Module Catalogue

for the Subject

Business Information Systems

as a Bachelor's with 1 major

with the degree "Bachelor of Science"

(180 ECTS credits)

Examination regulations version: 2026
Responsible: Faculty of Management and Economics

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Learning Outcomes

German contents and learning outcome available but not translated yet.

Der Bachelorstudiengang Wirtschaftsinformatik wird von der Wirtschaftswissenschaftlichen Fakultät der JMU als grundlagenorientierter Studiengang mit dem Abschluss „Bachelor of Science" (B. Sc.) im Rahmen eines konsekutiven Bachelor- und Masterstudiums angeboten. Der Grad des Bachelor of Science stellt einen ersten berufsqualifizierenden Abschluss dar.

Das Ziel der Ausbildung in diesem Studiengang ist es, den Studierenden Kenntnisse in den wichtigsten Teilgebieten der Wirtschaftswissenschaft sowie der Informationsverarbeitung zu vermitteln und eine analytische Denkweise zu schulen. Dazu erhalten die Studierenden einen umfassenden Überblick über die verschiedenen Disziplinen der Wirtschaftsinformatik, der Wirtschaftswissenschaft und der Informatik, sowie die zugrundeliegenden mathematischen und theoretischen Methoden und Sichtweisen und lernen, Aufgaben der Planung, Gestaltung und Entwicklung betrieblicher Informationsverarbeitung selbstständig zu lösen.

In diesem Sinne werden die Grundlagen, die in einer globalisierten Welt eng ineinandergreifen, erlernt und ein fundiertes Basiswissen erworben. Dabei bildet die Integration ethischer und sozialer Aspekte die Fähigkeit der Studierenden, ökonomische Fragestellungen ethisch verantwortungsvoll zu beurteilen und gesellschaftliche oder ökologische Folgen abzuschätzen.

Im Studienverlauf und während der von der Fakultät geförderten Auslandsaufenthalte erwerben die Studierenden Schlüsselqualifikationen zur Förderung von Team- und Kommunikationsfähigkeit, interkultureller Sensibilität und Selbstorganisation.

Die Studierenden können zentrale ökonomische und informatische Fragestellungen und deren Analyse erklären. Durch diese Kenntnisse treten Sie als Bindeglied zwischen der reinen Informations- und Kommunikationstechnologie auf der einen und der Wirtschaftswissenschaft auf der anderen Seite auf, was sie dazu befähigt, übergreifende Fragestellungen problemorientiert zu analysieren und geeignete Lösungsvorschläge zu entwickeln und umzusetzen. Die Studierenden erlangen die Fähigkeit, die später in der beruflichen Praxis an sie herangetragenen Aufgabenstellungen selbstständig zu bearbeiten. Durch die Ausbildung dieser Fähigkeiten erwerben sie zudem die für ein sich gegebenenfalls anschließendes postgraduales Studium, insbesondere im Rahmen eines konsekutiven Master-Studiums, erforderlichen Grundkenntnisse.

Durch die Abschlussarbeit zeigen die Studierenden, dass sie ihr Fach in angemessener Weise beherrschen und in einem thematisch und zeitlich eng begrenzten Umfang in der Lage sind, Sachverhalte und Fragestellungen der Wirtschaftsinformatik nach wissenschaftlichen Maßstäben unter Anleitung eigenständig zu beurteilen und zu bearbeiten.

Die erfolgreich abgelegte Bachelor-Prüfung berechtigt nach Maßgabe der FSB der einschlägigen Master-Studiengänge der JMU in ihren jeweils geltenden Fassungen zur Aufnahme eines Master-Studiums.

Module Catalogue for the Subject
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Bachelor's with 1 major, 180 ECTS credits

Abbreviations used

Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

ASPO2015

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

11-Mar-2026 (2026-33)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Compulsory Courses: Core

(85 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Business Informatics

(45 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Introduction to Management and Economics		12-EWIWI-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	(not) successfully completed	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

--

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + T (1)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Business Informatics	12-EWiinf-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course provides a comprehensive overview of the theoretical and practical aspects of information systems. The content ranges from the history of information systems and business software to business models, technical requirements and process modelling. In addition to the lectures, tutorials with practical exercises in HTML, CSS, process mining and BPMN support a deeper understanding and application of the knowledge learnt.

Outline of syllabus:
1. overview and technological basics of WI
2. hardware, computer networks and the internet
3. databases and blockchain
4. business models, company structure and organisation
5. connection between business administration and information systems
6. business software and process mining
7. software development
8. future technologies and current research

Reading:
Thome: Grundzüge der Wirtschaftsinformatik.

Intended learning outcomes

The "Business Informatics" module aims to achieve the following learning outcomes:
1. Apply fundamentals: after completing the module, students will have an understanding of the basic concepts and terms of information systems and will be able to explain lecture elements addressed, such as hardware components, various database types or blockchain technology. Thanks to the practical exercises, they are able to implement simple applications and apply what they have learnt in practice. The students were also able to gain an overview of the various fields of business informatics.
2. Analysing business processes and system landscapes: After completing the module, students will be able to analyse business models and process modelling and demonstrate their skills by creating BPMN diagrams in practical exercises. They know the basics of software development and are familiar with ERP systems.
3. Conception of business solutions: Students are able to use learned knowledge about business software, structural and process organisation and new technologies to develop realistic solution strategies and business models for operational challenges. They have knowledge of the integration of information systems into operational processes.
4. Evaluating technology trends: Participants will be able to critically evaluate current and future trends in business informatics, including artificial intelligence and Industry 4.0, and contribute their assessments to discussions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Language of assessment: German and/or English
creditable for bonus

Allocation of places
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Additional information
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Workload
150 h

Teaching cycle
Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Marketing	12-Mark-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Administration and Marketing	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Description
In this module, students will acquire the theoretical foundations of market-oriented management.

Content:
With the stakeholder approach as a starting point, the basic design of market-oriented management will be explained and exemplified in the 5 classical steps: situation analysis, objectives, strategies, tools and controlling. The course will focus not only on the behavioural approaches of consumer behaviour but also on industrial purchasing behaviour. A case study introducing students to the fundamental principles of market research based on a conjoint analysis will provide students with deeper insights into the topic.

