Fachhochschule Südwestfalen
University of Applied Sciences

South Westphalia University of Applied Sciences

Campus Hagen

Faculty of Technical Business Administration

English-taught Exchange Semester

Module Descriptions

Wir geben Impulse

Content

Bachelor modules: Overview

Course Name	Level	ECTS	Term
General Management Competencies			
Project Management	BA	5	S
Financial Statements and Sustainability Report	BA	5	[S]
Business Transformation	BA	3	[S]
Management Simulation	BA	2	[S]
International Management Competencies			
Foreign Trade and Investment	BA	3	S
International Business	BA	5	S
International Marketing	BA	5	[S]
English Language			
Business English	BA	2	S
English for Technical Purposes	BA	5	S
German Language			
German Language Course*	BA	Certificate	[S]

Notes:
* joint offering for all campuses

Summer term Core Programme	S
Summer term Elective (minimum of 5 participants required)	[S]

Start / End of Summer Term: March 1 / August 31
Start / End of Lectures in Summer Term: 4th week of March / 2nd week of July
Examination Week in Summer Term: 3rd and 4th week of July

Project Management

Module	Project Management
Module supervisor/ full-time lecturer	Prof. Dr. Evelyn Albrecht-Goepfert
Workload	5 ECTS

Learning outcomes and competences

University graduates are increasingly expected to take on project responsibility in companies. Project management requires diverse competencies and is a good basis for change and innovative processes. will know how to plan, organize and successfully manage projects in compliance with time, cost and quality targets. In addition to teaching the principles of successful project management, the course focuses on understanding the tasks and requirements of project management and reflecting on the phases of team development.

Transfer Competencies:

- Ability to structure and manage projects while adhering to time, cost, and quality objectives
- Ability to describe the project life cycle and apply phase-specific methods

Normative-evaluative Competencies:

- Recognize the importance of the individual project phases and especially the initial phase of a project
- To recognize risks and crises in the project process

Business-orientated Competencies:

- Network planning technique
- Project management software Microsoft MS Project
- Group leadership or teamwork skills in the exercise part
- Presentation skills
- Planning and effectively leading meetings
- Observing group processes

Forms of teaching & further information on examination forms

Lecture with partly seminar style, exercises with the project management business game Carveout. Project management simulation Carveout is based on IPMA / GPM standards.
Performance of the portfolio examination (100 points): 1 partial examination (60 points); project management simulation Carveout (40 points).
Partial exam and project management simulation Carveout must both be passed with at least 50% each.

Course content

1. Project Objectives (What are goals? How are goals defined?)
2. Role of the Project Leaders and the team, respectively
3. Project Planning (Quality, Performance, Costs, and Milestones)
4. Methods of Planning time and costs
5. Project Structure Plan and Work Packages
6. Project Roll-Out (Milestones, Interim Results, Risk Management)
7. Project Controlling and Project Finalization (Reporting)

General Management Competences

8. Leadership and People Management (Team Management, Mediation) The content is taught both theoretically and by means of case studies, project management business game Carveout involving project management software such as MS Project

Financial Statements and Sustainability Reporting

Module	Financial Statements and Analysis
Module supervisor/ full-time lecturer	Prof. Dr. Ahmad Sultana
Workload	5 ECTS

Learning outcomes and competences

Knowledge

After successfully completing the module, students know

... the institutional framework of IFRS
... the accounting principles and elements of IFRS financial statements
... the main recognition, measurement and disclosure requirements of IFRS
... the contents of a management report
... the main contents of a sustainability report
... the external accounting process

Abilities

After successfully completing the module, students will be able to

... assess the application of IFRS in Germany
... apply the recognition, measurement and disclosure requirements to specific accounting issues, taking into account the accounting principles
... assess and evaluate the main differences between accounting regulations under commercial law and IFRS
... derive statements for assessing the net assets, financial position and results of operations of a company
... evaluate and critically assess the contents of a management report and sustainability report

Forms of teaching & further information on examination forms

Teaching methods: Lecture; seminar-style teaching/exercise; case studies, project and case examples to be dealt with and solved in the form of group work
Language of instruction: English
Information on examination forms: Written exam

Course content

This module deals with accounting in accordance with IFRS on the basis of the knowledge gained in the module Annual Financial Statements,
Management Report and Sustainability Reporting. The focus is on the preparation of individual financial statements in accordance with IFRS.
The regulations on international accounting in accordance with IFRS are at the centre of the discussion.
This module deals with various areas of financial reporting as well as sustainability reporting. The focus is on the preparation of individual financial statements in accordance with IFRS and management reports as well as the basics of a sustainability report. International accounting regulations in accordance with IFRS are at the centre of the course.
The following topics are covered in detail:
Preparation of annual financial statements in accordance with IFRS:

- Regulatory basis for the application of IFRS in the EU and in Germany

General Management Competences

- Institutions of international accounting
- Accounting principles according to IFRS
- Components of IFRS financial statements
- Accounting for deferred taxes (IAS 12)
- Accounting for intangible assets (IAS 38 and 36)
- Accounting for property, plant and equipment (IAS 16) and leases (IFRS 16)
- Accounting for financial instruments (IFRS 9)
- Accounting for inventories (IAS 2)
- Recognition of provisions (IAS 37)
- Recognising revenue from contracts with customers (IFRS 15)

Preparation of the management report
Principles of (non-financial) sustainability reporting

Business Transformation

Module	Business Transformation
Module supervisor/ full-time lecturer	Prof. Dr. Ines von Weichs
Workload	3 ECTS

Learning outcomes and competences

The students shall get familiar with today's environmental triggers for business transformation and the VUCA environments as well as its implication for strategic management and business transformation. The students shall know the basic principles and options of strategic management. They gain competence in applying analytical methods and are able to interpret related results of company or market research critically. Students know general strategic options as well as the principles of business modelling. They are aware of the challenges of strategy and change implementation in VUCA context and know about the potential success factors for process management and dealing with individuals in the context of change. Students shall get a broad understanding of strategic options, business model innovation as well as change management. They shall be able to participate in the organizational transformation process. They shall be able to prepare decision proposals. They will be able to reflect on the steps of the strategic planning process, its implementation and organizational as well as individual behaviors.

