HTWG

Course Catalogue
English Taught Lectures

CONTENT

1.   Preface: How to find your courses

Dear student,

Thank you for your interest in HTWG´s course offer! Generally, exchange students can take **any courses on offer** at HTWG – either in German, English, or a combination of both.

The majority of courses at HTWG are taught in **German**. Students who feel they are able to follow these courses are invited to have a look at the course lists on our homepage www.htwg-konstanz.de/exchange (Study Options > Courses offered at HTWG Konstanz > Courses in German).

All **English** taught courses on offer at HTWG can be found in this course catalogue. It also contains German language courses for international students and other foreign language courses.

This catalogue was designed in order to give you an overview of your study options in English. Therefore, the course descriptions you will find below are short versions that include the course level, the number of ECTS granted, the semester it is offered in and a summary of the content. Should you need further information for course recognition at your home institution, please let us know which courses you are interested in and we will send you **more detailed descriptions**.

A few more words on the course selection…

- **Availability of courses:** Not all courses are offered in each semester. Please pay attention to whether a course is offered in spring semester (March to July) or fall semester (October to February – see our academic calendar below or our homepage for more detailed information).

- **Study Level:** HTWG´s Bachelor programs are undergraduate programs that roughly last for three years. Master programs are graduate or advanced studies and normally take two more years.

- **Workload:** The regular workload for domestic students is 30 ECTS per semester. The workload required for an exchange student is normally set up by his or her home university. It is wise to check course recognition with your home university not only for your core course selection but also for some alternative courses. This is recommended as your favorite courses might overlap, for example.

- **Timetable Counseling:** Upon arrival, you will have timetable consultations with staff from the International Office and/or the respective departments. During these, we will let you know when and where your selected courses will take place and answer any remaining questions you may have.

- **Add & drop period:** No need to panic! The first two weeks of lectures are the so-called add & drop period during which you can easily delete courses from your timetable and try new ones. AND: We will continuously assist you in all academic (and personal) aspects of your stay.

Hoping to see you soon at beautiful Lake Constance,

Your team of HTWG´s International Office

2. Class organization, exams and the German grading system

Forms of instruction: Class organization in Germany may take the form of lectures, exercises, seminars or practical laboratories. Successful participation in a certain number of these is obligatory and must be proven to receive course credits. Excursions, tutorials, guided development of case-studies and group study may also be offered within the course.

Assessment: There is usually no homework assigned during the semester; however, students must be self-disciplined and study throughout the semester to prepare for final exams. The final grade or score received is based primarily on one final exam or project. The professor will rarely collect homework, except in language courses, where a student is required to complete exercises at home to prepare for the next class. In addition to courses offered at HTWG, students may also choose to receive credit by working independently on a project assigned by HTWG.

Grading system: The classroom performance of an exchange student at HTWG is documented by a German national grade and its corresponding ECTS grade, in the case of credit transfer. The European Credit Transfer and Accumulation System (ECTS) is a standard student-centered system across the European Union based on the student workload to achieve the objectives of a program, specified in terms of learning outcomes and competences.

Student workload in ECTS consists of the time required to complete all planned learning activities such as attending lectures and seminars, independent studies, preparation of projects, examinations etc.. One ECTS-credit represents a student's workload of 30 working hours.

The ECTS grading scale ranks students on a statistical basis. Grades are reported on a carefully calibrated and uniform A-F scale combined with keywords and short qualitative definitions to allow the home institution to convert the ECTS grade to their own system if needed.

Class size / Materials: The class size at the University of Applied Sciences in Konstanz is normally 30 to 40 students. Most classes use a printed course packet, and rarely will a student have to buy a book. Most course materials are offered online and distributed via a virtual platform. This forum enables virtual discussion, contact to experts and the ability to comment on the course material.

3.   Academic Calendar

Orientation Program (free of charge and compulsory)

Fall Semester: Mid of September

Spring Semester: Beginning of March

Lecture Period

Fall Semester: Beginning of October

Spring Semester: Beginning/mid of March

Exam Period

Fall Semester: February

Spring Semester: July

Exact dates for the current and the coming semester are available at:

 www.htwg-konstanz.de/exchange.

German language classes

4.   German language classes

HTWG Konstanz offers several German classes during the Orientation Program as well as during the semester. Participation in at least one German language class is obligatory for all exchange students.

The language courses range from beginner, intermediate to more advanced classes. Business German or Technical German courses are offered as well. In addition, exchange students can also practice their German and get to know local students by participating in the tandem-learning program.

!! Not all German classes for advanced learners are listed in this course catalogue. If your German language proficiency is high, the International Office will inform you about more study options during the Orientation Program. !!

4.1   Tandem learning

Tandem is a method of language-learning whereby two people with different mother tongues meet and practice each other's language. It is entirely up to the tandem partners what, when, where and how they learn. By participating in the tandem learning program, exchange students can improve their German language skills and get to know local students who are interested in learning the exchange student´s mother tongue.

Registration for tandem learning: https://www.htwg-konstanz.de/studium/internationales-studium/interkulturelles-zentrum/unsere-angebote/tandem-boerse/

4.2   German I (beginner level)

Course code: AA 1000
ECTS-Credits: 6
Semester: Fall semester and spring semester

This course combines a cultural orientation program and an introductory level German language class for exchange students to Konstanz who have no previous knowledge of the language. The Cultural Orientation component will allow exchange students to acquire a broad based knowledge about Germany with an overview of various aspects of history, culture, and civilization.

The German Language Class covers both communicative grammar and practical language skills. The grammar component has a balanced approach to German grammatical structures such as word order, declension, main clauses etc. whereas the practical language exercises will develop speaking, listening, reading and writing skills. The course aims at providing students with a sound basic knowledge of spoken and written German (beginner level A1, Common European Framework of Reference for Languages – CEFR). Grading will be based on regular active attendance, homework assignments, oral presentations, quizzes and a final examination.

4.3   German II (intermediate level)

Course code: AA 1010
ECTS-Credits: 6
Semester: Fall semester and spring semester

This class will allow students to further study German language, civilization and culture. The approach is communicative, with German used wherever possible as the language of instruction. The grammar component has a balanced approach to German grammatical structures such as prepositions, modal verbs, subordinate and relative clauses, tenses, passive voice etc. whereas the practical language exercises will further develop speaking, listening, reading and writing skills. The course aims to enable students to use German in everyday situations (basic user level A2, Common European Framework of Reference for Languages – CEFR). Grading will be based on regular active attendance, homework assignments, oral presentations, quizzes and a final examination.

4.4   German III (intermediate level)

Course code: AA 1020
ECTS-Credits: 6
Semester: Fall semester and spring semester

This course develops student's skills to deepen grammar acquirements applied to colloquial situations and the scientific world. In addition to practicing grammar and standard vocabulary the main emphasis will be put on developing the students` communicative skills (basic / independent user level A2-B1, Common European Framework of Reference for Languages – CEFR). Grading will be based on regular active attendance, homework assignments, oral presentations, quizzes and a final examination.

4.5   Allgemeindeutsch I (advanced level)

Course code: ASK 2100
ECTS-Credits: 6
Semester: Fall semester and spring semester

Niveaustufe B1-B2 des europäischen Referenzrahmens (CEFR)

Themen: Berlin, Berlin; Fremdsprachen lernen; Berufe; Zukunftsvisionen; Medien; Auto

Grammatik: Adjektive und Adjektivendungen; Wortstellung im Satz; Negation; Verben (mit Präpositionen, mit Vorsilbe, Wortbildung); Konnektoren und Präpositionen; Konjunktiv II; Indirekte Rede; Passiv-, Partizipialkonstruktionen und Relativsätze

Studien- und Lerntechniken: Wörter lernen und behalten – Umgang mit dem Wörterbuch, Aussprachetraining

4.6   Allgemeindeutsch II (advanced level)

Course code: ASK 2110
ECTS-Credits: 6
Semester: Fall semester and spring semester

Niveaustufe C1 des europäischen Referenzrahmens (CEFR)

Themen: Nachrichten; Frauen und Männer in der Gesellschaft; Kriminalität und Strafverfolgung; Psychologie und Psychologen; Wissenschaft und Forschung

Grammatik: Redewiedergabe; Verbalstil und Nominalstil; Nomen; Verb-Verbindungen; Genitiv; Modalverben (Ersatzformen und subjektiver Gebrauch); "es"

Studien- und Lerntechniken: Lernorganisation; Wortschatz erschließen, Aussprachetraining

4.7 Fachdeutsch Wirtschaft I (advanced level)

Course code: ASK 2200
ECTS-Credits: 6
Semester: Fall semester and spring semester

Niveaustufe B2 des europäischen Referenzrahmens (CEFR)

Inhalt:
- Einführung in die Fachsprache der Betriebswirtschaft(Betrieb und Unternehmung, Unternehmensführung, Managementsysteme, Entlohnung und Mitbestimmung)
- Die Sprache des Rechnungswesens I: Buchführung
- Die Sprache des Wirtschaftsrechts I: Rechtsformen
- **Studien- und Lerntechniken:** Der mündliche Vortrag

4.8 Fachdeutsch Wirtschaft II (advanced level)

Course code: ASK 2210
ECTS-Credits: 6
Semester: Fall semester and spring semester

Niveaustufe C1 des europäischen Referenzrahmens (CEFR)

Inhalte:
- Fachsprache Börse
- Die Sprache des Rechnungswesens II: Kosten- und Leistungsrechnung
- Die Sprache des Wirtschaftsrechts II: Grundzüge des deutschen Rechts
- Die Sprache des Marketings
- **Studien- und Lerntechniken:**
  - Die wissenschaftliche Arbeit
  - Der Vortrag mit einem Präsentationsprogramm
  - Die wissenschaftliche Recherche

Interdisciplinary courses

5.   Interdisciplinary courses

5.1   Exploring the Lake Constance Region

Course code: SSCI 3040
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

In this course you will get acquainted with Constance and the lake region to further your understanding of southern Germany, its history and culture. You will also learn about cultural peculiarities of the two neighbouring countries that border the lake.