Outline of syllabus:
1. Marketing, entrepreneurship and business management
2. Explanations of consumer behaviour
3. Fundamentals of market research
4. Strategic marketing; marketing tools
5. Corporate social responsibility versus creating shared value

Reading:
Foscht, T. / Swoboda, B.: Käuferverhalten: Grundlagen -- Perspektiven -- Anwendungen, 4th revised and exp. ed., Wiesbaden 2011.
Homburg, Ch.: Grundlagen des Marketingmanagements: Einführung in Strategie, Instrumente, Umsetzung und Unternehmensführung, 4th revised and exp. ed., Wiesbaden 2012.
Homburg, Ch.: Grundlagen des Marketingmanagements: Einführung in Strategie, Instrumente, Umsetzung und Unternehmensführung, 3rd ed., Wiesbaden, 2012a.
Kroeber-Riel, W. /Weinberg, P.: Konsumentenverhalten, 9th ed., Munich 2009.
Meffert, H. / Burman, Ch / Kirchgeorg, M.: Marketing -- Grundlagen marktorientierter Unternehmensführung: Konzepte -- Instrumente -- Praxisbeispiele, 11th revised and exp. ed., Wiesbaden 2012.
Meffert, H. / Burman, Ch / Becker, Ch.: Internationales Marketing-Management -- Ein markenorientierter Ansatz, 4th ed., Stuttgart 2010.
Meyer, M.: Ökonomische Organisation der Industrie: Netzwerkarrangements zwischen Markt und Unternehmung, Wiesbaden 1995.
Porter, M. E.: Wettbewerbsvorteile -- Spitzenleistungen erreichen und behaupten, 8th ed., Campus Frankfurt / New York 2014. (Original: Porter, M.: Competitive Advantage, New York 1985.)
Simon, H. / Fassnacht, M.: Preismanagement, Strategie -- Analyse -- Entscheidung -- Umsetzung, 3rd ed., Wiesbaden 2009.

Intended learning outcomes

The students have a basic understanding of business management and are able to classify the knowledge systematically. In addition, they can use the acquired knowledge solve and identify the conventional problem fields of business management.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + T (2)
Module taught in: German and/or English

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) portfolio (approx. 50 hours total) Language of assessment: German and/or English creditable for bonus
Allocation of places
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Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: summer semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Finance	12-I&F-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Content:
This course offers an introduction to principles of financial mathematics, several methods of capital budgeting and principles of financial economics.

Outline of syllabus:
1. Principles of financial mathematics
2. Fundamental concepts
3. Problems of investment and finance in one commodity world under certainty
4. Problems of investment and finance in one commodity world under uncertainty
5. Problems of investment and finance in many commodities world under uncertainty
6. Capital market and corporate financing in Germany

Intended learning outcomes

After completing the course "Principles of Investments and Finance", the students will be able
(i) to understand the fundamentals in financial mathematics and solve several problems, e.g. via the PV approach;
(ii) to address the central problems in intertemporal allocation given different capital market scenarios;
(iii) to budget and calculate the optimal useful life given static and dynamic investment approaches under the consideration of several other investment opportunities and the capital market scenario, especially the influence of taxes.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
E-Business	12-Ebus-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Information Systems Engineering	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

E-business is a comprehensive, digital processing of business transactions between private and public enterprises as well as institutions and their clients on global public and private networks such as the internet. Precisely because euphoria for e-business has waned considerably in recent years, a lot of emphasis is now being placed on introducing such solutions in a user-oriented way. This lecture will first discuss the supporting economic theories and will then describe and analyse individual solutions such as e-procurement, e-shop, e-marketplace and e-community in detail.

Intended learning outcomes

The module provides students with knowledge about:
(i) E-Procurement
(ii) E-Shop
(iii) E-Marketplace
(iv) E-Community

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Business Intelligence			12-BIF-262-m01

Module coordinator		Module offered by	
holder of the Chair of Information Systems Engineering		Faculty of Management and Economics	

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

Technologies and methods of "Business Intelligence" are aimed at supporting managerial decision-making processes by analyzing and presenting large amounts of data. The module provides an overview of the corresponding analytical information systems, their technical architecture and areas of application. In the practical exercises, the concepts taught are practically demonstrated and applied by the example of a state-of-the-art BI software suite.

Intended learning outcomes

- Understand the technological foundations of data warehouses and BI tools.
- Analyse and design conceptual models for analytical information systems.
- Apply real-world BI software products to analyse large structured data sets.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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UNIVERSITÄT WÜRZBURG
Julius-Maximilians-

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Data Management and Analysis	12-DM-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module teaches on the one hand basics and concepts of modeling data and querying and manipulating databases. Additionally, fundamentals of data analysis as well as data analysis processes are introduced.

Focal points are:

- Fundamentals and application of semantic data modelling
- Fundamentals and application of the relational data model
- Fundamentals and application of data query languages
- Hypothesis-driven and model-building data analysis
- Data analysis processes and their comparison
- Supervised and unsupervised learning processes

Intended learning outcomes

Upon completion of the module students are able
- to design good conceptual and logical data models;
- to transform conceptual data models into physical data schemas;
- to formulate complex database queries;
- to design different applications with databases
- perform and interpret hypothesis testing on real data
- understand the basics of supervised and unsupervised machine learning

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Operations Management	12-BPL-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Industrial Management	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course will provide students with an overview of fundamental processes in procurement, production and logistics and the related corporate functions as well as a model-based introduction to related planning procedures.

Intended learning outcomes

The students will be able to describe and discuss the objectives and major processes in the domains of corporate procurement, production and logistics as well as their interdependencies. Furthermore, they are capable of developing and applying basic planning models in these fields.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Fundamentals of Business Information Systems (SAP)	12-GP-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course is aimed at students of Wirtschaftsinformatik (Business Information Systems) and Wirtschaftswissenschaft (Business Management and Economics) interested in the topic. The course is divided up into two parts. In the theoretical part, students will acquire the necessary theoretical knowledge that will serve as a basis for the practical part. The practical exercise will present students with an opportunity to apply their newly acquired knowledge by working with an SAP S4/HANA on case studies on the model company Almika. In this context, the human resources, purchasing, sales, service, project management and finance departments will be dealt with.
The course will introduce students to business processes of an ERP system (Enterprise Resource Planning) using the example of SAP S/4HANA. In addition to the basic principles, students will also become familiar with the processes and functionalities.

Intended learning outcomes

After completing the course, the students will be able to
1. reflect technical principles and operational models of ERP systems,
2. understand the functionality of ERP systems and
3. perform and understand business processes within the ERP system SAP Business ByDesign.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Computer Science

(30 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Algorithms and Data Structures Level One Course	10-I-GADS-152-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Design and analysis of algorithms, recursion vs. iteration, sort and search methods, data structures, abstract data types, lists, trees, graphs, basic graph algorithms, programming in Java.