Transfer Competencies:

- Application of environmental analysis to evaluate transformational requirements
- Recognition of critical success factors and their outcomes
- Development of strategies and operative measures
- check current strategy and business model(s) and developing them further or generate new ones
- Collection of information within the course of analysis and evaluation and interpretation of such result
- Awareness of digital transformation issues and digital enablers
- Design of change implementation plans
- Understanding ecosystem dynamics and being able to evaluate business roles and positions in such ecosytems
-

Normative-evaluative Competencies:

- Capability of a structured situational analyses of a company and systematic analysis of the organizational environment
- Application of different methods and approaches as well as interpretation of the related expected outcomes
- Evaluation of the advantages and disadvantages of different approaches under consideration of market characteristics and company
- situation
- Reflection on concepts by working with case studies and case examples
-

Profession-oriented Competencies:

- Increase of competences in collaboration, team work and group discussion
- Preparation of strategic options on different organizational levels

- Use of knowledge generating methods
- Development of approaches and capability of conclusive and persuasive presentations

Forms of teaching & further information on examination forms

Teaching Method: Lecture parts on the theoretical foundations and principles of strategic management and change management with application examples and reflective questions. High involvement of participants through case studies, group exercises, presentations and application tasks.

Portfolio-Exam:

- case study group work (30%)
- individual research poster presentation (30 %)
- written exam (40%)

Course content

Description:

The high dynamics of todays' business environments require companies to continuously check their current strategy and their business model(s) and to develop them further or generate new ones. External triggers for transformation such as global economic developments, digital trends or the strive for sustainability are just a few of the many environmental challenges that organizations are acing today. The so called VUCA conditions require new paradigms for businesses to manage them.

Successful transformation requires a broad understanding of strategic options, business model innovation as well as change management for successful implementation, which will be covered in the class. The students shall further get aware of the challenges of strategy and change implementation and know about the potential success factors for process management and dealing with individuals in the context of
transformational change.

The lecture will be held in a seminar style, using group works, case studies and best practices, presentations and discourse.

Content:

- Environmental triggers for change / VUCA
- Fundamentals of digitalization and digital transformation
- Business model generation and innovation
- The role of environmental ecosystems
- Fundamentals of change management

Management Simulation

Module	Management Simulation
Module supervisor/ full-time lecturer	Prof. Dr. André Coners/ Christoph Glatz and Prof. Dipl.-Ing. MA Gerald Lange
Workload	2 ECTS

Learning outcomes and competences

Knowledge

After successful completion of the module students know

- Multinational co-operation and teamwork as success factors
- Adequate and goal-oriented approaches
- Graphics and tables for management presentations

Abilities

Having passed the module the students

- Understand decision-making processes in multinational small groups
- Identify structures and problems in companies
- Use business methods to solve them
- Identify and evaluate the relationships between the individual business processes
- Can create a business plan
- • Present results in English

Forms of teaching & further information on examination forms

Within the scope of the simulation, the following exam elements are obligatory:

- individual presentation within the group (orally, 7-10 minutes, 30% of total points) about the model of the simulation
- individual presentation within the group (written, 50% of total points) and group work (verbal, 20% of the total points)

Course content

The students are expected to learn the basic knowledge of business management processes in the context of a multinational enterprise simulation

Course contents

- Management simulation BOCASH

Foreign Trade and Investment

Module	Foreign Trade and Investment
Module supervisor/ full-time lecturer	Prof. Dr. Eva Erhardt
Workload	3 ECTS

Learning outcomes and competences

Knowledge: after successful completion of the course participants know ...

- the principles of academic writing
- conventional and modern techniques of literature search
- criteria to critically evaluate academic sources and findings
- the basic approaches and current trends of foreign trade and investment.

Abilities: after successful completion of the course participants are able to ...

- develop an in-depth analysis of a current topic in foreign trade and investment
- independently capture, focus, and structure a topic
- write an academic paper in line with formal requirements
- purposefully use databases and catalogues for literature search and correctly cite sources of reference
- critically reflect and evaluate sources (e.g. internet), findings, and (own) interpretations
- effectively communicate in presentations and group discussions
- engage in an academic discourse in the field of foreign trade and investment
- constructively provide feedback, but also deal with constructive feedback from others

Forms of teaching & further information on examination forms

Teaching approach:

- Classroom sessions introducing the principles of academic writing (e.g. main steps, structure, literature search, citation)
- Accompanying eLearning courses by the library
- Individual counseling and feedback by the instructor over the course of preparing the seminar paper
- Presentation of exposé and seminar paper followed by feedback and discussion in small groups
- Regular attendance is necessary to enable an academic discourse among participants

Portfolio examination consisting of:

1. Seminar paper (60% of final grade)
2. Presentation and discussion (40% of final grade)
3. Presentation of exposé (requirement)
4. Library certificate (requirement)
5. Class attendance (requirement, 2 absences allowed)

Fulfillment of all requirements is mandatory to pass the portfolio examination. The final grade is based on the weighted average of partial grades as indicated. Each partial grade must be at least 4.0 (sufficient). Possibility to earn bonus points based on voluntary coursework. The maximum bonus jump is one grade point (0.3-0.4). Details are announced in class.