Looking at the region from various points of view you will get an idea about life today, the German youth culture, places of interest, current trends as well as an insight into the region´s history and challenging moments in its past. To enable you to experience this region we will do excursions to various points of interest.

Content:

- Constance – its peculiar geographic position - the importance of the town in the past and today
- Main industrial sectors around the lake - unique achievements - critical moments experienced in the past
- Places of cultural and historical value around the lake
- Famous people - among them artists, writers, poets, scientific pioneers - their achievements and the circumstances that attracted them to this rural area

Assessment:

You will be asked to participate actively in class and contribute by doing research and giving a presentation on a topic of interest to you. Assessment of the course will be based on your presentation and a written documentation.

5.2   Germany within Europe

Course code: SSCI 3030
ECTS-Credits: 8
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Students will explore significant historical events, places and objects of Germany in order to understand some of the reasons for the current political and cultural attitudes of Germany in a European context.

Objective 1: Where is Germany? & Imagining Germany

European history and political events: From Napoleon's arrival at the Brandenburg Gate to the construction of the Berlin Wall, Germany has been at the heart of a divided Europe. Cities and regions which were for centuries German now lie firmly outside its borders. What does this mean for European Germans and how in such a diverse society did its philosophers, artists and storytellers imagine a German national identity?

Objective 2: The Persistent Past & Made in Germany
Politically Germany had been a loose association of political units of different dialects and laws held together under the Holy Roman Empire. Economically the Hanseatic League operated a loose, free market structure. What modern day legacy of these structures is reflected in today's Europe? Germans have long been good at making complex things and precision engineering. Why does technical training and craft skills have a greater presence in Germany than elsewhere?

Objective 3: The Descent & Living with History
After 1871 Germany took on the previous French role of being the difficult European neighbour: too big for its borders. The next seventy five years saw it inflict catastrophe and suffer catastrophe on an unprecedented scale. How has Germany rebuilt itself economically, physically and morally? What role is Germany playing in the European Union and what are the difficulties it faces today?

5.3   Intercultural Management

Course code: BAC 10310
ECTS-Credits: 4
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

This course enables students to recognize, explain and handle intercultural problems in an international management context. Students learn how the attitudes and values of national cultures – both foreign and their own - may influence behavior in business and management. They are familiarized with the values and norms of a variety of cultures across the world. They learn to explain these behaviors as they may be experienced in intercultural management situations. They become familiar with the competencies required for effective and appropriate intercultural management. Assessment of this course is based on a presentation of the values and norms of a chosen culture and how they may be expressed in international management.

5.4   Intercultural Communication and Competence

Course code: MMS 30920a
ECTS-Credits: 4
Semester: Fall semester and spring semester
Study level: Master / Graduate

Objectives:
The course aims at preparing students for multicultural work situations by strengthening their ability to recognize, interpret and deal effectively with cultural differences in the context of diverse management situations. Students will understand the central preconditions for establishing positive and effective intercultural relations and will learn how to act in an interculturally competent way.

Content:
Students reflect upon and learn about their own and other people's cultural orientation systems (e.g. behavioral standards, norms, values, prejudices). The course offers a mix of cognitive and experimental learning opportunities: Discussions about theoretical models of culture, communication and conflict are combined with knowledge transfer via case study analysis and individual country studies as well as simulation exercises and role plays that offer opportunities for personal experiences in intercultural conflict situations. Assessment of this course will be based on a presentation.

5.5   This is Germany

Course code: SG 11420
ECTS-Credits: 4
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:
This course is designed to give students the opportunity to think about contemporary Germany. Students will apply their critical thinking skills when learning about and examining important political, cultural and social developments. In collaboration, Non-German students learn about modern Germany, and German students improve their English through their reflections on modern Germany.

Content:
The course is topic based and divided into three skills areas:

- Topics 1: Walls, Ideologies, Education   Skill 1: Discussion techniques
  Divided or united, difference or diversity? How should modern German society look, and what lessons are there from the past and the present: both from Germany and the world. What is education, and how successful is the German model in promoting social cohesion and mobility?
- Topics 2: Legacy, Culture, Innovation   Skill 2: Writing techniques
  Germany has left many legacies, but none more durable or widespread than the reformation. How has this affected the culture of Germany today? What is German like and how does it contrast with other societies? Made in Germany equals made with quality, but what evidence is there to suggest that Germany has a culture of innovation?

- Topics 3: Surveillance and (environmental) salvation Skill 3: Presenting techniques
  What is the Germans relationship to the state and how does this inform their attitude to freedom? Why does Germany (try to) lead the way in saving the planet?

Assessment:

Students will achieve in this course through on-going attendance, assessed participation in discussions, written work and presentation. Grading will be equally weighted.

Business and Business Law

6. Business and Business Law

6.1 Bachelor / Undergraduate courses

6.1.1 Applied Economics: Public Economics

Course code: BWB 22100
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

Government regulations as well as government spending and taxation shape much of the environment enterprises are working in. Almost all policies adopted by government are either economically motivated or have economic repercussions. It is therefore indispensable for business students to acquire an understanding of the theories, intentions and purposes underlying government corrective and structural intervention in the economic process. In the course on public economics students will learn to analyze the economic impact of government policies using instruments from the microeconomic and macroeconomic toolboxes.

Contents:

Introduction to Public Economics: Methods, Concepts and Objectives
Public Sector Development in Historical Perspective
Theories Explaining Public Sector Growth
Public Sector Finance: Modeling Fiscal Sustainability; Primary Budget Balance and Debt-to-GDP Ratio
Welfare Economics: The Theory of Public Goods; Public Goods and other Sources of Market Failure
Social Choice, Social Orderings and Social Welfare Functions: The Pareto Principle and 'New' Welfare Economics; Theories of Justice, Social Welfare Functions and the Social Optimum

Assessment:

Assessment of this course will be based on assignment(s) and a final written examination.

6.1.2 Business Ethics I

Course code: BAC 11210
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

While some twenty years ago ethics in business seemed to be a purely academic discussion, today, the topic has arrived in the very middle of business practice, especially of those companies who are globally active. This course will provide students with the theoretical basics of business and corporate ethics as well as with an overview about the main practical approaches of managing ethical issues in modern organizations. Joint discussions, examples and case studies will help to understand the high relevance of business ethics for corporate success in the 21rst century and to draw the line to new mega trends within society like sustainable development or the concept of a "sharing economy". Assessment of this course will be based on a written "Take Home Exam".

6.1.3 Communication Psychology

Course code: BAC 11420
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

This course will prepare students for the complexity of communication psychology by teaching modern methods and tools of the subject.

Content:

Communication on the base for a humanistic view of the human being and ideas of the non-violent communication as the four sides model advantages will be put at the heart of a successful communication strategy. We will look at the process of planning, executing, controlling and adapting communication strategies as well as building and leading a conflict or crisis situation. The focus of the workshop is on hand-on learning in combination with theoretical input.

Assessment of this course is based on a final written examination.

6.1.4 Compliance/Corporate

Course code: WRB 22130
ECTS-Credits: 10
Semester: Fall semester only
Study level: Bachelor / Undergraduate

Objectives:

Students learn about the aims of Corporate Compliance (CC). Students are familiarized with the typical liability risks of business practice and learn to transfer their acquired knowledge of practically applicable solutions based on specific cases. Further, this lecture informs them about the details of the legal restrictions for companies working in a national and/or internal environment. Students also learn different approaches by means of which CC tries to set up control structures to guarantee compliance quality (Compliance Management Systems).

Content:

- Concepts, meanings and basic principles of corporate compliance
- Manager liability
- Compliance management systems
- Case studies

Assessment is based on an essay and a presentation.

6.1.5   Economic Integration: The Case of Europe

Course code: tba
ECTS-Credits: 3
Semester: Spring semester
Study level: Bachelor / Undergraduate

The objective of this course is to introduce students into the aims and consequences of a common European economic policy and EU market. The course covers key economic policy areas of the European Union and offers an analysis of different approaches to regional economic integration. Students will apply the theory of economic integration to business settings, with a series of selectable cases illustrating how e.g. firms or different industries are responding to the establishment of the European Economic and Monetary Union, Brexit and the accession of new member states.
Students will prepare case studies on specific topics and are given guidance on how to evaluate different stakeholders' reactions on the EU integration process. Special attention will be given to the present challenges of the EU such as Brexit, the financial crisis, the future of the Euro, and EU tax competition. After this course student will have a deeper understanding of how the EU integration or disintegration is affecting firms, industries and the people of Europe.

Evaluation Breakdown (graded):
1. Term paper
2. Presentation of term paper

6.1.6   Globalization

Course code: tba
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

This course intends to familiarize students with international economic issues. Starting with the classical trade models (e.g. Ricardo, Heckscher-Ohlin, Monopolistic Competition) students will be acquainted with several trade models explaining real trade patterns. Furthermore, monetary aspects appearing along with international trade will be accounted for in the second half of the course. Successful participants will leave the course with a broad understanding of ample topics which are discussed in daily newspapers and in multinational enterprise units.

6.1.7　Innovation Marketing

Course code:　WIM 36020
ECTS-Credits:　3
Semester:　Fall semester and spring semester
Study level:　Bachelor / Undergraduate
Prerequisite: Solid academic background in previous marketing class like Marketing (Marketing I, Intro to Marketing etc.)

This course focuses on the main concepts and context of high-technology marketing. The major topic areas covered include: Relevance of Marketing in a global competition, The aspect of interaction within B2B Marketing, Structures and processes of industrial sourcing, Marketing specialties of specific business models, Marketing of High Technology, Marketing strategies in hyper-competitive environments, Analyzing the competitive environment, Market Segmentation, Managing B2B Brands. Grading will be based on a 90-minute written final examination.