Intended learning outcomes

The students are able to independently design algorithms as well as to precisely describe and analyse them. The students are familiar with the basic paradigms of the design of algorithms and are able to apply them in practical programs. The students are able to estimate the run-time behaviour of algorithms and to prove their correctness.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (3)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) oral examination of one candidate each (approx. 20 minutes) or
c) oral examination in groups of 2 candidates (approx. 15 minutes per candidate)
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 49 I Nr. 1 a)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Fundamentals of Programming	10-I-GdP-172-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science II	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Data types, control structures, foundations of procedural programming, selected topics of C, introduction to object orientation in Java, selected topics of C++, further Java concepts, digression: scripting languages.

Intended learning outcomes

The students possess a fundamental knowledge about programming languages (in particular Java, C and C++) and are able to independently develop average to high level Java programs.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 49 I Nr. 1 b)
§ 69 I Nr. 1 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Practical Course in Programming for Business Informatics			10-I-PPWI-202-m01

Module coordinator		Module offered by	
Dean of Studies Informatik (Computer Science)		Institute of Computer Science	

ECTS	Method of grading		Only after succ. compl. of module(s)
5	(not) successfully completed		--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

P (6)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

practical examination (programming exercises, approx. 120 hours) and written examination (approx. 60 to 120 minutes)
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Software Engineering		10-I-SE-252-m01

Module coordinator		Module offered by
holder of the Chair of Computer Science II		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Overview of software engineering, software process models with focus on the Unified Process, agile software development, requirements analysis, software architecture, object-oriented analysis and design with UML, design patterns, software testing and quality assurance, distributed systems and cloud computing

Intended learning outcomes

The students possess a fundamental theoretical and practical knowledge on the design and development of software systems.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 49 I Nr. 1 b)
§ 69 I Nr. 1 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction into Human-Computer Interaction	10-I-MCS-242-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science IX	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Human-Computer Interaction studies the design, evaluation, and implementation of interactive computer systems. Special focus lies on fundamental psychological and physiological properties of the human users, the technical principals and models of modern computer systems, as well as on the derived boundary conditions of designing usable and human-oriented interactions with technical systems. The topics of this course cover the human perception and cognition, the human memory and attention, the design of interactive systems, popuplar evaluation methods, principles of computer systems, input processing techniques, human interfaces and typical means of interaction, from text-based input methods over graphical user interfaces to multi-modal interfaces. Accompanying practical tasks convey to the students typical methods of requirement analysis, prototyping and evaluation.

Intended learning outcomes

After successfully completing this course, students have a fundamental understanding of human-computer interface design principles. They understand the possibilities and limitations of technology and user and the applications of modern user interfaces. They know the necessary steps of user-centric design and typical design principles.

Courses (type, number of weekly contact hours, language — if other than German)

V (3) + Ü (1)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 120 minutes) or
b) presentation (30 to 60 minutes) or
c) oral examination of one candidate each (30 to 60 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Methods

(10 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Mathematics for Management and Economics		12-MWIWI-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Statistics	12-Stat-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Econometrics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Description:
This module deals with the basic terms and concepts of descriptive statistics, indices and probability calculus. It introduces students to common frequency distributions and fundamental distributional characteristics of one-dimensional data as well as basic concepts and methodology necessary for the description and interpretation of multi-dimensional data. In addition, interpretation and calculation with indices as well as fundamental terms of probability calculus are discussed in the second half of the course.

Outline of syllabus:
1. Basic terms in statistics
2. Frequency distributions
3. Distributional characteristics
4. Multi-dimensional data
5. Index calculus
6. Fundamental probability calculus
7. Random variables and distributions

Reading:
Assenmacher, W.: Deskriptive Statistik, Springer.
Bamberg, G., Baur, F.: Statistik, Oldenbourg.
Bohley, P.: Statistik, Oldenbourg.
Hartung, J., Elpelt, B., Klösner, K.-H.: Statistik, Oldenbourg.
Hippmann, H.-D.: Statistik, Schäffer-Poeschel.
Leiner, B.: Einführung in die Statistik.
Litz, H.-P.: Statistische Methoden in den Wirtschafts- und Sozialwissenschaften, Oldenbourg.
Mosler, K., Schmid, F.: Beschreibende Statistik und Wirtschaftsstatistik, Springer.
Schaich, E., Köhle, B., Hartung, J.: Statistik I für Volkswirte, Betriebswirte und Soziologen, Verlag Franz Vahlen.
Schira, J.: Statistische Methoden der VWL und BWL, Pearson Studium.

Intended learning outcomes

Students acquire knowledge of the fundamental terms and concepts of descriptive statistics. In particular, they become familiar with the application and interpretation of common visual and formal tools for descriptive data analysis while simultaneously learning how to competently deal with economic and/or statistical data. On the visual side, this includes knowledge of the construction and interpretation of histograms, bar plots, pie charts, and empirical distribution functions, while on the formal side students learn how to deal with basic distributional characteristics and correlation measures. Additionally, students are familiarized with index calculus and interpretation (in particular the Laspeyres and the Paasche price index) as well as with the most fundamental concepts and terms of probability calculus.
The competences acquired in this course serve as a prerequisite for "Introductory Statistics II".

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

b) portfolio (approx. 50 hours total)
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Compulsory Electives 1: Methods

(10 ECTS credits)

From modules 12-CIS1, 12-CIS2, 12-APB1, 12-APB2, 12-APV1 und 12-APV2, a maximum of four modules (a total of max. 20 ECTS points) can be taken.

From modules 06-MK-MedPsy1, 06-MK-MedPsy2, 04-Geo-HG1W, 04-Geo-HG1S, 04-Geo-HG1B, 06-PSS-BM-AS, 06-PSS-BM-IB, 06-PSS-BM-SpS, 06-PSS-BM-VPS, a maximum of four modules (a total of max. 20 ECTS points) can be taken.

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Julius-Maximilians-

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Fundamentals of Econometrics	12-QWF-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Econometrics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Description:
This module deals with random variables and their statistical distributions as well as with the basic terms and methods of inferential statistics. Some of the most famous distributions such as the normal, binomial, poisson or the exponential distribution are introduced in the first half of the course. The second half deals with the fundamental concepts and techniques used in inferential statistics, including interval estimation and the construction, application and interpretation of hypothesis tests. Additionally, an introduction to multiple regression analysis is given towards the end of the course.
The knowledge and skills acquired in this course serve as a prerequisite for the course "Computerpraktikum" ("Computer Lab in Regression Analysis") and the subsequent Master's course "Ökonometrie I" ("Econometrics I").

Outline of syllabus:
1. Random variables and their distributions
2. Distribution parameters
3. On the importance of the normal distribution
4. Central limit theorems
5. Inferential statistics
6. Interval estimation
7. Hypothesis testing
8. Regression analysis

Intended learning outcomes

Students acquire a basic knowledge of the techniques necessary for the analysis of random events. They will be familiar with different distributions and their respective parameters. Apart from basic estimation methods for these unknown parameters, students learn how to construct and interpret common statistical tests and are able to apply these to specific economic or business questions. Additionally, students acquire a basic understanding of ordinary least square (OLS), enabling them to read simple scientific papers and to apply these tools to scientific questions.