Course content
Participants elaborate a seminar paper, present their paper in an academic talk and engage in the academic discourse during class. The topics of seminar papers are chosen from the field of foreign trade and investment such as trade theories and practices, national trade cooperation, globalization, and international business operations. **Principles of academic writing:** • Process of academic process • Structure and formal requirements of academic writing • Literature search and critical evaluation of sources • Citation rules in academic writing

International Business

Module	International Business
Module supervisor/ full-time lecturer	Prof. Dr. Eva Erhardt
Workload	5 ECTS

Learning outcomes and competences

The students shall acquire the basic knowledge to participate in, plan, and execute international business transactions and projects in small, medium, and large enterprises.

Transfer Competencies:

- Recognition of the general framework, basic structures and development trends of the global economy
- Recognition, evaluation and selection of different modes and approaches to internationalization
- Familiarity with selected challenges and suitable methods to manage the operations of international businesses
- Planning and execution of global sourcing initiatives
- Awareness of aspects and challenges from multi-cultural environments for international HR management
- Normative-evaluative Competences:
- Evaluation of advantages and disadvantages related to different approaches under consideration of market and company characteristics
- Profession-oriented competences:
- Capability of cooperation and teamwork within exercises, case studies and group project
- Communication skills in presentations and group discussions

Forms of teaching & further information on examination forms

Teaching approach:

- Lecture on the framework and contents of international business, partly with involvement of participants through topic related questions.
- Exercises with questions for reflection, case studies, and application tasks.

Portfolio examination consisting of:

1. Written (partially multiple choice) or Oral Exam (50% of final grade)
2. Group project including presentation and report (50% of final grade)

All partial exams must be passed with at least 4.0 (sufficient) to pass the portfolio examination. The final grade is based on the weighted average of partial grades as indicated.

Course content

Lecture International Business:

- Global business environment: international business, multinational enterprises, and globalisation
- National business business enviroment: political, economic, socio-cultural, techological, enviromental, and legal country risks
- International trade and foreign direct investment: free trade theories, FDI theories, government interventions, GATT, WTO, regional trading blocs

International Management Competences

- Market entry strategies: internationalisation strategies, foreign trade, cooperative modes of foreign market entry, foreign market entry with capital participation
- International finance: management of exchange rate exposure, international payment terms, international transfer pricing
- International business operations: global sourcing, international production, logistics, trade customs, documents in foreign trade
- International HR management: international leadership, organizational design, management of global teams
- Ethical and CSR issues of international management

Exercise International Business:

- Identify, evaluate and manage the opportunities and risks of international business

International Marketing

Module	International Marketing
Module supervisor/ full-time lecturer	Prof. Dr. Klaus Thunig
Workload	5 ECTS

Learning outcomes and competences

The students shall acquire the basic knowledge to participate in, plan, and execute international business transactions and projects in small, medium, and large enterprises.

Transfer Competencies:

- Recognition of the general framework, basic structures and development trends of the global economy
- Recognition, evaluation and selection of different modes and approaches to internationalization
- Familiarity with selected challenges and suitable methods to manage the operations of international businesses
- Planning and execution of global sourcing initiatives
- Awareness of aspects and challenges from multi-cultural environments for international HR management

Normative-evaluative Competencies:

- Evaluation of advantages and disadvantages related to different approaches under consideration of market and company characteristics
- Profession-oriented competences:
- Capability of cooperation and teamwork within exercises, case studies and group project
- Communication skills in presentations and group discussions

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Course content

Lecture International Marketing:

- Marketing strategies and plans
- Marketing research
- Customer relationships and loyalty
- Brand management and brand equity
- Product, service and price strategies
- Integrated marketing channels

- Integrated and effective marketing communications
- From domestic to international marketing

Exercise International Marketing:

- Recognize, evaluate and manage the opportunities and risks of marketing and international marketing, develop international marketing plans and initiatives

Business English

Module	Business English
Module supervisor/ full-time lecturer	Dr. Frank Maas
Workload	5 ECTS

Learning outcomes and competences

Professional competences

- After successfully completing the module
- know the essential English specialised vocabulary of the subject areas covered in the courses and can
- recall it from memory and use it correctly without the use of aids,
- know the linguistic means of cohesion and logical structuring of texts and can use them in their own text production without the use of aids from memory.
- and use them correctly in their own text production without the use of aids,
- know different types of business correspondence and their special features,
- know effective techniques for expanding their (specialised) vocabulary,
- can correctly form and use the structures listed in the "Teaching content / grammar" section,
- have foreign language skills in all areas of application (text comprehension, listening comprehension, written expression, speaking
- expression, speaking skills) at level B2 of the Common European Framework of Reference for Languages
- related to communication situations in business life

Methodological and social skills

- After successfully completing the module, students will be able to
- identify specific information in texts
- describe graphs and other diagrams using idiomatic vocabulary,
- structure and deliver presentations,
- create different types of business correspondence,
- express and behave appropriately in typical professional situations
- anticipate and avoid potential conflicts in intercultural contexts

Forms of teaching & further information on examination forms

Working on tasks in individual, partner and group work, simulations and role plays, presentations, questioning and developing dialogue. As part of the course, students must complete a course assignment in the summer semester. This may take the form of a presentation or a written paper and requires an individual time commitment of 8-12 hours, depending on existing knowledge and skills. Further details such as possible topics, scope and submission deadlines will be announced by the lecturer at the beginning of each semester. The duration of the examination is 60 minutes.