6.1.8　International Management

Course code:　BWB 16060
ECTS-Credits:　3
Semester:　Fall semester and spring semester
Study level:　Bachelor / Undergraduate

Globalization of the economy has grown significantly over the last years, and the rate of global trade and foreign direct investments is increasing. Classic tools of Management need to be adapted to take the characteristics of international business into account. We will develop a conceptual framework of international business activities, discuss extensions to conventional management tools and cover the field of intercultural management. International Management offers tools and methods you need to make your international engagement a success.

Course topics include Globalization, Cultures and Institutions, Internationalization of Businesses – Market Entry Strategies, Organizational Strategies, Human Resource Management, Risk Management, International Marketing, International Accounting and Finance and Ethics in an international context. Assessment of this course is based on a 90-minute written final examination.

6.1.9 International Marketing

Course code: BWB 16230
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The main objective of this course is for students to understand the multidimensional nature of marketing mix decisions in the global marketplace. Through lectures, case studies, and exercises students will learn the strategic concepts of international marketing. Knowledge of cross-border dimensions in international marketing supports a proactive market orientation among participants. In this course, students will also discuss the necessity of synchronization and adjustment of marketing activities in more the one national market. Assessment in this course will be based upon a 45-minute written final examination.

6.1.10 International Sales Management

Course code: BWB 16290
ECTS-Credits: 3
Semester: Fall semester and spring semester (not offered in fall semester 2019/2020!)
Study level: Bachelor / Undergraduate

Serving customers globally and managing international sales teams is an exciting challenge in today's economy. This course will prepare students for the complexity of international sales management by teaching modern methods and tools of international sales. Customer orientation and competitive advantages will be put at the heart of a successful sales strategy. We will look at the process of planning, executing, controlling and adapting sales strategies as well as building and leading a sales organization. The avoidance of risk in international sales as well as methods of analyzing sales data will be discussed. The course focuses mainly on B2B sales. There will be a 60 minutes written exam at the end of the course as well as some small tests during the course.

6.1.11 Legal Terminology

Course code: WRB 21731
ECTS-Credits: 4
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Content:

The course focuses on specialized English legal terminology. It reflects the daily legal business practice, especially with respect to international relationships in which the use of the English (legal) language is prevalent.

Assessment:

Assessment of this course will be based on a presentation on a legal topic and related documents (presentation, abstract, vocabulary).

6.1.12 Macroeconomics

Course code: tba
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

This series of lectures in macroeconomics address large scale economic issues such as those which affect the entire economy of a country, in contrast to Microeconomics which looks at smaller scale economic principles. The course focuses on classical macroeconomic theory to answer the question "how the economy works in the long run, when prices are flexible". Moreover, growth theory is introduced to explain the standard of living and its growth rate over the very long run. Finally, business cycle theory is introduced to explain "how the economy works in the short run, when prices are sticky."

Assessment of this course is based on a 90-minute written final examination.

6.1.13 Marketing of Capital Goods

Course code: EIW 43364
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The students
- know the philosophy and objectives of business-to-business (B2B) marketing,
- know the business typologies in B2B marketing,
- experience and comprehend the B2B marketing process by a role play,
- can apply the 4P in a B2B environment, for example: offshore wind power plant,
- know basic aspects of the (electronic) tools used in B2B marketing.

6.1.14 Microeconomics

Course code: tba
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

This series of lectures represent an introductory course that teaches the fundamentals of microeconomics. The course introduces microeconomic concepts and analyses, supply and demand analysis, theories of the firm and individual behavior, competition and monopoly, and welfare economics. Students will be introduced to microeconomic applications to address problems in current economic policy and consumer/producer related problems throughout the semester.

Assessment of this course is based on a 90-minute written final examination.

6.1.15 Quality Management

Course code: BWB 16380
ECTS-Credits: 3
Semester: Spring semester only
Study level: Bachelor / Undergraduate

The quality of products and processes is a key factor in manufacturing processes. As production processes are getting more complex, quality defects can have a critical impact on a company's image, on its profit and on its general success. Quality Management offers an integrated approach of defining a quality policy and of implementing quality planning, processes, control and quality assurance. A continuous improvement of the manufacturing processes and thus of the quality level is the aim of quality management.

During the course we will discuss integrated quality management systems as well as specific tools and methods. Quality audits and certification in the framework of ISO 9001 will be treated thoroughly. Assessment of this course is based on a 60-minute written final examination.

6.2   Master / Graduate courses

6.2.1   Business Ethics II

Course code: BWM 10140
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Master / Graduate

During the past 10 years, business ethics as a management approach has become an important factor of economic success in the 21rst century, especially for those companies who are globally active. This course will provide students with both its theoretical basics as well as with an overview about the main management approaches of business ethics in practice. Joint discussions, examples and case studies will help to understand why and how companies are addressing ethical issues today. The focus of this master course lies on the concrete normative and practical frameworks organizations may apply in order to integrate ethical orientations into their business management, both formally and informally. Assessment will be based on an individual or group presentation including a written workout.

6.2.2   Contract Drafting / Contract Negotiation

Course code: WRM 10920
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

After having completed this course, students will have gained proficiency in understanding the impact of proper contract drafting relative to business transactions and risk. Understanding the business metrics of a deal is a key for a contract writer to translate business concepts into understandable contract language. Students will train and explore the impact of good contract writing with numerous examples, while keeping an eye on the interaction with applicable law.

As a result of lectures and exercises, students will find themselves well trained to negotiate a contract even in the event that they are not identical with the author of the contract. Students will have gained skills in interpreting contract language, translating business into legal concepts and subsequently defend an interest via the means of a contract. A key qualification is also diligence in understanding contract language and explaining the importance of precise drafting to business clients while managing their expectations to close a deal. Assessment of this course is based on a case study and the respective presentation (incl. preparation of relevant documents, e. g. draft agreements, sample clauses, handout, presentation etc.).

6.2.3 Corporate, Group, Joint Ventures and Alliances Management

Course code: WRM 10820b
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

Objectives:

Students will gain expert knowledge in group management: holding structures, joint ventures and (strategic) alliances will be investigated based on existing group structures and followed up by a pro/con and SWOT analysis. Students will be enabled to draft the relevant legal documents to build up joint ventures and gain knowledge and experience in managing the different legal and operative entities in national and multinational companies.

Content:

- Different types of corporate groups
- Joint venture and (strategic) alliance management
- Holding structures
- Domination agreements
- Profit and loss transfer agreements

In teams and based on a case study, the students will debate a specific core element of the course/module. The paper shall not exceed 15 pages and will be presented to the other students and the faculty during a one-day seminar.

6.2.4 Corporate Social Responsibility

Course code: BWM 20410
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Master / Graduate

Based on ethical and other theoretical implications of the concept of responsibility, and on today's concepts, theories, definitions, global standards and practical management approaches in the field of CSR the course wants to explore what "social responsibility of business" precisely means in the 21rst century. Joint discussions, examples and case studies from business practice will help to understand the change of relevance of "social responsibility" for corporate success today and how companies may deal with the resulting new challenges.

The focus of this master course is to understand and to be able to apply major approaches and normative CSR frameworks (like ISO 26000 and GRI G4) for the development of socially responsible corporate strategies, including integrated management systems, governance mechanisms and reporting schemes. Assessment will be based on an individual or group presentation including a written workout.

6.2.5   Integrity Management and Corporate Social Responsibility

Course code: WRM 10620b
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

Students will acquire skills on the strategic dimension of Corporate Social Responsibility (CSR) and Integrity Management, and understand why CSR and Integrity Management are necessary preconditions for competitiveness in the 21rst century. They will acquire practically relevant knowledge on how to integrate Corporate Social Responsibility (CSR) into the core strategy and business operations and know both, the connection and the differences between legal compliance, integrity management, business ethics, and CSR.

6.2.6   International Accounting and Auditing

Course code: ASM 30220
ECTS-Credits: 3
Semester: Fall semester only
Study level: Master / Graduate

Objectives:

- Understanding the role of accounting, its assumptions, biases and limitations
- understand what economic information is conveyed in international accounting practice
- being able to analyze how companies` accounting choices affect their financial statements
- how to interpret and analyze financial statements for decision-making
- describe how investors and other stakeholders use accounting issues in order to assess
- profitability, risk and market valuation
- understand the structure of operational und capital budgeting, and create and analyze a financial budget

Content:

- Introduction
- Financial Accounting Tools
- Capital Investment Decisions
- Value Based Management (VBM)
- Cost Accounting Tool

6.2.7   International Laws

Course code: IPE 10312 (lecture)
Course code: IPE 10314 (case studies)
ECTS-Credits: 6
Semester: Spring semester only
Study level: Master / Graduate

Objectives:

By the end of this module, student should be able to combine technical, commercial and legal contractual aspects; identify, allocate and manage risks along the supply chain, negotiate contracts and claims with customers and suppliers and prepare documentary evidence for disputes and law suits.

This module combines a lecture (3 ECTS-Credits) and case studies (3 ECTS-Credits).

Lecture contents:

- International business environment
- Public and private law
- Contract management
- Global trade
- Security and safety
- Risk management
- Bid and negotiation
- Order execution
- Compliance.

Case Studies Laws:

- Contract set up and contract drafting
- Contract negotiations
- Claim management and dispute settlement
- Records management and burden of proof
- Allocation and management of contract risks
- Management of preferential origin
- Product classification (HS-code and export control)

Grading is based on a 90-minute written final examination.

6.2.8 International Management

Course code: IPE 10112
ECTS-Credits: 6
Semester: Fall semester only
Study level: Master / Graduate

Objectives:

Students understand and explain drivers and motives for internationalization of companies, apply different methods analyzing the capabilities of companies. Students are familiarized with different internationalization and competition strategies; they have gained insights about challenges implementing internationalization strategies. Further, this lecture informs students on ways of organizing structures and functions of international companies. Students will also have discussed aspects of international human resource management.