The competences acquired in this course serve as a prerequisite for the course "Computer Lab in Regression Analysis" and the subsequent Master's course "Econometrics I".

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Microeconometrics	12-DAS-262-m01

Module coordinator	Module offered by
holder of the Chair of Data Science in Business and Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course offers an introduction to the fundamentals of causal inference and to widely used research designs in the social sciences. Students that attend this course should have some basic knowledge in statistics and econometrics. The course covers the following emprical methods: Repetition of statistical foundations, Simple Linear Regression (OLS + Assumptions), Multiple Regression (Multicollinearity, OVB, Categorial Varables, Interaction Terms), and many methods and designs related to causal inference (experiments, DiD, IV). The course covers applications in: Competition among firms, productivity, banking crisis, trade, growth, Taxes & investments ... and many more

Intended learning outcomes

After the course, students should be able to understand the basic concepts and methods of causal inference; should be able to read and interpret research and judge its credibility.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Advanced Mathematics for Management and Economics		10-M-FMWW-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes, standard case) or
b) oral examination of one candidate each (15 to 30 minutes) or
c) oral group examination (2 participants, each 10 to 15 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction to Data Science	12-PDS-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Data science is concerned with extracting knowledge and valuable insights from data assets. It is an emerging field that is currently in high demand in both academia and industry. This course provides a practical introduction to the full spectrum of data science techniques spanning data acquisition and processing, data visualization and presentation, creation and evaluation of machine learning models.

The course focuses on the practical aspects of data science, with emphasis on the implementation and use of the above techniques. Students will complete programming homework assignments that emphasize practical understanding of the methods described in the course.

Intended learning outcomes

Topics covered include:
- Data acquisition and processing
- graph and network models
- text analysis
- working with geospatial data
- Usage of machine learning models (supervised and unsupervised)

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Simulation for Decision Making	12-SDM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Many entrepreneurial and organizational questions ("When will a bank's liquidity be exhausted?", "How many employees are needed at minimum to keep customer waiting times tolerable?", "How many charging stations for electric vehicles are needed in a city?") involve complex interactions that managers cannot easily understand. Simulations replicate underlying systems and processes digitally, allowing modifications to be made to perform "What if..." analyses. This leads to a better understanding and ultimately more informed decisions.

Intended learning outcomes

The course teaches how to conduct simulation studies: from programming the simulation model, to aligning it with the real system, to conducting experiments and making decisions. Learning is "hands-on," with simulation models being programmed and studies conducted based on real-world examples. Prior knowledge in programming is helpful but not required.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Compulsory Electives 2: Specializations
(50 ECTS credits)

A sub-area earning 20 ECTS credits or more will be listed as a specialization on the transcript. This does not apply to the sub-area "Management & Economics".

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Management & Economics

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Data Privacy and IT-Law	12-ITRW-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Data protection law:

The course provides a systematic overview of key aspects of German and European data protection laws specifically in relation to IT and internet issues. The course will use numerous practical examples and exercises from the areas of IT and internet to illustrate the respective contents.

Outline of syllabus:
· Principles and historical development of data protection law
· Legal goals of data protection law
· Statutory powers for data use
· Privacy policy regarding IT and internet issues
· Privacy regarding IT outsourcing
· Privacy and marketing
· Consequences of data breaches
· Rights of the person concerned
· Employee data protection
· Outlook on the forthcoming EU Data Protection Regulation

Media law:

The course will first address the classification of the two areas of law in the legal system. In the section on media law, the course will focus on the basic principles of the right to report (press freedom, moral rights) and internet law. In addition, the course will discuss the basic principles of copyright with its manifestations in IT law. The section on trademark law will include a comprehensive overview of the law of intellectual property (patents, design rights, competition law aspects). This section will focus on the core area of trademark law: registration of trademarks, delineation of brands and trademarks, protection of trade marks, infringement of trademarks and law enforcement. The course will mainly work with cases.

Intended learning outcomes

Data Protection Law:

After completing the course, the students will be able to

1. provide an overview of key aspects of the german and european data protection lay with practical examples.

Media Law:

After completing the course, the students will be able to

1. classify the two areas of law in the legal system,
2. reflect the principles of the law of reporting (press freedom, moral rights) and Internet Law,
3. constitute the basics of copyright and its manifestations in IT Law and
4. give an overall view of the law of intellectual property (patents, design rights, competition law aspects).

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Courses (type, number of weekly contact hours, language — if other than German)
V (2) Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) portfolio (approx. 50 hours total) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered creditable for bonus

Allocation of places
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Additional information
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Workload
150 h

Teaching cycle
Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Process and Project Management		12-PPM-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Practice of Data Analysis	12-PD-262-m01

Module coordinator	Module offered by
holder of the Chair of Econometrics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents
Daily work in all areas of business - companies, science, institutions and politics - is based on the acquisition, processing and analysis of various data. These must be collected or generated and then processed and analyzed. In addition, data-based processes and business models offer many opportunities and challenges. The course covers the above mentioned topics and includes a theoretical and a practical part. In the theoretical part, basic knowledge in dealing with data, empirical work and the statistical software R will be taught. In the practical part of the research seminar webinars & field trips are offered.

Intended learning outcomes
Students able to apply statistical methods to collect numerical data.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2) Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) portfolio (approx. 50 hours total) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered creditable for bonus

Allocation of places
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Additional information
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Workload
150 h

Teaching cycle
Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Computer Lab in Applied Econometrics		12-CQW-262-m01

Module coordinator		Module offered by
holder of the Chair of Econometrics		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This module builds on the lectures "Grundlagen der Statistik" ("Descriptive Statistics and Introduction to Proba-bility") and "Grundlagen der QWF" ("Introduction to Statistical Inference and Regression Analysis"). It introduces students to the simulation of different distributions and the application of linear regression analysis.
In the first part of the course, different distributions are introduced, simulated with Excel and their theoretical moments are estimated. In the second part, linear regression analysis is introduced, different specifications are estimated and interpreted and potential pitfalls are pointed out.

Intended learning outcomes

After finishing this course students acquired several skills. They
(i) get an overview of several distributions;
(ii) know how to simulate those distributions in MS Excel and are able to estimate and interpret the related theo-retical moments;
(iii) can perform smaller simulations in Excel;
(iv) get to know a variety of different Excel commands which are important for statistical working;
(v) are introduced to the linear regression analysis, can perform it in Excel and Gretl, and know how to interpret the results.