Course content

Topics:

- Aspects of international trade; logistics; market types; use of numbers; describing graphs; structuring presentations; office communication

- presentations; office communication: making appointments / communication problems; recruitment; application letter / CV / job interview; different forms of business correspondence and other current topics.
- CV / job interview; different forms of business correspondence and other current topics

Grammar:

- Conditional clauses; use of the passive voice; use of English tenses; restrictive/non-restrictive relative clauses / punctuation in
- English; indirect speech; verb phrases with infinitive and gerund; adjectives/adverbs;

Communication situations:

- Telephoning, presenting, discussing
- Writing business correspondence (emails, memos, application letters, CVs, different types of business letters).
- Reading and discussion of business texts (popular science texts, specialised business texts).
- Listening comprehension exercises

English for Technical Purposes

Module	English for Technical Purposes
Module supervisor/ full-time lecturer	Bruce Ranney
Workload	5 ECTS

Learning outcomes and competences

Expertise

After attending the courses of the module and working on the self-study materials provided as part of the course and after passing the final module examination

- After attending the courses of the module and working on the self-study materials provided as part of the course and after passing the final module examination
- know the essential English specialised vocabulary of the subject areas covered in the courses and can recall it from memory and use it correctly without the use of aids
- are able to assign the technical terms explicitly discussed in the courses to the respective subject areas allocate
- can identify and differentiate between the different meanings of technical terms in the respective subject contexts. distinguish between them
- can describe the shape, form and material properties of an object and its dimensions in English describe
- are familiar with Anglo-Saxon units of measurement such as 'inches', 'feet', 'ounces', 'pounds' or 'gallons' and can identify these in their different spellings and convert them into metric units.
- and convert them into metric units if they are based on units of length
- students can correctly form and use the structures listed in the section "Course content / grammar, syntax, morphology, pronunciation" students have expanded their existing foreign language skills at competence level B2 of the Common European Framework of Reference for Languages to such an extent that they have the prerequisites for coping with a variety of technology-orientated communication situations.

Methodological and social competences

After attending the courses of the module and after working through the self-study materials provided as part of the course and after passing the final module examination, students will be able to

- identify specific technical information from technical documents such as data sheets or catalogue extracts and reproduce it in German reproduce
- summarise the content of a moderately difficult technology-related text (e.g. a description of how a technical product or production process works) and production process) and summarise it in your own words in written and oral form
- summarise simple English-language instructions (e.g. installation instructions, safety instructions) and descriptions of technical procedures (e.g. production processes or functions of technical devices) on the basis of given visual representations
- independently structure and create a presentation on a technical process (e.g. a production process) and organise it using suitable linguistic structures

- identify the elements (e.g. parts of sentences and key terms) of a difficult technical text to such an extent that the text can be analysed in detail with additional time and with the help of specialist dictionaries and online resources
- Use specialised dictionaries and resources available on the internet to identify or clarify the meaning and use of a technical term or other linguistic means. identify or confirm the meaning and use of a technical term or other linguistic means

Forms of teaching & further information on examination forms

Seminar-based teaching, guided and free class discussion, independent development of selected topics.

Course content

Topics:

- Introduction and consolidation of specialised vocabulary and linguistic tools in the following subject areas:
- Shapes and Dimensions; Imperial vs. Metric Units; Mathematics; Operating Instructions; Chemical Elements, Materials and Material Properties; Aggregate States of Materials
- Properties; Aggregate States of Materials; Technical Specifications; Car Components; Engines; Hand Tools; Electrical Engineering;
- Information Technology.
- Presentation exercises on various topics (examples: Concepts of Manufacturing: Manufacturing Materials; Manufacturing
- Processes; Casting; Deformation Processes; Cutting Methods; Joining Methods; Plastics; Concepts of Quality Control; Ergonomics;
- Electrical Engineering)
- Video-supported listening comprehension exercises on some of the above-mentioned topics.
- Reading and discussion of current texts and video materials on innovations in various technical fields.
- Reading and discussion of specialised texts on the above-mentioned topics as well as on information technology and other, partly interdisciplinary
- areas
- Exercises in translating technical texts

Grammar, syntax, morphology, pronunciation:

- Pronunciation exercises, including stress patterns, pronunciation exercises for word pairs and word components with the same spelling,
- but different pronunciation
- Exercises on the derivation and use of parts of speech (especially nouns, verbs, adjectives, adverbs)
- Exercises on the formation and use of passive sentences
- Exercises on the formation and use of participial constructions (relative clauses without relative pronouns)

German Language Course

Module	German Language Course
Module supervisor/ full-time lecturer	Prof. Dr. Klaus Thunig
Workload	0 ECTS/ Certificate

Learning outcomes and competences

Students improve their German language skills according to their prior knowledge.
The course focuses on developing communicative competence in everyday and academic contexts. Upon successful participation, students may receive a certificate.
The course is offered in a cyclical model:

- Summer Semester: typically A2 level
- Winter Semester: typically B1 level

The exact level and learning objectives are adapted to the participants' previous knowledge.

Forms of teaching & further information on examination forms

Interactive language instruction including exercises in speaking, listening, reading, and writing.
A language examination (certificate) may be offered at the end of the course, depending on available resources.

Course content

Content, level, form of lectures and examination will be adapted to participants previous knowledge.
The content and level (A2 or B1) depend on the semester and the participants' language proficiency.