Content:
- Reasons for internationalization
- Methods of strategy analysis
- Forms of internationalization strategies
- Strategic planning
- Specialization and competitive advantage
- Fundamentals of organizational structures and functions such as marketing of internationally operating companies
- Aspects of intercultural human resource management
- Critical success factors of internationalization.

Grading is based on a 90-minute written final examination.

6.2.9 International Markets

Course code: IPE 10212
ECTS-Credits: 6
Semester: Fall semester only
Study level: Master / Graduate

Objectives:

Students gain insights of the development of the world economy and its economic regions, understand the main dynamics of globalization and drivers of internationalization. They get an overview of internationalization theories and know different parameters analyzing markets. By the end of the course, students should be able to distinguish and know differences of market entry and international collaboration forms. We will develop an understanding of dynamics and transformation of markets.

Content:

- Introduction to emerging and developed markets
- Market players and institutions
- International trade and investments
- Introduce different internationalization theories
- Analyzing markets
- Market entry modes and international collaborations
- Managing market dynamics
- Value creation and localization.

Grading is based on a 90-minute written final examination.

6.2.10 International Project Development

Course code: IPE 10612
ECTS-Credits: 6
Semester: Fall semester only
Study level: Master / Graduate

Objectives:

At the end of this course, students will:

- understand the characteristics and challenges of international projects
- understand how to adapt project management to relevant project characteristics (e.g. degree of internationalization, complexity, uncertainty, time pressure)
- understand the traditional and agile approach (Scrum) to the management of single projects
- apply important methods (traditional and agile) for the management of single projects
- understand the relationship between project and process management
- understand the approach of project program management

- understand the relationship between the "Module: Management and Leadership across Cultures" and the "Module: International Project Development"
- know the fundamentals of project portfolio management and project-based organizations
- know the characteristics of major international project management standards (e.g. IPMA, PMI, ISO)
- have worked on specific topics of international project development in selected industries
- know trends and future topics in project management practice and research.

Grading is based on a 90-minute written final examination.

6.2.11 Leadership

Course code: WRM 10620a
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

Students will have the competence to employ their knowledge about leadership in their roles as commercial lawyers, e.g. when leading (heterogeneous) teams. In addition, students will have realized that having the right leadership skills available will make the difference when competing to win attractive business contracts but that being an effective manager alone will not be enough. They will acquire an understanding of how leadership skills are developed so they will be better prepared when taking over leadership roles at their prospective employers. Please note: Course materials and instructions will generally be in English, however, a few course materials (e.g. short movie, newspaper article) might be in German.

6.2.12 Legal Management II

Course code: WRM 10720
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

Students will be enabled to make judgments upon risk stemming from legal court proceedings, extra-judicial litigation, arbitrations and mediations, as well as from closed legal cases. Students will be proficient in appraising the financial impact and counseling senior management on the necessary business decisions to be taken accordingly. The students will gain practice in defining the role of the legal function within entrepreneurial decision-making processes. Such processes include the ongoing measurement of risk to companies arising from business transactions. Another key aspect will be to create solid reporting processes while ensuring that risk deriving form legal matters remains transparent to senior management. Students will also have learned to assess cost as a basis for decision making.

Besides the qualification in legal risk management the students will gain insights into managerial aspects of risk management. This comprises both basics on risk management in business enterprises like scope, organizational arrangement and area of application as well as the process of managerial risk management. The students will be enabled to identify, assess, manage and monitor business risks and will be familiarized with risk reporting techniques.

6.2.13 Management and Leadership across Cultures

Course code: IPE 10422 (lecture)
Course code: IPE 10424 (case studies)
ECTS-Credits: 6
Semester: Spring semester only
Study level: Master / Graduate

In this module students learn the main facets and the relevance of the topic Intercultural Management and Leadership requirements in the globalized world. Students appreciate the challenges facing managers working in an international and intercultural context by increasing awareness and understanding of the soft skills in particularly those relating to cross-cultural management and leadership. Students learn how to decide what people to send abroad and how to motivate and select the right people dealing with culturally different employees. Students learn to analyze and predict situations of conflict with intercultural contact based on cultural dimensions and learn to defuse situations with intercultural contact.

Objectives:

Students understand the differences in Management and Leadership. They know about the importance of motivation and identification and can describe the concept of transformational leadership. Students identify differences in communication and leadership behavior influenced by
the surrounding environment of the social group. Students realize the influence on culture
on their own management behavior and expectations on leading and being leaded. Students identify the importance of people, network management and social networks in doing business internationally. Students describe and analyze the impact of culture / national culture on business practices in different countries (for example US, Thailand and China). Students develop an intercultural adequate business strategy to deal with cultural diverse employee and customer needs from the example of the Skytrain in Bangkok.
This module combines a lecture (3 ECTS-Credits) and case studies (3 ECTS-Credits).
Lecture contents:

- Management and Leadership seen as results on environment, history and culture. Transactional vs. transformational leadership style as suitable decision making routines in different situations of decision making.
- Developing knowledge to analyses intercultural differences: Differences in Management styles and intercultural adequate business strategies
- Self-Test: The six value dimensions from G. Hofstede; students get aware of their own cultural patters
- Culture and business in different countries, market entry strategies for different cultures and countries.

Case Studies Leadership:

- Management and Leadership; Case "Wickersham Mills"
- Management and Leadership; Case "Bonus Distribution"
- Management and Leadership across cultural borders; Case "Dancing with an Elephant"
- Cultural differences and Business Strategy – Case "Bangkok Skytrain".

Grading is based on a 90-minute written final examination.

6.2.14 Managerial Economics

Course code: MWI 20520
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Master / Graduate

Managerial Economics is the application of economic theory and methodology decision making problems within various organizational setting such as a company of a government agency or a not for profit organization. The emphasis in this course will be on demand analysis and estimation, production and cost analysis under different market conditions, forecasting and decision making under uncertainty, international labor market and international economic basic parameters like interest-rates, wages e.g. Students taking this course are expected to have had some exposure to economics and be comfortable with basic algebra. Some knowledge of calculus would also be helpful although not necessary.

Objectives:

- This course is a further involvement in economics. Based on basic economical knowledge we will follow continuative questions of development in a global world. This should help you also to enlarge your own knowledge and get a clearer, more focused opinion of economics.
- Starting with a business perspective we will - on a deeper understanding of micro- and macroeconomical ideas - study actual cases of young economical history

Assessment:

Paper, presentation and discussion of a selected topic of managerial economics as provided in the lecture.

6.2.15 Mergers and Acquisitions

Course code: WRM 10820a
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

This course will offer insights into the complex area of mergers and acquisitions of business enterprises (M&A). This comprises an in-depth knowledge of various forms of business transactions, formation and alliances with high relevance for today's business practice. Building on these basic legal and business aspects of M&A, the students will understand common practice in the management of M&A-projects, especially the function, the content and procedures of legal, financial and tax diligence. This also covers a thorough understanding of the various aspects of transaction documentation and business formation, with a special focus on business risk and profit management. Overall, the students will be enabled to act in processional M&A management and take ownership of relevant business or risk management decisions.

6.2.16   Project Management

Course code: MME 20060
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Master / Graduate

In this course, students will learn to plan, manage and control projects within Research & Development of complex, challenging and innovative products. Topics will include, Definition of a Project, Project Organization, Integrated Project Development / Product Development Plan / Innovation Methods, Organizational Concepts (structure, management plans, managing change, global thinking in the ways of systems engineering), Project Planning and Control, Budgeting, Configuration and Documentation Management, Project Conclusion and Appraisal. Assessment of this course is based on a written final examination or a paper assignment.

6.2.17   Strategic Management

Course code: MWI 20510
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Master / Graduate

This graduate course approaches the subject of strategic management and innovation by introducing the students to key challenges in managing innovation as a strategic growth path of a firm. In addition, students will be faced with journal literature on key concepts in the field of strategic management and innovation. Based on that, case discussion and analysis is conducted on the basis of up-to date real-life business cases. The course addresses the subject as a strategic process and mirrors the strategic management process by progressing from assessing the competitive dynamics of a situation, to strategy formulation, to strategy implementation. Assessment of this course is based on an oral examination and a mid-term written essay.

6.2.18 System Competition

Course code: BWM 20410
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Master / Graduate

Students are introduced to "how to write a report in which an economic problem is analyzed". In the course we learn how to find appropriate data for a defined economic problem. Moreover, the course briefly repeats statistical methods learned in earlier courses and illustrates how to utilize them for an empirical analysis. Students prepare a final written report and present their final findings in a seminar.

6.2.19 Theories of Complexity Management

Course code: ASM 40110
ECTS-Credits: 3
Semester: Fall semester only
Study level: Master / Graduate

Objectives:

We are surrounded by Complexity: in nature and our private lives, in economics and business, in science and technology. Classic economic theories and business theories use a variety of models and tools which are not apt to deal with a high complexity since they neglect interdependencies, feedback loops, dynamics and non-linearity. However, many newer theories have built upon the flaws of these models and intentionally integrate complexity in their assumptions. The course will give an overview over complexity and the various theories dealing with it. We will introduce among others systems theory, constructivism, new institutional economics, resource dependence theory, and game theory and their approaches to complexity. Furthermore, different methods of reducing complexity and managing complexity will be discussed.

Content:

- Introduction
- Positivism
- Constructivism
- New Institutional Economics
- Systems Theory
- Resource Dependence Theory
- Game Theory
- Dealing with complexity – Tools and Methods

Assessment:

The course will consist of teaching, exercises, role play, case studies and presentations from the students. You will be requested to present small topics in class. At the end of the course there will be an oral exam of 15-20 minutes.

