategy*. 2. edition. New York, NY [u.a.]: McGraw Hill. ISBN 0-07-179035-7, 978-0-07-179035-2
- CHALKIADAKIS, Ioannis , 2019. *New Product Development with the use of Quality Function*. ISBN 978-3330344181
- MONTGOMERY, Douglas C., 2019. *Introduction to statistical quality control*. E. edition. Hoboken, NJ: Wiley. ISBN 978-1-119-65711-8, 978-1-118-98915-9

Lean Production - Manufacturing Excellence			
Module abbreviation:	IPM-LeanProductManufactExcell	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Slama, Stefan		
Lecturers:	Slama, Stefan		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Lean Production - Manufacturing Excellence (IPM-LeanProductManufactExcell)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper and presentation; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Knowledge</u> Students are becoming familiar with expert knowledge and scientific concepts and methods in the field of Lean Production and Manufacturing Excellence. They understand the most important aims of production without waste of resources, lean thinking in processes and organization, helpful tools and they will know methods and tasks to solve problems in efficiency.			
<u>Professional skills</u> Students are able to solve tasks autonomously and are able to assess problems in the field of Lean Production			
<u>Social skills</u> The students are able to discuss case study results in groups, achieve consensus by critical but constructive discussions and present final work results as a team, also their research study project			
Content:			
• Definition, Meaning, Opportunities, Method Overview and Structure of Lean Production • Team Work, 5S, Standards • Muda Elimination, TPM (Total Productive Maintenance), JIT (Just In Time) • Employee Involvement, Quality First, etc.			

- Strengthening of key aspects with additional trainings and exercises in team-work, critically considerations of effects/needs and presentation of results

Literature:

Will be specified at the beginning

Marketing Strategy			
Module abbreviation:	IPM-Marketing Strategy	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Durst, Carolin		
Lecturers:	Durst, Carolin		
Language of instruction:	Deutsch		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Marketing Strategy (IPM-Marketing Strategy)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Project Report; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
Objectives:			
<u>Knowledge</u>			
<u>Professional skills</u>			
<u>Social skills</u>			
Content:			
•			
Literature:			
•			

Project Management			
Module abbreviation:	IPM-ProjectManagement	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Slama, Stefan		
Lecturers:	Prasol, Lukas		
Language of instruction:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Project Management (IPM-ProjectManagement)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Report and presentation, 15 minutes; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Professional Skills</u> The students know the basics of project management as a project employee and a project manager. They master the problem solving phase, the planning phase, change management, risk management, and the WBS. They understand the connections in parallel and serial processes and the associated risks.			
<u>Knowledge Skills</u> They master the problem solving phase, the planning phase, change management, risk management, and the WBS. The students are able to all problems in the project cycle to identify themselves. The students know the basics of project management as a project employee and a project manager. The students gain experience in a real project work.			
<u>Social Skills</u> Students get an overview of team building and leadership skills. The students know the basics of project management as a project employee and a project manager.			
Content:			
Besides the basics, such as definition, meaning and structure of project management, there will be forms of organizations, approach and project management tools critically considered.			

Management of staff and teams are discussed and practiced. Various forms of communication and techniques of facilitation and presentation will be practiced.

The goal is a holistic project management approach.

Literature:

Will be specified at the beginning

Spanish for professional purposes			
Module abbreviation:	IPM-Spanishforprofessionalpurposes	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)	Elective Module	1 or 2
Responsible for module:	Dr. Leòn		
Lecturers:	Gebhard, Christian Alexander		
Language of instruction:	Spanish		
Credit points / SWS:	5 ECTS / 4 SWS		
Workload:	Contact hours:		45 h
	Self-study:		105 h
	Total:		150 h
Subjects of the module:	Spanish for professional purposes (IPM-Spanishforprofessionalpurposes)		
Frequency:	Winter semester		
Module duration:	1 semester		
Lecture types:	Seminar		
Examinations:	Seminar paper; graded		
Usability:	Master International Product and Service Management		
Prerequisites according examination regulation:			
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.			
Recommended prerequisites:			
None			
Objectives:			
<u>Qualification aims</u>			
- Gaining fluency in oral and written communication in business contexts on an intermediate to advanced level - Using Spanish appropriately in given business related contexts - Consolidation of intercultural competence			
<u>Knowledge</u>			
- Students know technical vocabulary for oral communication for business purposes (presentations, telephone conversations, etc.) and for written communication (short reports, CV, formal letters, etc.) - Students know grammar structures of the Spanish language as indicated below - Students gain an insight into business structures and financial issues of the Spanish speaking world			
<u>Professional skills</u>			
- Students apply their knowledge about Spanish speaking countries in formal situations - Students establish business contacts in the Spanish speaking world			
<u>Social skills</u>			
Students understand and apply the communication style of Spanish speaking cultures			