Requirements Engineering and Test Driven Development

Module	Requirements Engineering and Test Driven Development
Module supervisor/ full-time lecturer	Prof. Dr. Henning Femmer
Workload	5 ECTS

Learning outcomes and competences

Knowledge (Expert)

- After successfully passing the module, students know
- Different forms of requirements specifaction and their best application, including natural language requiremens
- Basics of requirements modeling
- Reasons for requirements modelling
- Quality of requirements models
- Context Modelling
- Purpose of context modelling
- Terms and basic elements of context modeling
- Advanced modelling concepts
- Use Case Modelling
- Relation of RE to testing

Skills (Ability)

Through the lecture the students know different techniques and methods for the acquisition, analysis and presentation of the actual state and the formulation of requirements. Through the lecture the students know the elicitation methods and the coordination of requirements and can illustrate the gained requirements on a system or software development and in UML models. The students know which tasks for administration and tool support arise in the lifecycle of requirements and how these can be integrated into your given process model. Students will be able to apply the most common notations for requirements, document requirements in a model-based manner (e.g. class models, activity diagrams, state diagrams), and review requirements. Students can set up an RE process at their company and chose an adequate requirements management method and tool.

Forms of teaching & further information on examination forms

Lecture with lecture notes, group work creating requirements specifications in a team.
Language of instruction is English.
The final grade is created based on five parts:

- System Vision Requirements Specification: 15 points
- „Classical“ Requirements Specification: 25 points
- Model-based Requirements Specification: 25 points.
- Agile & Change-based Requirements Specification: 25 points
- Presentation on Reflection & Learnings: 10 points

Course content

Efficient and effective Requirements Engineering (RE) is one of the key success factors for software- and software-intensive projects. This lecture is based on the standardized IREB

Fundamentals Syllabus and can be used as a preparation for the IREB Certified Requirements Engineering Professional (IREB CPRE) Foundation Level exam.
The lecture covers the following topics:

- Fundamental principles of RE, such as value-orientation or stakeholder-orientation
- Work products and documentation practices in sequential and iterative-incremental ("agile") projects
- Basics of requirements modelling with UML
- Elicitation, elaboration, negotiation and validation (quality assurance) of requirements
- RE processes
- Managing requirements over time, e.g. attribues, version control and change management, traceability
- RE tool support
- RE and testing in test driven development

In this module, students acquire further knowledge through numerous practical exercises, how to efficiently model information structures, functions, behavior and scenarios.

Smart Factories: SAP Leonardo for Industry 4.0

Module	**Smart Factories: SAP Leonardo for Industry 4.0**
Module supervisor/ full-time lecturer	Prof. Dr. Christian Leubner
Workload	5 ECTS

Learning outcomes and competences

Knowledge (Expertise)

- Expertise in business concepts of smart factories: cloud, Internet-of-things, AR/VR
- Preconditions and system landscapes for implementing smart factories

Skills (Ability)

- Usage of SAP S/4HANA, SAP MI and SAP HANA in smart factories settings
- Integrating sensors and edge devices (here: Raspberry PI mini computers) with an SAP HANA database on the Internet
- Working in teams
- Presentation of resuls in front of an audience
- Preparation and elaboration of course content in time
- Preparation and submission of seminar paper in time
- Individual responsibility for defining and agreeing on deadlines as well as to deliver work packages in time and in sufficient quality

Forms of teaching & further information on examination forms

Seminar-like lecture: lecture for all participants together. SAP case studies are performed individually. Language of instruction is english. Examination: seminar paper incl. presentation; the SAP case studies have to be done obligatorily as a precondition for the seminar paper.

Course content

This course introduces some of the basic concepts and ideas which are commonly referred to as "Industry 4.0". At the heart of Industry 4.0 there are smart factories in terms of intelligent products, machines, tools, warehouses and assets. Each and everything is connected, shares its data acquired by sensors and actors on the internet (so called "Internet of Things"), and is used to derive a "digital twin". As a consequence, production assets and products are able to control themselves as a decentral self-organizing system instead of a centralized control. Companies are able to produce individual products for specific customers at the cost of mass production which is an important competitive advantage, since customers are demanding more and more individual variants of products and this trend is likely to continue in the foreseeable future.

During the course a subset of the basic pillars of Industry 4.0 will be addressed:

- Cloud technology: SAP Business Technology Platform (BTP) will be introduced with practical case studies on BTP. Solutions like Kubernetes and Cloud Foundry will be discussed.
- Augmented/Virtual Reality: introduction to AR/VR development using WebXR web technology

Internet-of-Things: a multi-purpose robotic arm will be used as an example of a production asset and digital twin

In the second part of the course, individual or group projects will be conducted that will work hands-on with e. g. SAP BTP, S/4HANA, SAP Cloud Connector, AR/VR headsets (like Microsoft HoloLens, HTC Vive) and IoT-interfaces.

Data Science Project Seminar: Driving Corporate Performance

Module	Data Science Project Seminar: Driving Corporate Performance
Module supervisor/ full-time lecturer	Prof. Dr. André Coners
Workload	5 ECTS

Learning outcomes and competences

In line with the concept of learning through research, students should independently go through a typical research cycle and actively participate in key phases of this research cycle: Finding the research question, developing the research design, gathering and evaluating the data, preparing and presenting the results, reflection. Furthermore, students should experience themselves as part of a scientific community by preparing the submission of a paper to a scientific conference and they should achieve results that are of interest to third parties. Students should get a deeper understanding of the scientific publication process, reflect and learn to implement the process in a practical way. Students should recognize that the digitalization within the field of controlling is a strategically relevant task, which includes technological but also organizational and competence-based implications. Therefore, they will learn the necessary IT tools. Focusing on the approach of research-based learning, the students develop questions in cooperation with partner companies or partner institutions and apply IT tools. The transfer of research results into practice is also optionally supported by intra-organizational structures (e.g. the Transferverbund Südwestfalen) within the project. This is intended to provide students with practical skills, e.g. in the effective and efficient data collection, processing and strategic analysis of large amounts of data using leading data visualization systems and software frameworks for machine learning and data mining. Students should be able to independently perform analyses using data mining, data visualization and reporting methods. The processing and decision making are carried out in a team, which should improve the communication and discourse skills of the students.