Mechanical Engineering
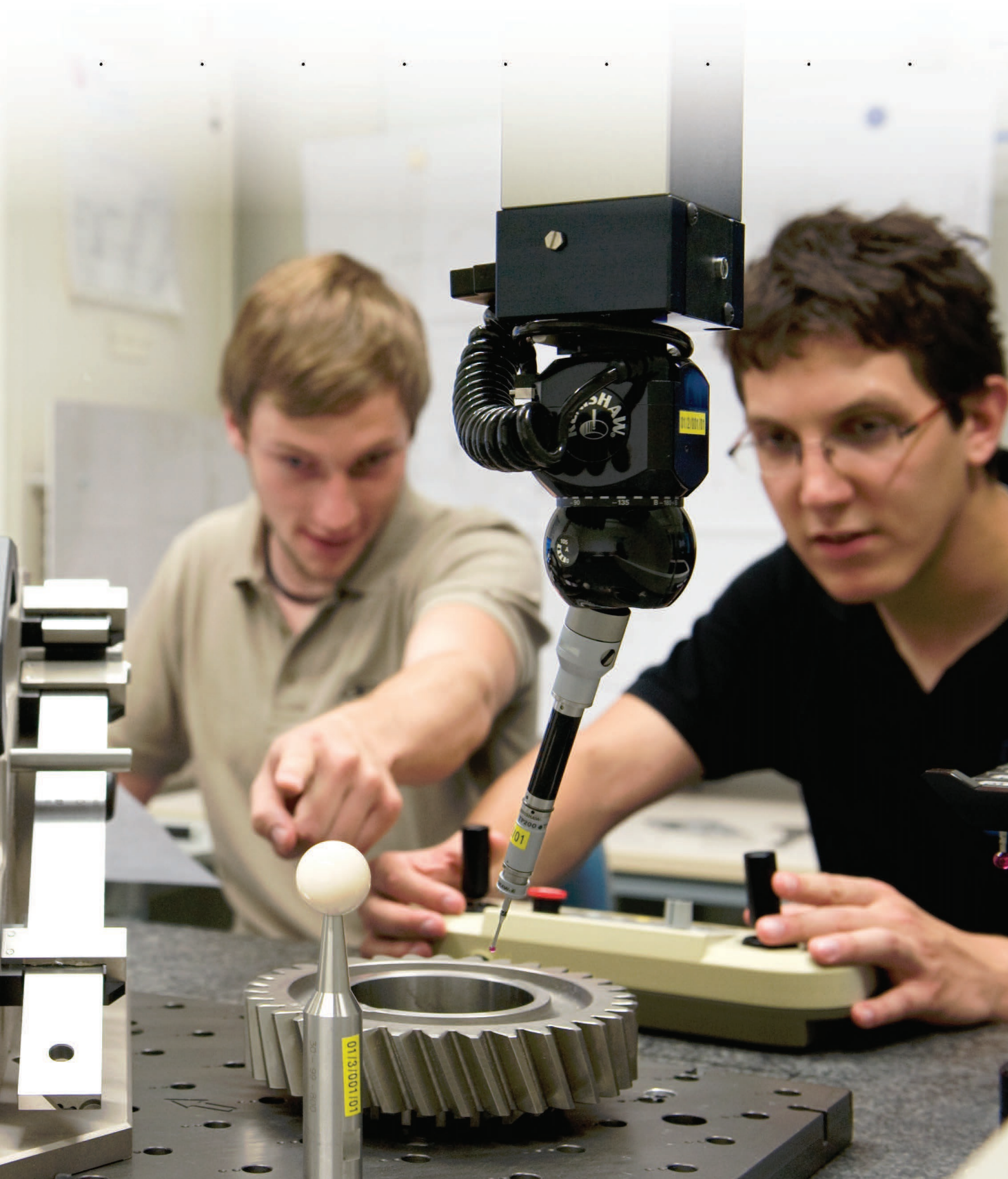
7. Mechanical Engineering

7.1 Bachelor / Undergraduate courses

7.1.1 Design of Mechanical Components I / Machine Design

Course code: MKE 22040
ECTS-Credits: 8
Semester: Spring semester only
Study level: Bachelor / Undergraduate

This course applies theory and techniques learned in the mechanics courses to design mechanical components. The students learn to choose the right components for a machine according to certain requirements as well as how to calculate the mechanical properties of a chosen set of mechanical components in detail. Grading will be based on homework assignments, two or three large take home projects, examinations, and a final written exam.

7.1.2 Dynamic Systems I

Course code: MMS 34020
ECTS-Credits: 8
Semester: Spring semester only
Study level: Bachelor / Undergraduate

A study of mathematical modeling of mechanical, electrical, hydraulic and multidiscipline engineering system using bond-graph-technique, yielding state space equations. Derivation of the Equations of Motion (EOM) of single Degree of Freedom (SDOF) and 2DOF using Lagrange Equation and/or Newton Second Law (NSL). Determine transfer functions response for first and second order systems. A study of linear mechanical vibrations for SDOF and 2DOF systems, and of their vibration isolation. Determine characteristic equation, stability eigenvalues of systems. Develop computer code in order to simulate, analyze real engineering systems in the time and frequency domain using Matlab/Simulink. Grading will be based on a comprehensive final examination.

7.1.3   Fluid Mechanics

Course code: MKE 23030
ECTS-Credits: 8
Semester: Spring semester only
Study level: Bachelor / Undergraduate

This is an introductory course in Fluid Mechanics aiming at an understanding of fluid motion and the application of the basic laws. The major topic areas covered include: the basic concepts of fluids and fluid motion and to calculate forces due to hydrostatic pressures, the conservation laws of fluid mechanics to solve fluid problems for frictionless fluid, the effect of viscosity on fluid motion (particularly in the boundary layer), internal fluid flow and the friction losses in pipes, ducts, and various pipe elements; the mechanisms of external flows and the fluid forces on immersed objects, the basic aspects of compressible flow (gas dynamics). Grading will be based on a midterm test and a final written examination. A successful participation for two laboratory experiments is mandatory.

7.1.4   Heat Transfer

Course code: MKE 25000
ECTS-Credits: 8
Semester: Spring semester only
Study level: Bachelor / Undergraduate

This course combines both lectures and a laboratory project. The lecture focuses on the three modes of heat transfer: conduction, convection, and radiation for a given energy system. Students will use mathematic equations and laws to solve heat transfer problems. Heat exchangers will also be designed and analyzed by the students. Grading will be based on homework assignments, quizzes, examinations, a project report, and a final examination.

Electrical Engineering and
Information Technology

8. Electrical Engineering and Information Technology

8.1 Bachelor / Undergraduate courses

8.1.1 Analog Integrated Circuit Design

Course code: EIB 18290
ECTS-Credits: 3
Semester: Spring semester only
Study level: Bachelor / Undergraduate

Objectives:

After having completed this course students should know:

- the structure of modern semiconductor processes
- the models of integrated components
- the most important MOS basic circuits

Content:

In this course students also gain practical experience in a laboratory. The main topics dealt with are:

- Introduction to semiconductor devices
- Device modelling of active and passive structures
- Basic circuits (common-source, common-drain, common-gate stages) with active loads
- Operational amplifiers, comparators, bandgaps introduction
- Analog-to-digital converter introduction
- Switched-capacitor circuits introduction

Assessment of this course will be based on project work in the laboratory and a presentation.

8.1.2 Automotive Control Systems

Course code: AIT 27100
ECTS-Credits: 3
Semester: Spring semester only
Study level: Bachelor / Undergraduate

The objective of this course is to provide students with the opportunity of project based learning. Students can pick one project from a collection of themes that usually are but don't have to be from the automotive area. The project topics might change on a yearly basis. In the past, typical projects have been hybrid energy management, system modelling, adaptive cruise control, quadrotor control, battery characterization, hardware in the loop testing, etc.

8.1.3 Digital Control Systems

Course code: EIB 33161
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Students

- get an overview of current methods in linear control engineering
- get in-depth understanding of discrete linear state space MIMO methods
- can apply suitable methods to solve control problems
- obtain a portfolio of various design tools
- gain competency to solve challenging control tasks in real world scenarios

8.1.4 Electric Power Systems

Course code: EIB 31840
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

After having completed this course students know the different techniques of power conversion, transport and distribution including general functionality of electrical power systems and equipment. They understand the design and operation of different apparatus (synchronous generator, transformer, OHL, cables, switchgear) as well as the basic design and components in protection equipment

Content:

- Introduction in Power Systems – history and prognosis
- Power Stations – coal, gas turbine, CHP
- Sustainable power conversion – principles and grid integration
- Transmission and distribution: OHL / Cables
- Transformer – design and operation incl. unbalanced load
- Short circuit current calculation
- Protection systems and devices
- Switchgear (AIS/ GIS)

Assessment of this course will be based on lab/project work and a final written examination.

8.1.5   High Voltage Engineering

Course code: EIB 18160
ECTS-Credits: 3
Semester: Fall semester only
Study level: Bachelor / Undergraduate

This course combines lectures, exercises and laboratory work in the field of high voltage engineering. The major topics covered include: the basics of high voltage engineering, basic application of high voltage engineering in electrical power engineering, generating and measuring high AC and impulse voltages, security demands in high voltage laboratories as well as the basics of insulating materials and calculation of electrical field strength under quasi stationary conditions. Grading will be based on a written exam and the reports of the laboratory work.

8.1.6   Microprocessor Systems

Course code: EIB 31430
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

After having completed this course the students:

- Know the basic construction of typical microcontrollers
- Understand the structure and the functions of a microcontroller
- Know the functions of peripheral components
- Are proficient in programming a microcontroller in C
- Know the specifics of hardware-related microcontroller programming
- Are able to use interrupts to deal with exceptional conditions
- Are able to connect external sensors and actuators to a microcontroller

Contents:

This course combines lectures, tutorials, laboratory and project work in the field of microprocessor systems. The major topics covered include:

- Microcontroller: Architecture, CPU, register, memory, communication interfaces, ADC, timer
- Microcontroller programming in Assembler and C
- Development environment and toolchain: installation, compiler, debugger
- Introduction to microcontroller evaluation board
- Software and hardware exercises using integrated Design Environment and evaluation board XC886

Assessment:

Assessment of this course is based on a presentation, a lab report and a final written examination.