Courses (type, number of weekly contact hours, language — if other than German)

P (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

20 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedu-re.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Challenges of China's Economic Rise	12-CCER-262-m01

Module coordinator	Module offered by
holder of the Chair of China Business and Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course will be taught in English.Over the last 30 years, China has experienced an unprecedented economic growth period. This economic success is awesome and challenging at the same time. Within this seminar we take a look at a selection of challenges resulting from China's economic rise. We look into challenges arising within China, but also into selected international ones. We approach the challenges by first looking at how they have been discussed in Western media. Starting from there we look 'behind the curtain' to analyse the topics and debates more in-depth in the context of China's economic rise and relevant economic theories. To attend this class you do not need ex ante knowledge about China. You should, however, be willing to read texts, also academic texts, in English language. Apart from reading, participants of the seminar are expected to prepare inputs for the seminar and to participate in class discussion. The seminar ends with a written examination.

Intended learning outcomes

Students of the seminar gain knowledge about China and its global relevance. In addition they learn how the experiences of an emerging markets at times defy mainstream economic theory.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

30 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Digital Corporate Communication			12-EWJ-262-m01

Module coordinator		Module offered by
holder of the Professorship of Economic Journalism		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course provides a practical introduction to the functions and goals of business journalism and gives an initial overview of the subject area of journalism. The focus is on the following questions: What is communication? What are the special features of business journalism? How does one communicate complex economic-political contexts? What needs to be taken into account when providing information and conducting research? How are sources handled in journalism? How are journalistic products such as a report or news item or a report written? How does storytelling work? What is the most efficient way to disseminate journalistic products? What comprises the field of journalistic ethics?

Intended learning outcomes

Through practical exercises, students learn about different forms of presentation and gain insight into research techniques. After completing the "Introduction to Business Journalism" module, students are able to comprehend and evaluate the work of journalists and likewise write journalistic products independently.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Crossmedia Storytelling in Business Communication	12-CWK-262-m01

Module coordinator	Module offered by
holder of the Professorship of Economic Journalism	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Online and cross-media journalism takes into account the current media convergence. This seminar focuses on the individual elements and phases of production for the website, Facebook, Instagram, Twitter, and Tiktok against the background of current trends and developments. In addition, the seminar covers current trends in journalism. In addition to content-related topics, the focus is also on new methods (e.g. of storytelling), as well as technical developments.

Intended learning outcomes

After successful completion, students will be able to name the individual phases of online and cross-media journalism and carry them out on sample projects, explain and go through the individual production stages, use methods and tools for the individual steps.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

20 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Economic and Business Ethics	12-WUE-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Taxation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The aim of the seminar is to provide students with an overview of business ethics. First, basic philosophical terms are clarified and important philosophical theories such as utilitarianism or discourse ethics are introduced. The course discusses how business ethics can be justified and what purpose it can serve. The seminar focuses on the question of what ethical challenges companies face and to what extent companies are moral agents and should include ethical considerations in their actions. Afterwards, the seminar discusses the relationship between the free market and morality and the role of the state for the frame order.

Intended learning outcomes

After finishing this course, the studenst should be able by using common scientific methods to write a seminar paper dealing with a selected ethcial problem in business. They should be able to present a complex problem in an clear and understandable way and they should discuss the own position with convincing arguments with other participants in the class.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Module title	Abbreviation
Globalization and International Economics	12-IntÖk-262-m01

Module coordinator	Module offered by
holder of the Chair of International Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Content

The course starts with an introduction into facts, trends and issues pertaining to the real side of globalization. The main part of the course deals with explanations of international trade (comparative advantage, product variety) and for international factor movements (if time permits). Current issues and controversies (e.g. globalization and labor; globalization and the environment; migration within the European Union) are analyzed on this background.

Outline
I nternational Economics – Trends and current developments
II Internationale Trade
1 Ricardian Theory: Labor productivity and comparative advantage
2 Heckscher-Ohlin-factor proportion theory and the general neoclassical model
3 New Trade Theory: Product differentiation, scale economies, firm heterogeneity
III International Factor Movements [time permitting]

Literature
This course does not strictly follow a single textbook. The best general reference is:
Krugman, P.R., M. Obstfeld, M.J. Melitz (2018), International Economics. Theory and policy (older versions will also do).

The course develops case studies that use additional references.

Intended learning outcomes

The students acquire the ability to critically reflect and understand trends and developments concerning the real side of the world economy: trade flows and international factor movements. They are enabled to understand and defend the causes and consequences of globalization both analytically as well as in an intuitive manner. They acquire the scientific knowledge to evaluate controversies associated with the ongoing deepening of the international division of labor.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Workload
150 h
Teaching cycle
Teaching cycle: summer semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Economics of Public Policy	12-WiPo-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Labour Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course provides an introduction into public policy. Public policy studies the role of the government in the economy. It basically answers four questions:
- When should the government intervene?
- How might the government intervene?
- What is the effect of those interventions?
- Why do governments choose to intervene in the way that they do?

The lecture will cover the following topics:
1. Introduction into public economics/finance
2. Theoretical toolkit
3. Empirical toolkit
4. Public goods
5. Cost Benefit Analysis

Intended learning outcomes

The aim of the course is to provide students with and understanding of the public policy making process of the government and to endow them with the necessary skills to judge about and/or design public policies. Students will learn the core theoretical models of public economics as well as modern empirical methods of public finance. The focus will not lie on the theoretical details, but rather on the beauty of the different methods to provide answers to public policy questions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Management & Digital Transformation		12-MDT-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Applied Microeconomics, esp. Human-Machine Interaction	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The lecture Management and Digital Transformation offers a comprehensive introduction to the role of management in the context of the digital transformation of companies. Basic management concepts are taught from a (micro-)economic perspective and linked to the challenges, opportunities, and strategies of digital transformation. The lecture focuses on the organizational architecture and the distribution of decision-making competencies, on the use of machine learning for management decisions and the associated risks, as well as on strategic aspects, in particular the right decisions in the context of changing market conditions.

Intended learning outcomes

Students learn how the digital transformation affects organizations and their architecture. Problem-oriented thinking in strategic decision-making is encouraged to evaluate when and to what extent the application of new technologies can deliver value. They will become familiar with how incentives shape economic outcomes for individuals and firms. Furthermore, they will be able to apply basic concepts of game theory to strategic management decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: employability skills

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Controlling	12-KR-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management, Controlling and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

First, this module will discuss basic principles of accounting such as full and direct costing as well as cost and performance accounting in the context of decision-making. The course will then focus on decision-making processes (short-term production planning, pricing decisions) and internal control calculations (the role of controls, deviation analyses).