Knowledge (Expertise)

After successfully passing the module, students know

- common phase models of research and the mechanisms which scientific knowledge is produced, published and evaluated
- the most relevant research methods in computer science, economics and engineering
- Methods, procedures and tools that work efficiently for large amounts of data and allow to recognize patterns from large amounts of data and extract important information
- Challenges of digitalization, especially in the controlling area
- effective analysis and data research strategies developed independently through the application of research-based learning
- Methods, procedures and tools that work efficiently for large amounts of data and allow patterns to be recognized from large amounts of data
- and important information to be extracted
- Concepts in the area of Big Data and the leading analysis and reporting systems
- Architectures for processing big data and advanced data analysis capabilities

Skills (Ability)

- After successfully passing the module, students can
- analyse specific decision-making problems
- design and implement digitalization solutions in controlling
- apply research processes
- use IT solutions for controlling purposes
- transfer of scientific results into industrial application
- organize a team and work as a team

Forms of teaching & further information on examination forms

Lecture with lecture notes, working on research questions in a team. The research-based paper as outcome of the project seminar is to be

Course content

Lecture

Thematically we focus on digitalization as a strategic task of controlling by using the concept of research-based learning. Thus, the lecture consists of the following aspects:

1. Introduction into the digitalization of Controlling
2. Effects of digitalization on controlling system (roles, competences, organization, IT applications)
3. Introduction to the concept of research-based learning
4. Introduction to different research approaches
5. Development of practically oriented research questions related to digitalization in controlling, using the example of large and highly unstructured data volumes from a partner company or institution
6. Implementation planning of the research project

Project

Application of state-of-the-art IT tools (e.g. artificial intelligence, robotic process automation, process mining tools, business intelligence systems, simulation tools) to address the research questions within a practice-orientied research project. The research project is carried out in cooperation with a partner company or institution.

Internship ERP-Systems

Module	Internship ERP-Systems
Module supervisor/ full-time lecturer	Prof. Dr.-Ing. Klaus Posten
Workload	5 ECTS

Learning outcomes and competences

Students should learn the business fundamentals and interrelationships of integrated information systems using the example of Learn SAP®ERP. They should be able to define, understand and apply the associated functionalities.

Acquired Knowledge: Upon successful completion of the module, the students will have learned the following: the structure and functionality of an integrated ERP system, the integrative integration of business processes of different business areas, the theoretical foundation of functionalities in sales, materials management and production planning

Skills: After successfully completing the module, students can do the following: Identify structures in integrated systems and transfer process requirements for precise modeling, Recognise the practical value of precise descriptions in integrated information systems, Assess the quality and complexity of business processes with regard to correctness, efficiency and completeness in integrated systems, Apply cooperation and team skills in the face-to-face exercises and seminar lectures, Apply knowledge acquisition strategies: Combination of lecture, preparation and follow-up of attendance exercises with supervised group work, and Independently prepare seminar presentations and practical examples

Transfer competencies:

Recognition of structures in integrated systems and transfer of process requirements for precise modelling

Normative-evaluative competencies: Recognize the practical value of precise descriptions, Assessment of the quality and complexity of business processes with regard to correctness

Occupation-oriented competencies:

Ability to cooperate and work in a team in in-class exercises and seminar lectures, Strategies for acquiring knowledge: combination of lecture, preparation and follow-up of classroom exercises with supervised group work, and Independent preparation of seminar presentations and practical examples

Forms of teaching & further information on examination forms

Demonstration of the integrated functionalities. Internship at the SAP Demo-System (model company) with documentation and presentation. Type of examination: Combination examination (homework/lecture/exam) Approach to evaluation: Evaluation of the level of participation in exercises Language of instruction is english.

Course content

Process-oriented explanation of the integrated functionalities. Practical consolidation of the SAP® system using case studies by applying knowledge acquired in other academic events.

- Introduction to the standard software SAP ERP
- Overview of the software manufacturer SAP, the technical and functional structure of SAP ERP and IDES - The integrated model company for SAP Research and Teaching
- Handling of SAP ERP (SAP GUI - Graphical User Interface, navigation methods, integrated help functions, remote access)

- Theoretical foundation and practical implementation of interactive business process case studies directly to SAP ERP system in the areas of
- Materials Management (MM): material master records, purchasing info records, vendor master records (vendors), purchase requisitions, purchase orders, goods receipts
- Production Control (PP): parts lists, work schedules, production order processing, Material Requirements Planning (MRP Runs)
- Distribution and Transport (SD): customer master records (customers), terms and conditions, forward order processing, incoming payment, framework agreements

IT Quality Controlling

Module	IT Quality Controlling
Module supervisor/ full-time lecturer	Prof. Dr. Andreas de Vries/ Prof. Dr. André Coners
Workload	5 ECTS

Learning outcomes and competences

Knowledge (Expert)