8.1.7   Microwave Engineering

Course code: EIB 33260
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The aim of this course is to ability students to design and measure lumped and distributed microwave circuits.

Content:

- Transmission Line Theory
- Microwave Network Analysis
- Microwave Devices
- Microwave Amplifier Design
- Microwave Systems
- Antennas (Introduction)

8.1.8   Object-oriented Programming

Course code: EIW 41130
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

The aim of this course is to enable students to develop interactive, object-oriented software in the domain of electrical engineering. After having completed this course, students should know the basic concepts of software development.

Content:

This course combines lectures, tutorials and project work in the field of object-oriented programming. The major topics covered include:

- Object-oriented programming
- Event-driven and interactive programs
- Hardware interfaces
- Software development techniques

Assessment of this course is based on a final written examination.

8.1.9 Project and Quality Management

Course code: EIB 32570
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

After having completed this course students

- are able to apply the methods of project management,
- know the factors to plan and carry out projects successfully,
- know current quality management systems & simple statistical methods of quality assurance.

Content:

- Organizing projects
- Project initiation and stakeholder management
- Project planning
- Project implementation
- Project monitoring and controlling
- Project completion
- Risk management
- Quality management systems
- Statistical methods of quality assurance
- Exercises with current project management software
- Work on a pilot project

Teaching methods: lecture, tutorial and self-study. Assessment of this course will be based on a final written examination and a presentation / a presentation and project work.

8.1.10 Smart Grids

Course code: EIB 33160
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

A Smart Grid is an electricity network that can intelligently integrate the actions of all users connected to it – generators, consumers and those that do both – in order to efficiently deliver sustainable, economic and secure electricity supplies. Topics like grid stability, integration of electric vehicle in the grid, storage systems and demand side management are discussed. The course includes participation in an experiment on the operation of synchronous generators and on the control of active power and reactive power in the grid as well as grid simulations.

8.1.11   System Architecture

Course code: EIB 33260
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The students learn how to design a system architecture for a system that consists of software AND hardware, and how to develop such a system. Topics are e.g. the design of the system as a set of independent components, the definition of interfaces between these components, some criteria to compare communication protocols, adding a testing concept into the architecture, and application of systems engineering methods. The course also contains a practical project that is developed during the semester by the students.

8.2   Master / Graduate courses

8.2.1   Adaptive Control Systems

Course code: EIM 10160
ECTS-Credits: 6
Semester: Spring semester only
Study level: Master / Graduate

In real world control applications the actual system usually is known with uncertainty, only. Moreover, the parameters of the plant are varying due to different operating modes, wear, change in environmental conditions and so on. Adaptive control systems as well as some modern control methods seek to address this problem by directly or indirectly identifying the plant parameters and/or adapt the control parameters in such a way that a uniform performance of the control loops is achieved.

The course is split in two blocks, an adaptive control part and a part where some modern nonlinear control methods are introduced. The course is organized in such a way that each of the lecture blocks is followed by a lab phase where students will implement and test the control strategies in an experimental setup. Assessment of this course is based on a final oral examination.

8.2.2   Demand Side Management

Course code: EIM 12080
ECTS-Credits: 3
Semester: Fall semester
Study level: Master / Graduate

Strength the ability to identify, evaluate and implement measures for reducing energy related costs and for increasing self-consumption of locally produced energy.
Improve English proficiency.

Content:

- load monitoring
- Electricity Markets
- combined heat and power
- reduction of the costs for electrical power and energy
    - load shifting, demand response, reactive power compensation,
    - Temperature levels for Vapor compression refrigeration circuits, electrical drives,
    - sequence and levels of heat transfer: Pinch-Analysis
- Energy Management (ISO 50001)

8.2.3   Industrial IoT

Course code: IPE 12130
ECTS-Credits: 6
Semester: Spring semester only
Study level: Master / Graduate

Industrial Internet of Things encompasses a broad spectrum of technologies, aplications and industry. As connectivity becomes pervasive, Technologies have spread and penetrated all aspects of our life. The classical boundries beween IT and OT systems are dissappearing and ushering into era of Industrial Internet of Things.

The course will cover connectiviy, communication technologies, standards, platform technologies and will examine impact and usages of AI, ML Edge Computing and Virtualization technologies in todays and future solution architectures in Industrial scenario.

8.2.4 Multi Sensor Data Fusion

Course code: EIM 21010
ECTS-Credits: 6
Semester: Fall semester only
Study level: Master / Graduate

Nowadays, connected sensing devices are ubiquitous in e.g. cars, homes or smartphones. They provide an interface between the physical and the virtual world. They collect measurement data such as temperatures, distances, velocities, locations etc. These data naturally are error prone and just reflect a particular portion of the information of interest. Therefore, it is necessary to fuse and filter those measurement data and combine it with context knowledge in order to extract the information of interest with the desired level of certainty. This process is called Data Fusion.

The course provides an in depth introduction to the most common methods. As practical examples applications from areas like driver assistant systems, autonomous vehicles (ground and maritime) as well as robotics are discussed. The course comprises of 2h lecture and 2h simulation exercise part. It should enable students to select appropriate data fusion schemes subject to the application requirements, to implement the most common methods and to critically reflect the results. Assessment of this course is based on a final oral examination.

8.2.5 Photovoltaic- and Wind-Power-Plants

Course code: IPE 12150
ECTS-Credits: 3
Semester: Spring semester only
Study level: Master / Graduate

- Improve Understanding for the process of developing renewable energy projects
- Strength the ability to handle framework of renewable energy projects: from development to construction to operation.
- Improve English proficiency.

8.2.6 Wireless Communications

Course code: EIM 10280
ECTS-Credits: 3
Semester: Fall semester only
Study level: Master / Graduate

In modern communications wireless technology pervades vast areas of communication systems, and wireless systems become more and more popular. This does not only include mobile telephony and mobile internet access but also wireless control and automation systems. Wireless technology also gains intensive dissemination in automotive and vehicular technology.

This course focusses on the different aspects of implementing wireless communication systems. We will look at the particular features and problems of radio channels and of antennas for wireless applications. Special attention will be given to multipath and interference defeating methods like Code Division Multiple Access (CDMA) and Orthogonal Frequency Division Multiplexing (OFDM). Assessment of this course is based on a final written test.

Civil Engineering

9.   Civil Engineering

9.1   Bachelor / Undergraduate courses

9.1.1   Earthquake Analysis of Structures with ETABS

Course code: BIB 48161
ECTS-Credits: 2
Semester: Spring semester only
Study level: Bachelor / Undergraduate

Contents:

This course gives basic and advanced knowledge of seismic input, computation of the seismic design force and structural layout in seismic regions. It enables students to choose adequate structural assemblies in plan and elevation, to design structural elements and apply specific rules for concrete buildings in seismic areas. The theoretical background as well as some numeric examples are presented. Seismic design of reinforced concrete framework and wall structures as well as infrastructure and foundation solutions are explained.

Assessment of this course is a selection of theoretical aspects questioned at the end of the course together with a small practical computation.

9.1.2   Integrated Water Resources Management

Course code: URB 23161
ECTS-Credits: 4
Semester: Fall semester only
Study level: Bachelor / Undergraduate

Objectives:

The objective of this course is to familiarize the students with principles and practices of integrated water resources management (IWRM) and enable them to plan IWRM projects particularly in water-deficit ('semi-arid') regions.

Content:

Though the IWRM approach has experienced critical reviews during the last 10 years, it still represents a powerful planning tool when coping with natural resources management issues in general, and water resources management issues in particular. The course is sub-divided in 7 modules covering the following topics.

Course topics:

-    Meaning and importance of IWRM
-    Tools and instruments of IWRM project design and implementation,
-    Information and data analyses,
-    WRM project supervision, monitoring and evaluation,
-    Bottlenecks, pitfalls and claims of recourse,

- Case study: Preparation of a feasibility study of an IWRM project, and
- WRM project presentation to decision makers.
- Special lecture: The Drina River Basin Management Project

Assessment of this course is based on a written test including topics sub-divided in three groups assessing the students' capability in the following fields: (1) IWRM understanding; (2) IWRM know-how and (3) IWRM application.

9.1.3 Selected Topics of Structural Concrete Design

Course code: BIB – new course; examination number to be announced
ECTS-Credits: 2
Semester: Spring semester only
Study level: Bachelor / Undergraduate

Content:

In the first half of the semester the course covers the basic principles of earthquake resistant design of structures, in particular reinforced concrete structures. It focuses on displacement based design principles and on structural detailing.

In the second half of the semester the course covers the use of strut-and tie models in reinforced concrete design, in particular in the design of RC walls, openings in RC beams, corbels, frame joints and similar elements where the Bernoulli hypothesis that plain sections remain plain does not apply. Assessment of this course is based on a written exam.

9.2 Master / Graduate courses

9.2.1 Buildings Services Engineering for Green Buildings

Course code: IPE 12010
ECTS-Credits: 3
Semester: Spring semester only
Study level: Master / Graduate

Objectives:
- Ability to consider physiological and cultural driven expectations on building services
- Capability to pre-design building services using locally available renewable resources optimizing the used energy and in line with the cradle to cradle principles

Content:
- Fundamentals of thermal comfort
- Local diverging requirements and expectations: local characteristics of energy loads in EU, USA and Japan
- Low-energy-systems for heating, ventilation and air conditioning
- Rain water and gray water systems
- Cradle to cradle

Assessment of this course is based on a presentation, a report and a written exam.