Intended learning outcomes

This module provides competences in order to apply systems of full and direct costing, cost and performance accounting with regard to decision-making and internal control processes. After completing the course unit, students will be able to understand and assess the theoretical principles and interrelationships in decision-making and control as well as be able to apply them to examples from corporate practice. The goal is to promote analytical thinking and problem-solving abilities by analyses of complex problem structures.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Games and Strategies		12-S&W1-F-262-m01

Module coordinator		Module offered by
holder of the Chair of Industrial Economics		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Outline of syllabus:
1. Static games with complete information
   - Concept of a game
   - Solution concepts and the Nash equilibrium
   - Continuous strategy sets
   - Nash equilibrium in mixed strategies
2. Dynamic games with complete information
   - Subgame perfect Nash equilibrium
   - Repeated games
3. Static games with incomplete information: Bayesian Nash equilibrium
4. Dynamic games with incomplete information
   - Perfect Bayesian Nash equilibrium
   - Signaling games

Intended learning outcomes

Students which complete this course will be able to
(i) explain different equilibrium concepts (Nash equilibrium, subgame perfect equilibrium, bayesian equilibrium, perfect bayesian equilibrium);
(ii) explain for which kind of strategic situation each of these equilibrium concepts were developed;
(iii) apply these concepts to simple realistic strategic situations;
(iv) choose the appropriate equilibrium concept which fits best to a given strategic situation.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Planning and Decision Making in Business Information Systems		12-PEBI-262-m01

Module coordinator		Module offered by
holder of the Chair of Business Analytics		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Quantitative methods form a central basis for business planning and decision-making. From the information systems perspective, these methods must be integrated into IT systems and processes. The lecture presents fundamental concepts and methods from the areas of decision theory and analysis, mathematical optimization and discrete Markov chains. The methods are applied in the exercise on the basis of examples and solved computer-aided.

Intended learning outcomes

- Normative and empirical decision theory
- Fundamentals of linear programming
- Sensitivity analysis
- Discrete Optimization
- Discrete Markov chains

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Fundamentals of Econometrics	12-QWF-G-262-m01

Module coordinator	Module offered by
holder of the Chair of Econometrics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Description:
This module deals with random variables and their statistical distributions as well as with the basic terms and methods of inferential statistics. Some of the most famous distributions such as the normal, binomial, poisson or the exponential distribution are introduced in the first half of the course. The second half deals with the fundamental concepts and techniques used in inferential statistics, including interval estimation and the construction, application and interpretation of hypothesis tests. Additionally, an introduction to multiple regression analysis is given towards the end of the course.
The knowledge and skills acquired in this course serve as a prerequisite for the course "Computerpraktikum" ("Computer Lab in Regression Analysis") and the subsequent Master's course "Ökonometrie I" ("Econometrics I").

Outline of syllabus:
1. Random variables and their distributions
2. Distribution parameters
3. On the importance of the normal distribution
4. Central limit theorems
5. Inferential statistics
6. Interval estimation
7. Hypothesis testing
8. Regression analysis

Intended learning outcomes

Students acquire a basic knowledge of the techniques necessary for the analysis of random events. They will be familiar with different distributions and their respective parameters. Apart from basic estimation methods for these unknown parameters, students learn how to construct and interpret common statistical tests and are able to apply these to specific economic or business questions. Additionally, students acquire a basic understanding of ordinary least square (OLS), enabling them to read simple scientific papers and to apply these tools to scientific questions.

The competences acquired in this course serve as a prerequisite for the course "Computer Lab in Regression Analysis" and the subsequent Master's course "Econometrics I".

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Microeconometrics			12-DAS-262-m01

Module coordinator		Module offered by	
holder of the Chair of Data Science in Business and Economics		Faculty of Management and Economics	

ECTS	Method of grading		Only after succ. compl. of module(s)
5	numerical grade		--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course offers an introduction to the fundamentals of causal inference and to widely used research designs in the social sciences. Students that attend this course should have some basic knowledge in statistics and econometrics. The course covers the following emprical methods: Repetition of statistical foundations, Simple Linear Regression (OLS + Assumptions), Multiple Regression (Multicollinearity, OVB, Categorial Varables, Interaction Terms), and many methods and designs related to causal inference (experiments, DiD, IV). The course covers applications in: Competition among firms, productivity, banking crisis, trade, growth, Taxes & investments ... and many more

Intended learning outcomes

After the course, students should be able to understand the basic concepts and methods of causal inference; should be able to read and interpret research and judge its credibility.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Advanced Mathematics for Management and Economics		10-M-FMWW-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes, standard case) or
b) oral examination of one candidate each (15 to 30 minutes) or
c) oral group examination (2 participants, each 10 to 15 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction to Data Science	12-PDS-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Data science is concerned with extracting knowledge and valuable insights from data assets. It is an emerging field that is currently in high demand in both academia and industry. This course provides a practical introduction to the full spectrum of data science techniques spanning data acquisition and processing, data visualization and presentation, creation and evaluation of machine learning models.

The course focuses on the practical aspects of data science, with emphasis on the implementation and use of the above techniques. Students will complete programming homework assignments that emphasize practical understanding of the methods described in the course.

Intended learning outcomes

Topics covered include:
- Data acquisition and processing
- graph and network models
- text analysis
- working with geospatial data
- Usage of machine learning models (supervised and unsupervised)

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Simulation for Decision Making	12-SDM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Many entrepreneurial and organizational questions ("When will a bank's liquidity be exhausted?", "How many employees are needed at minimum to keep customer waiting times tolerable?", "How many charging stations for electric vehicles are needed in a city?") involve complex interactions that managers cannot easily understand. Simulations replicate underlying systems and processes digitally, allowing modifications to be made to perform "What if..." analyses. This leads to a better understanding and ultimately more informed decisions.

Intended learning outcomes

The course teaches how to conduct simulation studies: from programming the simulation model, to aligning it with the real system, to conducting experiments and making decisions. Learning is "hands-on," with simulation models being programmed and studies conducted based on real-world examples. Prior knowledge in programming is helpful but not required.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Selected Topics in Management & Economics 1	12-STME1-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Selected Topics in Management & Economics 2		12-STME2-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Selected Topics in Management & Economics 3		12-STME3-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Selected Topics in Management & Economics 4		12-STME4-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Behavioral & Managerial Economics

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Economics and Psychology		12-EAP-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Customer Analytics	12-CA-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Marketing Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Customer analytics involves collecting, managing, and analyzing customer data to gain insights and improve business decisions. Thanks to the explosive growth of media, channels, digital devices, and software applications, a wealth of customer data is now readily available and economically viable to collect. Customer analytics uses customer data along with economic theory, statistics, and econometric modeling to understand customer needs, preferences, and behavior. The goal of customer analytics is to provide companies with valuable information about their customers so they can make better decisions. This information can help them tailor their products, optimize marketing efforts, improve customer satisfaction, and ultimately increase revenue and profitability.