- The students know the basic objects of action of IT quality controlling.
- The students know the methods for controlling the objects of action of IT- quality controlling.
- The students know metrics for quantifying different characteristics of software products and software processes in a numerical representation.
- The students understand the goal of deriving characteristics of software that allow the comparison of these values first among themselves but also regarding company-specific standards.
- The students know the student's possible conclusions that can be drawn regarding the quality of the software and the entire software process and, if necessary, further measures should be taken.
- The students know the common phase models of research and the mechanisms which scientific knowledge is produced, published and evaluated.
- the most relevant research methods in computer science, economics and engineering
- Methods, procedures and tools that work efficiently for large amounts of data and allow to recognize patterns from large amounts of data and extract important information.
- Challenges of IT Quality, especially in the controlling area
- They can conduct an effective analysis and data research strategies developed independently through the application of research-based learning.
- Methods, procedures and tools that work efficiently for large amounts of data and allow patterns to be recognized from large amounts of data and important information to be extracted.
- Concepts in the area of Big Data and the leading analysis and reporting systems
- Architectures for processing big data and advanced data analysis capabilities with focus on data quality

Skills (Ability) After successfully passing the module, students can :

- analyse specific decision-making problems.
- design and implement digitalization solutions in controlling.
- apply research processes.
- use IT solutions for controlling purposes.
- transfer of scientific results into industrial application.
- organize a team and work as a team

Forms of teaching & further information on examination forms

Active and self-controlled learning based on lectures and exercises, alternatively relevant recommended reading. Supplementation of self study by attendance events and group work. Language of instruction is english.

Course content

In this lecture, students learn the most important methods and instruments of IT quality controlling and how to apply them correctly. Through the lecture, students learn how to correctly and IT-supported measure, transparently present, permanently monitor and successfully control the IT value contribution and IT costs. Students learn how to apply cost and performance transparency in software development and deployment. The lecture enables the students to present value-oriented key figure systems in IT quality controlling, to calculate the individual key figures and to critically question their applicability. The students deepen their knowledge of the connections between strategic and operational planning and can carry out analyses to determine data quality. They can also examine and determine the effects on IT quality. The students get to know certain tools for data analysis and will apply them within a practical example. In particular, the topic of data quality and the impact on companies is therefore examined in more detail in the course.

In line with the concept of inquiry learning, students should independently go through a typical research cycle and actively participate in the main stages of this research cycle: Finding the research question, developing the research design, collecting and analyzing the data, preparing and presenting the results, reflecting. In addition, students should experience themselves as part of a scientific community by preparing the submission of an article for a scientific conference and achieving results that are of interest to third parties. Students should gain a deeper understanding of the scientific publication process, learn to reflect on it and put it into practice. The students should recognize that ensuring IT quality in the field of controlling is a strategically relevant task that requires technological, but also organizational and competence-related implications. For this purpose, they will get to know the necessary IT tools. With the approach of research-based learning, students develop questions and apply IT tools in cooperation with partner companies or partner institutions. The transfer of research results into practice is also optionally supported by business partners (e.g. by the ENERVIE GROUP) as part of the project. This should provide students with practical skills, e.g. in effective and efficient data acquisition, processing and strategic analysis of large amounts of data using leading data visualization systems and software frameworks for machine learning and data mining as well as data quality. Students should be able to independently conduct analyses using methods of data mining, data visualization and reporting in order to make statements about data quality and influences on the business environment. The processing and decision-making takes place in a team, which should improve the students' communication and discourse skills.

IT Service Management - Business Processes and Workflowmanagement

Module	**IT Service Management - Business Processes and Workflowmanagement**
Module supervisor/ full-time lecturer	Prof. Dr. Stefan Böcker
Workload	5 ECTS
Learning outcomes and competences	
Knowledge: • Know and understand methods and best practices regarding IT-Businessprocesses and IT-Workflowmanagement using ITIL • Know and understand project management using the PRINCE2:2009 framework **Skills**:- • Abilty to decide about and tailor the ITIL and PRICE2:2009 framework	
Forms of teaching & further information on examination forms	
Seminar. Language of instruction is english.	
Course content	
IT-Business Processes IT-Servicemanagement with ITIL • Service-Lifecycle • Service-Design • Service-Transition • Service-Operation • Continual Service Improvement Projectmanagement with PRINCE2:2009	

Human Resources and Labour Law

Module	Human Resources and Labour Law
Module supervisor/ full-time lecturer	Prof. Dr. Evelyn Albrecht-Goepfert/ Prof. Dr. Arnd Albrecht, Prof. Dr. Stefan Strassne
Workload	5 ECTS

Learning outcomes and competences

HRM Learning Objectives

- Better understanding the strategic meaning of HR management for the whole company in an international context
- Awareness that employees have become a critical success factor for most of the companies and of how interesting, but at the same time
- difficult, it is to work with people, respectively to lead them
- Better understanding all sections of the HR life cycle with its characteristics
- Knowing and using modern HR instruments

Labour Law Learning Objectives

- The course imparts the basic knowledge of labor law and of industrial legal protection, required for business economists, considering the link
- to community law
- This course aims to acquainting students with the basic terms and legal sources of German labor law
- The course focusses on the labor contract law relevant for corporate actions. In addition, the course deals with basics collective labor law
- On successful completion of this course, students shall be able to deal with the major legal questions relating to initiation, closure, contents
- and termination of a labor contract. Students shall also be able to solve basic law cases in this field
- Furthermore students shall know and understand fundamental issues of coalition law, collective bargaining law and the works constitution law

Forms of teaching & further information on examination forms

Instruction Seminar with practical exercises and cases studies. Language of instruction is english.