9.2.2 Modelling and Simulation of Renewable Energy Systems

Course code: IPE 12050
ECTS-Credits: 6
Semester: Fall semester only
Study level: Master / Graduate

Objectives:
- Gain basic energy system modeling skills based on examples targeting the use of renewable energy
- Gain experience in the use of Matlab-Simulink

Content:
- Fundamentals of energy system simulation
- Parametrisation of commercially available models for PV-systems
- Fundamentals of Matlab and Simulink
- Modeling of heat storage and batteries in Simulink

Assessment of this course is based on a presentation, a report and a written exam.

9.2.3 Structural Optimization

Course code: MBI 34061
ECTS-Credits: 2
Semester: Fall semester only
Study level: Master / Graduate

The course deals with the question of structural optimization. This discipline combines the mathematical optimization, the way of description of structural layout and the numerical analysis of structural response. With such procedures optimized structures with different approaches (e.g. topology-, shape- and cross-section-optimization) can be generated. In addition to the theoretical foundations, illustrative examples will be discussed. In the virtual group room, international student teams will work on different projects. Assessment of this course is based on a written examination.

9.2.4 Scientific Competence

Course code: IPE tba.
ECTS-Credits: 6
Semester: Fall semester and spring semester
Study level: Master / Graduate

The aim of the course is to teach students basic methods of scientific work. For this purpose, the work with primary literature will be deepened, design and evaluation of surveys will be taught and the writing of a scientific publication will be developed. The results will be published in a student conference. In the summer semester, IPE students focus on topics such as project management. In the winter semester, EIM students deal with changing technical focuses

9.2.5 Sustainable Management of Resources

Course code: IPE 10522
ECTS-Credits: 6
Semester: Spring semester only
Study level: Master / Graduate

Objectives:

- Ability to choose and pre-design sources of renewable power considering local loads and constraints
- Capability to choose, pre-design and specify an electricity storage system
- Capability to pre-design systems using locally available renewable resources and systems for water or flood protection
- Competence to plan and install a load monitoring
- Ability to implement energy management along ISO 50 001

Content:

- Decentral power generation with hydropower, photovoltaic, small wind and biomass
- Distribution and storage of renewable electrical energy, power2X, super caps, li-ion-batteries
- Monitoring and load management
- Energy management following ISO 50 001
- Water protection
- Flood protection

Lecture includes necessary fundamentals on solar radiation. Assessment of this course is based on a presentation, a report and a written exam.

Computer Science

10. Computer Science

10.1 Bachelor / Undergraduate courses

10.1.1 Automotive Software Engineering

Course code: AIT 24020
ECTS-Credits: 5
Semester: Spring semester only
Study level: Bachelor / Undergraduate

Content:

- Introduction in UML as modelling language
- Basic modelling diagrams (like class diagram, sequence diagram etc.)
- Advanced UML Diagrams and concepts for complex system modelling
- Software process models and process activities
- Agile SW-Design and development
- Requirements analysis
- Specific SW-System models in automotive SW-Engineering
- Architectural design, design styles and reference architectures
- Logical and technical level models
- Specific SW process models in automotive design
- Analysis of logical and technical system architectures and the design of sub-systems
- Test of software

10.1.2 Bachelor Thesis in Ubiquitous Computing

Course code: AIT 90200
ECTS-Credits: 12
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The objective of the Bachelor Thesis is to prepare and implement a work independently managed by the student but supervised by a professor at HTWG (optionally co-supervised by a professor from a partner university or an industrial representative). The contents of a Bachelor Thesis are defined by the student under supervision of a professor at HTWG. Assessment is based on the written Thesis Project and other elements fixed in the study rules. Schedule: After prior arrangement.

Final Thesis will be offered to all Internship Students in case the topic is related to the competence domains of the Ubiquitous Computing Laboratory. It is recommended to contact us before an internship takes place; all parts of the Final Thesis can be arranged before the internship will take place at HTWG.

10.1.3 Business Intelligence

Course code: WIN tba.
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The first part of the course will give a brief introduction to data warehousing and one line analytic processing (OLAP). In the second part an introduction to Data Mining for Business Intelligence is given. In this part the students will also work through hands-on examples.

10.1.4 Computer Graphics

Course code: AIN 18210
ECTS-Credits: 6
Semester: Fall semester only
Study level: Bachelor / Undergraduate

Objectives:

This course will introduce the basic techniques from computer graphics to enable the students to design and implement the various stages of the rendering pipeline. In the practical assignments, some of these techniques are implemented by the students, e.g. affine transformations in 3d, Phong shading, ray-tracing, etc.

Content:

- Hardware Basics
- Rasterization
- Transformations and projections
- Representation and modelling of objects
- Visibility
- Rendering (illumination, shading, ray-tracing, etc.)
- Mapping techniques (texture-maps, bump-maps, etc.)

10.1.5 Databases and Information Systems

Course code: GIB 21230
ECTS-Credits: 6
Semester: Fall semester only
Study level: Bachelor / Undergraduate

Objectives:

This course enables students to understand the concepts of Relational Database Management Systems, master Structured Query Language (SQL) and implement it in a Microsoft SQL-Server environment.

Content:

- Conceptual database design
- Entity-relationship-model
- Relational database design
- SQL
- Use of SQL in programming languages
- Transaction Management
- Non-relational databases

10.1.6 Foundations of IT Security

Course code: AIN 18350
ECTS-Credits: 6
Semester: Spring semester only
Study level: Bachelor / Undergraduate

Students will master the terms, mechanisms, and processes of IT security and can apply them in a business context. After successful completion of the course, students will know basic cryptographic mechanisms and their applications. Students will understand the effects of threats to IT systems and master appropriate measures for the protection of IT infrastructures. The course will also address how to design, develop, and maintain software-intensive systems with the goal of reduced vulnerability against intelligent adversaries.

10.1.7 Individual Project Work in IT Security for Exchange Students

Course code: AIN 23050
ECTS-Credits: 10 or 20
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

The topic of the project is to be defined by the advisor prior to the start of the project. The project should address challenging development problems in IT security, e.g. software security, usable security mechanisms, vulnerability analysis of existing IT systems. The course requires programming skills. Assessment of this course is based on the results of the project, typically an artifact and a report.

10.1.8 Introduction to IT Security

Course code: WIN tba.
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Students will master the terms, mechanisms, and processes of IT security and can apply them in a business context. After successful completion of the course, students will know basic cryptographic mechanisms and their applications. Students will understand the effects of threats to IT systems and master appropriate measures for the protection of IT infrastructures. The course runs on its own in the fall semester and in parallel with AIN 18350 in the spring semester.

10.1.9 Multimedia

Course code: AIN 18220
ECTS-Credits: 6
Semester: Spring semester only
Study level: Bachelor / Undergraduate
Prerequisite: Previous knowledge in Multimedia required

Objectives:

This course will introduce the basic data compression techniques to enable the students to understand, adapt, and implement the various stages of today's multimedia data formats. In the practical assignments, some of these techniques are implemented by the students, e.g. Huffman coding, LZW, DCT, quantization, etc.

Content:

- Basics: media types, human perception and machine interaction
- Classical media types: images, audio, text, typography, video, graphics
- Lossless and lossy source coding
- Entropy coding
- Quantization and de-correlation
- Multimedia data formats: gif, png, jpg, mp3, mpeg, etc.

10.1.10 Real-time Operating Systems and Distributed Systems

Course code: AIT 26030
ECTS-Credits: 5
Semester: Spring semester only
Study level: Bachelor / Undergraduate

The objective of this lecture is to understand and dominate the theoretical and practical concepts and methods of real time operating systems and distributed systems.

Content:

- Operating systems elements and process administration
- Memory management
- File system and input/output management
- Synchronisation and deadlocks
- Parallelism
- Real time operating systems and concepts
- Distributed systems
- Web applications and services
- Script languages

10.1.11 Software Project

Course code: AIT 26050
ECTS-Credits: 8
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate

Objectives:

The objective of this lecture is applying the knowledge gained from different lectures in order to work in teams on a larger project and to implement a prototype solution.

Content:

Teams between 3-5 students establish a working group to realize a prototype implementation according to a given task description. All techniques of classical SW-Engineering are applied as far as the project requests it.

10.1.12 Ubiquitous Computing

Course code: AIN 18150
ECTS-Credits: 6
Semester: Fall semester and spring semester (not offered in spring semester 2019!)
Study level: Bachelor / Undergraduate

Objectives:

This course will introduce into topics of distributed interactive systems, which will react and interact depending on their current environment. It offers a fundamental vision of Ubiquitous Computing.

Content:
-   Applications and requirements
-   Services and service-oriented architectures
-   Device Networks and infrastructure
-   Smart mobility
-   Human-Computer interaction
-   Tagging, sensor networks
-   Embedded control systems
-   Context-aware systems
-   Ubiquitous communication
-   Mobile computing

10.2   Master / Graduate courses

10.2.1 Application of Graphical Programming Languages

Course code: EIM 10260
ECTS-Credits: 6
Semester: Fall semester only
Study level: Master / Graduate

In computer programming, a graphical programming language (GPL) or visual programming language (VPL) is any programming language that lets users create programs by manipulating program elements graphically rather than by specifying them textually. A GPL allows programming with visual expressions and graphic symbols like boxes, where boxes or other screen objects are treated as entities, connected by arrows or lines. LabVIEW will be introduced as an example of a widely used graphical programming language designed for engineers and scientists.

The course is split into two blocks, a theoretical one introducing the programming language and a hardware project. The theoretical part is organized in such a way that each of the lecture blocks is followed by programming exercises. In the hardware project, the acquired programming skills will be applied. Assessment of this course is based on the quality of the project and a multiple choice examination.

10.2.2 Cloud Application Development

Course code: MSI 30522
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

We will approach cloud computing from a technical perspective. Starting with IaaS (Infrastructure as a Service), we discuss virtualization, hypervisors, build our own cloud with OpenStack. In group projects, we build applications for the cloud, experiencing the challenges with scalable applications in development, testing, and deployment. The course requires programming skills. Assessment of this course is based on a group project.