This course provides a comprehensive understanding of fundamental principles, methods, and tools used in customer analytics. The first part of the course focuses on the importance of customer value and its impact on business success. Emphasis is placed on the key methods and analytical tools for assessing and effectively managing customer heterogeneity in data-driven marketing. The remainder of the course focuses on modeling the impact of marketing efforts on customer response, perceptions, and preferences, as well as the use of marketing attribution techniques. To provide a practical and engaging learning experience, the course includes hands-on applications of the material covered using real-world data and relevant software tools.

Intended learning outcomes

- Understand the importance of customer value and its impact on business success.
- Learn key methods and analytical tools to effectively address customer heterogeneity in marketing strategies.
- Develop practical data analysis skills for data-driven marketing decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Decision-Making in Organizations and Teams	12-DMOT-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Applied Microeconomics, esp. Human-Machine Interaction	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Many economic activities result from individual decisions. Understanding these is necessary in order to grasp economic phenomena and effectively influence organizational outcomes. This course, therefore, provides an overview of economic decision-making in teams and organizations. It uses tools from microeconomic theory as well as empirical results from field studies and laboratory experiments. Topics covered in the course include, for example, team production, intrinsic motivation, monetary incentives and fairness, and the allocation of decision rights.

We will discuss (in detail) various empirical and theoretical works on economic decision-making in teams and organizations. The relevant research articles will be made available to students.

Some contents of the lecture can also be reviewed and studied using the following textbook:
Gibbons, Robert, and John Roberts, eds. The Handbook of Organizational Economics. Princeton University Press, 2013.

Intended learning outcomes

With this course,
- students will be able to understand and reflect on modern microeconomic concepts and current organizational economics.
- students will learn to master and apply quantitative microeconomic methods.
- students will be enabled to classify and relate specialized knowledge from theoretical microeconomics, experimental and empirical microeconomics, business administration, and psychology.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Economic Experiments		12-EcEx-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Business Strategy for Information and Network Industries	12-BSINI-262-m01

Module coordinator	Module offered by
holder of the Chair of Industrial Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Outline of syllabus:
1. Pricing of information goods
   - market segmentation methods
   - digital rights management and piracy
   - alternative monetisation strategies
2. Network effects
   - consumer demand in markets with network effects, rational expectations
   - monopoly pricing
   - competition in markets with network effects
   - compatibility and multi-homing: dynamic competition
3. Competition in markets with switching costs
4. Two (multi)-sided markets and platforms
   - monopoly pricing in platform markets
   - competition in platform markets: non-price strategies

The course will be taught in English.

Intended learning outcomes

After successful completion of this class, the students should be familiar with issues arising in many of the increasingly important hi-tech industries. They will be able to comment on emerging selling mechanisms for books, music and video. They will be able to explain the underlying logic for observed pricing patterns for software products, social media sites and the services found in the so called sharing economy. They will not only be able to understand observed behavior in information goods markets, industries which exhibit network effects and platform markets but will be able argue for new strategies in light of the specific features a market/product may exhibit.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Economics of Information			12-IÖ-262-m01

Module coordinator		Module offered by	
holder of the Chair for Economics, Contract Theory and Information Economics		Faculty of Management and Economics	

ECTS	Method of grading		Only after succ. compl. of module(s)
5	numerical grade		--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

During the 1960/70s, microeconomic theory came to acknowledge that many (if not most) economic transactions are characterized by asymmetric distribution of information – i.e., at least one of the parties participating in a transaction usually is privy to information that the remaining parties do not have access to. This asymmetric distribution of information subsequently was recognized to be a major impediment for transactions to be economically efficient. Contract theory addresses the question how the inefficiencies arising from asymmetric distribution of information can best be mitigated by appropriate design of the contractual (or, more generally, institutional) framework that governs the transaction under consideration. This lecture covers the baseline models of "moral hazard" (i.e., situations where one party has private knowledge after a contract has been signed) and "adverse selection" (i.e., situations where one party has private knowledge before a contract is signed). As applications we will address questions discussed in organizational, personnel or industrial economics, such as incentive design within organizations or the design of labor law regulations and competition laws.

Even though we will work with precise mathematical formalizations of the ideas that we want to think and talk about, this course requires little more than a solid understanding of basic differential calculus. More important than having a solid mathematical background is having a strong interest in formal economic analysis and fun with logical thinking and puzzle solving.

The exposition is primarily based on the following textbook:

- Laffont und Martimort (2002): "The Theory of Incentives"

Intended learning outcomes

After completing the course students will be able to
- explain essential findings of contract theory,
- apply the involved methods to given stylized examples on their own,
- interpret the properties of real-life contracts as the outcome of the interaction between two or more contracting parties in the presence of asymmetric information,
- evaluate government interventions with regard to their effect on the efficiency properties of the interaction between the contracting parties.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Economic Principles of Risk Management	12-Risk-262-m01

Module coordinator	Module offered by
holder of the Chair for Economics, Contract Theory and Information Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	graduate	--

Contents

Rational decisions under uncertainty
1. Measures of risk aversion
2. Mean preserving spread
3. Axiomatic foundations of the expected utility hypothesis (Neumann/Morgenstern, Savage)
4. Insurance contracts
5. Optimal portfolios
6. Adverse selection
7. Moral Hazard
8. Experimental evidence and alternative approaches

Intended learning outcomes

After completing the course students are able to
1. explain the results of the economic theory of decisions under risk,
2. apply the involved methods to given simple examples on their own,
3. recognise, in which real life situations and how the results can be applied.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Marketing & Entrepreneurship

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Sustainability Marketing	12-SCRM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Administration and Marketing	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

A key challenge for companies in a marketing context is to choose the right approaches on how to deliver their products and services to customers. In doing so, companies need to carefully consider their customers' needs and requirements to successfully manage company-customer relationships.

This course focuses on classic and new approaches of sales and customer relationship management. In particular, it covers the set-up of sales systems in terms of offline channels (e.g., retail stores) and online channels (e.g., online shops or market places), their interplay (e.g., multi-channel management), or the management of the sales force.

Moreover, it focuses on different types of customer-firm interactions, on approaches of analyzing customer satisfaction and loyalty, as well as on customer complaint management, cross-selling management or customer experience management.