Portfolio: For both parts grades are given. Both grades are equal with 50: 50 :

- **Part HRM**: 100 points can be reached. Presentation with 70 points, active participation 30 points; both parts hast o be successfully be passed
- **Part Labour Law**: written examination with case studies (100 points)

Course content

HRM Contents

- Paradigm change to modern HR management
- Strategic HRM
- External and internal drivers for the HR management
- Employer branding setting / loyalty
- Task analysis
- International recruitment

- HR development
- Motivation / payment
- Performance management
- Leadership
- Diversity Management

Labour Law Contents. The historical development of labor law

- The influence of community law
- The basics of labor law
- Grounds for the employment
- Rights and duties in the labor relation
- Completing the employment contract
- Basics of the collective labor law

Cross Culture Management and Business Ethics

Module	Cross Culture Management and Business Ethics
Module supervisor/ full-time lecturer	Prof. Dr. Evelyn Albrecht-Goepfert
Workload	5 ECTS

Learning outcomes and competences

Business Ethics Learning Objectives

- Access to long-term keys of success for companies and the economy through pragmatical ethics as main contributor for society and
- individual
- Seeing the necessity of ethics in economy and companies
- Rising awareness and dedication to economical issues
- According to the relativity of values and norms, business ethics orientation problems and legitimation crises towards to a new way of thinking
- in terms of corporate responsibility and role modeling

Cross Culture Management Learning Objectives

- Access to long-term keys of culture concept, dimensions and diversity
- Through this interdisciplinary field of study, students shall improve communication, management and interaction of people from different
- cultures
- Understanding how national cultures affect business management and practice
- Gaining background knowledge on the economic, political, and cultural environment that influence the global business scene for MNEs
- Understanding the culture issues in corporate or organizational context
- Competence to conduct related marketing research in inter-cultural business
- Applying theory into practice by using contemporary case studies
- Obtaining some insights into successfully doing business in a globalized world

Forms of teaching & further information on examination forms

Instruction Seminar with practical exercises and cases studies. Language of instruction is english.

- Theories StudyCase Analysis, Group Discussion, Simulation Study, Video Show, Team Presentation

Portfolio: For both parts grades are given. Both grades are equal with 50: 50.

- Part CCM: 100 points can be reached. Presentation with 90 points, active participation 10 points; both parts has to be successfully be passed
- Part BE: 100 points can be reached. Presentation with 90 points, active participation 10 points; both parts has to be successfully be passed

Type of examination: Group Project and Presentation, to proof of knowledge of the various characteristics, methods and problems in cross cultural management and business ethics.

Course content

Business Ethics

- Introduction and Global (Ethical) Issues
- The Cosmopolitical Corporation
- Multi-Stakeholder Approaches and CSR
- Shared Value Creation
- Ethics, Society and the Environment
- Ethics and Personal Action

Cross Culture Management

- Cross-culture theories
- Culture and decision making
- Cultural factors in international business management
- Intercultural marketing strategies
- Cross-cultural communication and negotiation

Advanced Technical and Business English

Module	**Advanced Technical and Business English**
Module supervisor/ full-time lecturer	Edwin Keuchler/ Bruce Ranney
Workload	5 ECTS

Learning outcomes and competences

After successfully passing the module examinations, the students ...

- know the essential English vocabulary of the subject areas covered in the courses, can recall it from memory and use it correctly without relying on any aids.
- can understand a wide range of demanding texts.
- are able to identify and discriminate between different meanings of technical terms in their respective contexts and to render them in the other language.
- are able to summarise information from different written and oral sources and to reproduce reasons and explanations in a coherent presentation.
- can express themselves spontaneously and fluently.
- can correctly form and use the structures listed in the area "Teaching Contents / Grammar, Syntax, Morphology, Pronunciation"
- have foreign language skills at CEFR level C1 and are able to cope with a variety of business and technology-oriented communication situations.

Forms of teaching & further information on examination forms

Seminar-oriented forms of learning and teaching; free and guided conversations, independent exploitation of selected fields based on partner or group work followed by in-class presentation of the results.
Language of instruction: English.
Examination will comprise multiple components, including several presentations and brief written tests. The total grade achieved in this module will be determined on the basis of the equally weighted average of the final grades achieved in each of the two parts of the module; within the two parts of the module, the final grades of the corresponding part of the module will be determined on the basis of the equally weighted average of all partial grades achieved in the individual exam components.

Course content

The course has a duration of two semesters. The part offered in the summer semester focuses on business-related topics, while the part offered in the winter semester focuses on technology-related communication contexts.

Topics:
Consolidation of technical vocabulary and means of language for the following topics: working abroad; job interviews, explaining a business development; describing products and services; expressing and justifying opinions on business topics; international corporate cultures and models; Presentation exercises on various business-related and technical topics (examples of business-related topics: introduction of new products, implementation of international advertising campaigns, employee training; targeted customer approaches, employee motivation; examples of technical topics: history of data storage technologies, renewable

energy concepts, supply chain automation, history of telecommunication, IT security problems and concepts, rapid prototyping technologies, technological solutions and concepts for passenger vehicles in the post-oil age, electricity storage technologies, waste disposal and recycling methods, display technologies); Video-supported listening comprehension exercises on some of the above topics; Reading and discussion of current texts and video material on innovations in various economic and technical fields.
Vocabulary exercises, especially with regard to lexical and syntactic ambiguities; Translation exercises based on technical texts; Grammar, syntax, morphology, pronunciation:
Exercises designed to improve the listening comprehension of speakers with different accents, Exercises in using prepositions, Exercises on the formation and use of verbs with noun collocations, Exercises in the formation, use and translation of participial structures and reduced relative clauses, Exercises on the use and translation of modal auxiliary verbs