10.2.3 Computational Geometry

Course code: MSI 30520
ECTS-Credits: 5
Semester: Fall semester only (not offered in fall semester 2019/2020!)
Study level: Master / Graduate

For applications in computer-aided design (CAD), geographic information systems (GIS), or computer graphics various geometric properties and relations of the 3d objects in the data set (e.g. points, lines, triangles, etc.) need to be computed. These relations are for example what are two points that are closest to each other or which objects collide or intersect each other. Since the number of points or objects in the data set might be huge, the relevant algorithms need to be tuned with respect to runtime and memory consumption.

In this module, techniques, algorithms, and data structures to solve geometric problems for computer graphics, CAD, GIS and robotics for industrial and technical applications are presented. In the accompanying lab-assignments examples and case studies for these techniques will be implemented by the students.

10.2.4 Concurrent Programming

Course code: MSI 26720
ECTS-Credits: 2
Semester: Spring semester only
Study level: Master / Graduate

To be able to utilize the constantly growing number of available processors and cores, programs must be structured into tasks that multiple threads can execute concurrently. These tasks usually do not run entirely separately, but interact with each other to exchange interim state as well as final results. If not synchronized adequately, these interactions can lead to erroneous effects when executed in certain, unfavorable orders. Superfluous synchronization, on the other hand, leads to a diminished degree of parallelism. In this course, students learn to develop correct and efficient concurrent programs. We will also consider actor systems that employ communication rather than cooperation as the means of interaction.

As no exam is planned, exchange students will not get a grade in this course. However, a certificate will be issued after regular attendance.

10.2.5 Data Analytics

Course code: MSI tba.
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

Students know and understand the basic concepts and methods of data analysis. They can perform a data analysis using statistical and machine learning methods and also communicate the results.

10.2.6 Data Science

Course code: MSI tba.
ECTS-Credits: 3
Semester: Spring semester only
Study level: Master / Graduate

Students know and understand the basic concepts and methods of Data Science. They can take a Data Science project using the methods of Data-Mining and machine learning and communicate the results.

10.2.7 Discrete Mathematics

Course code: MSI tba.
ECTS-Credits: 3
Semester: Spring semester only
Study level: Master / Graduate

This course introduces new concepts and methods of Discrete Mathematics, as well as repeats and intensifies well know facts. Consequently, this course allows students to discover concepts especially important for Computer Scientists which are the basis for state-of-the-art Computer Science solutions. The course enables students to abstract and solve complex practical problems using both mathematical methods and electronic tools and encourages them to present their results. After following the course, the students will have acquired the mathematical foundations and the ability to abstract, which are necessary to understand current and future Computer Science topics.
Contents:
- Logic: Propositional Logic, Predicate Logic, Rules of Interference and Proofs, Fuzzy Logic
- Combinatorics: Counting, Pigeonhole Principle, Permutations and Combinations
- Number Theory and Cryptography: Integer Division and Representation, Primes and Greatest Common Divisors, Linear Congruences, Cryptography
- Graph Theory: Models, Terminology and Special Types, Graph Representation and Isomorphisms, More Graph Problems, Trees

10.2.8   Geometric Modeling

Course code: MSI 30516
ECTS-Credits: 5
Semester: Spring semester only
Study level: Master / Graduate

For artistic, industrial, and technical applications, such as the movie or the automotive industry, geometric objects need to be represented in the computer. For these representations it is irrelevant if the designed objects do exist physically (e.g. a car body) or if the designed objects are purely virtual (e.g. the characters in a computer animated film). Thus, these representations need to be designed to handle objects of arbitrary shape, dimension, and topology.

In this module up-to-date techniques and algorithms of CAD, CAGD, and computer graphics for the representation of free form geometry in artistic, industrial, and technical applications are presented. In the accompanying lab-assignments examples and case studies for these techniques will be implemented by the students.

10.2.9   Innovation Lab

Course code: MSI 22010
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Master / Graduate

The seminar will address up to date topics currently discussed in research. Based on literature and/or literature and demonstrators, Master students will receive material helping to understand the new domain and typical models or systems available this field. After studying the introductory material, the students should be able to understand and summarize the work. In a second step, the student is asked to develop a new small idea based on the knowledge obtained but contributing to a gap detected. The idea will be presented and discussed before the student is asked to prepare a detailed description of the idea and a suited model to realize it. Depending on the complexity, a prototype can be part of the task. Typical topics are related to the competences of the Ubiquitous Computing Lab, covering the domains of Biomedical Computing, Automotive Computing, Mobile Computing and Smart Home & Living.

10.2.10 Master Thesis in Ubiquitous Computing

Course code: MSI 10200
ECTS-Credits: 30
Semester: Fall semester and spring semester
Study level: Master / Graduate

The objective of the Master Thesis is to prepare and implement a work independently managed by the student but supervised by a professor at HTWG (optionally co-supervised by a professor from a partner university or an industrial representative). The contents of a Master Thesis are defined by the student under supervision of a professor at HTWG. Assessment is based on the written Thesis Project and an oral (presentation) exam. Schedule: After prior arrangement.

Final Thesis will be offered to all Internship Students in case the topic is related to the competence domains of the Ubiquitous Computing Laboratory. It is recommended to contact us before an internship takes place; all parts of the Final Thesis can be arranged before the internship will take place at HTWG.

10.2.11 Mobile Computing

Course code: MSI 30514
ECTS-Credits: 5
Semester: Fall semester only
Study level: Master / Graduate

Objectives:

The objective of this lecture is to learn about features and architectures of Mobile Computing. The student will study and apply basic knowledge about development and execution platforms as well as common peripherals like sensors and actors.

Contents:

- Concepts of mobile computing and applications
- Mobile platforms and architecture
- Support technologies and protocols
- Design patterns
- Standards and Web services
- Mobile messaging, publishing and synchronization
- Security in mobile environments
- Application and device programming (e.g. Android, iOS)

Assessment:

Assessment of this course will be based on (i) laboratory exercises, (ii) a short paper and poster, and (iii) an oral presentation.

10.2.12 Security of Software and Systems/IT Security

Course code: MSI 25120
ECTS-Credits: 5
Semester: Fall semester only
Study level: Master / Graduate

After successful completion of the course, students will have a solid foundation in core concepts of IT security. They possess advanced knowledge which widespread vulnerabilities and attack methods exist against IT systems. Students will have thorough knowledge about theory and methods of IT security management, access control, as well as identification and authentication. They can choose, apply, and assess appropriate methods to analyse security architectures, vulnerabilities and possible attacks. Students are able to critically approach literature in the field and to structure the knowledge gained from their studies. Students can plan, execute, and document a limited research project. They will be able to transfer knowledge and skills in IT security to novel application domains.

English as a foreign language courses

11. English as a foreign language courses

In addition to the courses listed below, HTWG Konstanz offers more English as a foreign language courses. An overview of the courses offered can be found on the HTWG website:
https://www.htwg-konstanz.de/studium/fremdsprachen/fremdsprachenkurse/wahlfaecher/

11.1 Business English I

Course code: BWB 30920
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate and Master / Graduate

This course sequence is taught in the BWB program and is intended for international students who wish to improve the English language in the business context in written and oral communication at the B2 level of the Common European Framework of Reference for Languages.

The first course helps students to learn about different types of business correspondence and how to produce them themselves. Students will be able to make phone calls in the business area and give a prepared presentation.

Students will familiarize themselves and learn about different topics from business life and about communicative skills that are needed in the globalized business world. In this way, students expand their technical vocabulary and train "fluency".

11.2 Business English II

Course code: BWB 21631
ECTS-Credits: 5
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate and Master / Graduate

This course sequence is taught in the BWB program and is intended for international students who wish to acquire the ability to use the English language in the business context in oral production at the C1 level of the Common European Framework of Reference for Languages.

Students develop a sensitivity to the distinction between formal and informal English. They will be able to react appropriately and express themselves linguistically in various communicative situations.

The course provides an overview of technical vocabulary in the areas of business communication, organisation, money and payment methods, financing and investment, and sales and distribution. Current newspaper articles from these areas will be read, summarized and discussed. In addition, oral expression skills will be practised, especially for telephone calls and short presentations.

11.3   Job Applications and Interviews

Course code: SPR 22310
ECTS-Credits: 2
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate and Master / Graduate

This course is aimed to non-native English speaking students and instructs them how to apply for a job or an internship in English. Students will learn to understand English job postings and descriptions in various media as well as business contracts and references, writing job applications and résumés in regard to cultural and diversity-management aspects.

Over the course, mock interviews and assessment centers will give a feedback to the students. A final oral examination administered at the end of the course will determine grading.

11.4   Negotiating Strategies

Course code: SPR 22410
ECTS-Credits: 3
Semester: Fall semester and spring semester
Study level: Bachelor / Undergraduate and Master / Graduate

This course is intended to provide students with the basic tools to handle general and business negotiations in English. It offers a combination of general theories and techniques and the specific language used in negotiations, as well as giving students the opportunity to practice a variety of simulations. The main theoretical background is based mainly on the work of the Harvard Negotiation Project. The course also takes an intercultural perspective and is taught at a C1 level.

Content:
- Course Introduction – focusing on personal experience
- Discovering implicit negotiation style
- Basic Issues in Negotiations
- Structure / Stages of Negotiations
- Negotiation Strategies / Tactics
- Role of Relationship / Emotions
- Win-win negotiations
- Issues in Intercultural Negotiations

Further foreign languages

12.   Further foreign languages

At HTWG Konstanz, you have the opportunity to learn a new language or to improve your skills in speaking, reading and writing. You can choose from a wide range of different language courses such as Arabic, Chinese, French, Japanese, Turkish or Spanish. An overview of the courses offered can be found on the HTWG website (in German): https://www.htwg-konstanz.de/studium/fremdsprachen/fremdsprachenkurse/wahlfaecher/

If you are interested in learning or improving your skills in a foreign language, please let us know during the Orientation Program in Konstanz.

13.   Editorial

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