Students work together in small groups
Content:
- Consolidation and broadening of grammatical structures such as the tenses and mood and lexical structures such as verbal phrases - Practicing oral and written communication in business contexts with a special focus on strategies and behavior for discussions, presentations and phone calls, as well as short reports, CV, and formal letters. - Business subjects will be treated highlighting their cultural specificities on the background of a particular Spanish speaking country - Practicing fluent and appropriate oral expressions of summarizing and describing complex facts and circumstances and expressing one's personal opinion
Literature:
Teaching Material: - Script Recommended: - Meta profesional. B1. - Kursbuch + Audio-CD: 978-3-12-515470-4 - Übungsbuch + Audio-CD: 978-3-12-515471-1 - Tano, Marcelo (2009): Expertos. Curso avanzado de español orientado al mundo del trabajo. Difusión/Klett. - Libro del alumno + Audio-CD + DVD: 978-3-12-515595-4 (3-12-515595-9) - Cuaderno de ejercicios + Audio-CD: 978-3-12-515596-1 - Abegg, Birgit / Martínez Cestero, Antonio (2006): Comunicación empresarial. Hueber. - Students' book: 978-3-19-004030-8 - Audio-CD: 978-3-19-034030-9

2.4 Master Thesis

Master Thesis			
Module abbreviation:	IPM-ProductManagement	Reg.no.:	
Curriculum:	Programme	Module type	Semester
	International Product and Service Management (SPO WS 16/17)		3
Responsible for module:	Director of the program		
Lecturers:	Two advisors, at least one of them has to be a regular professor of the University of Applied Sciences Ansbach		
Language of instruction:	English		
Credit points / SWS:	30 ECTS		
Workload:	Contact hours:	10 h	
	Self-study:	890 h	
	Total:	900 h	
Subjects of the module:	Product Management (IPM-ProductManagement)		
Frequency:	Winter and summer semester		
Module duration:	1 semester		
Examinations:	Master Thesis; graded		
Usability:	Master International Product and Service Management		
Premises for Participation:			
At least 50 ECTS Points are necessary to apply for the master thesis.			
Objectives:			
<u>Knowledge</u> The students get a deep insight into the topic they treat.			
<u>Professional skills</u> The students should be able to raise a given theme in a proper academic way, that includes - Finding a relevant problem or project. - To list the main parts of a research work as well as to establish research goals. To establish a regular/periodic meetings schedule with the adviser. - To look for documents related to the theme and to select the most appropriate according to the research work, which means the candidate must know the State of the Art. This State of the Art may not be the same for an academic and a professional Final Research Project, e.g. the literature and journals used can vary. But even if taking into account the differences between the two approaches the basic requirement of using the scientific method stays the same. Students have to look in a project thesis for an adequate method to analyze e.g. a firm specific problem and to find based on this analysis an adequate method for solving it, showing in their thesis their deliberation process and as such showing that they master the relevant literature. - To use main tools and resources for collecting information: observation, interview, survey, etc. - To write down bibliography and references of consulted documents in an adequate way			
<u>Social skills</u> Students are able to organize their work on their own (constitution of project structure (time schedule, work packages). They master the challenge of applying scientific methods to a given problem in a given time frame.			

Content:

The master thesis can have a more theoretical or a more applied research focus. In the latter case it will normally be based on a project developed at firm.

The student will define and realize her/his research project independently and set down its results in a final academic paper. She/he will be advised by a professor.

The project should belong to the field of Product and Service Management. A master thesis with a more theoretical orientation implies a deeper state of the art revision and a content development based on standard guidelines which are similar to a research paper. It implies to expand the limits of scientific knowledge in a specific area known but not excluding other approaches; since in most cases it could imply the starting point of the Doctoral dissertation.

In a more applied final project a revision of the state of the art is also expected when choosing an adequate methodology for handling the firm specific problem.

Especially important is the well adapted transfer of the chosen methodology to the problem at hand which includes the evaluation of the solution following academic standards.