Intended learning outcomes

The major goal of this class is to learn about and understand how sales management and customer relationship management work and to be able to transfer respective concepts to real life / business practice.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Entrepreneurship	12-EPS-262-m01

Module coordinator	Module offered by
holder of the Chair of Entrepreneurship and Strategy	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Description:
The course introduces students to the basics of entrepreneurial self-employment. In addition to discussing theoretical concepts covering the definition, creation and performance of new ventures, the course will also discuss methods and instruments for a potential entrepreneurial career. Several content areas of start-up planning are being covered during the course of the lecture including team compilation, business model creation and financing.

Contents of the course:
1. Introduction to entrepreneurship
2. Human resources in start-ups
3. Opportunity analysis
4. Business modelling
5. Entrepreneurship in the digital industry
6. Business planning
7. Finance
8. Marketing in start-ups

Intended learning outcomes

After completing the module "Entrepreneurship", the students should be able to
(i) describe and problematize the concept of entrepreneurship and the entrepreneurial perspective;
(ii) describe and analyze the entrepreneurial process, its drivers, characteristics and context;
(iii) apply theories within the entrepreneurship field to real life situations;
(iv) take initiatives and independently develop a business idea and use knowledge gained from earlier courses in business administration in order to develop this idea in a business plan sketch;
(v) plan human resources and marketing in a start-up.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Teaching cycle
Teaching cycle: every year, winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Business Plan Lab		12-BPLAB-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Case Studies on Entrepreneurial Behaviour	12-CSEB-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Marketing für Start-Ups		12-MSU-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Scale-up Excellence: Building, Scaling and the Growth of Young Ventures		12-SUE-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Customer Analytics	12-CA-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Marketing Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Customer analytics involves collecting, managing, and analyzing customer data to gain insights and improve business decisions. Thanks to the explosive growth of media, channels, digital devices, and software applications, a wealth of customer data is now readily available and economically viable to collect. Customer analytics uses customer data along with economic theory, statistics, and econometric modeling to understand customer needs, preferences, and behavior. The goal of customer analytics is to provide companies with valuable information about their customers so they can make better decisions. This information can help them tailor their products, optimize marketing efforts, improve customer satisfaction, and ultimately increase revenue and profitability.

This course provides a comprehensive understanding of fundamental principles, methods, and tools used in customer analytics. The first part of the course focuses on the importance of customer value and its impact on business success. Emphasis is placed on the key methods and analytical tools for assessing and effectively managing customer heterogeneity in data-driven marketing. The remainder of the course focuses on modeling the impact of marketing efforts on customer response, perceptions, and preferences, as well as the use of marketing attribution techniques. To provide a practical and engaging learning experience, the course includes hands-on applications of the material covered using real-world data and relevant software tools.

Intended learning outcomes

- Understand the importance of customer value and its impact on business success.
- Learn key methods and analytical tools to effectively address customer heterogeneity in marketing strategies.
- Develop practical data analysis skills for data-driven marketing decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Social Commerce	12-SC-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Administration and Marketing	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The transition from Web 1.0 to Web 2.0 was a milestone for the Internet - from static to interactive, social media and strong e-commerce emerged. These areas merged into social commerce. The course covers the origins and basics of social media & e-commerce, defines social commerce, examines its business application, takes a look at future technologies (Web 3.0) and considers sustainability. This gives you a wide range of perspectives for understanding and shaping social commerce.

Course structure:
1. The path to social commerce
2. Basics of social commerce
3. Social commerce
4. Social commerce management - integration into everyday business life
5. Social commerce in the future - influence of new technologies
6. Social commerce - acting responsibly

Intended learning outcomes

- Understanding the basics of social commerce (also from the areas of marketing & e-commerce)
- Application of the course content to develop a social commerce strategy
- Self-competence through independent processing of the course content
- Social competence (in particular communication and cooperation) by working together on parts of the portfolio exam

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Human Resource Management	12-P&O-F-262-m01

Module coordinator	Module offered by
holder of the Chair for Human Resource Management and Organisation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The lecture Personnel Management covers basic methodological, empirical, and institutional concepts of the subject. More specifically, on the basis of the principal-agent model answers are given on how the basic dilemma of the relationship between employer and employee can be solved. Mainly financial incentives on the individual and team level are presented and discussed. In addition, possibilities to reduce information asymmetries are presented.

Intended learning outcomes

Students should be able to understand, discuss and apply basic theories, econometric techniques as well as empirical findings in personnel management.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Finance & Accounting

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Financial Markets Fundamentals		12-FMF-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
International Money & Finance	12-IFM-262-m01

Module coordinator	Module offered by
holder of the Senior Professorship for Economics, Money and International Economic Relations	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module introduces students to exchange rate theory, the determinants of international financial flows and monetary open economy models for the analysis of monetary and fiscal policy. The module is divided into three parts. The first one covers exchange rates and the second one the balance of payments, international financial flows and financial market globalization. Based on these two, the third one focusses on economic policy applications including the exchange rate regime choice, exchange rate crises and optimum currency area theory.

Intended learning outcomes

Students will acquire a basic understanding of international finance and learn analyzing practical examples with monetary models. Students gain expertise on institutional aspects and theoretical models. Having completed the module, students will be able to understand current developments in international finance and apply models and theories to analyze and evaluate these.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Financial Accounting	12-Wipr1-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Financial reporting should generate information that is made accessible to various stakeholders. Companies based in Germany are generally required to prepare annual financial statements according to the accounting principles of the German Commercial Code (HGB). This module offers a systematic analysis and interpretation of the applicable accounting principles. In addition to the purpose and principles of accounting, more extensive recognition and valuation principles in the annual financial statement, as well as group accounting practices are covered.

Outline
- Introduction to the basic functions of accounting
- Overview of the German system of Generally Accepted Accounting Principles (GAAP)
- Recognition principles
- Initial and subsequent measurement principles
- Necessity of consolidated financial statements
- Scope of consolidation
- Basics of consolidation

Intended learning outcomes

Upon completion of this module, students will be able to:
- Classify and evaluate various accounting issues from a theoretical perspective;
- Evaluate alternative actions and develop appropriate accounting strategies;
- Understand the necessity of consolidated financial statements and perform basic consolidation measures.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Integrated Reporting	12-Wipr2-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In today's global economy, transparency of corporate reporting has become more essential than ever before. Stakeholders, including investors, customers, and the general public, are increasingly demanding a holistic view of a company's performance, not just in financial terms but also in terms of its environmental, social, and governance (ESG) impacts. Integrated Reporting goes beyond traditional financial reporting by integrating information about a company's social, environmental, and economic impacts. This module introduces the two major frameworks for financial and sustainability reporting in the European Union, namely the International Financial Reporting Standards (IFRS) and the European Sustainability Reporting Standards (ESRS). We will provide a systematic overview of both frameworks and introduce selected standards in more depth.

Outline
- Introduction to the basic functions of accounting
- Overview of the institutional framework
- Conceptual framework for financial reporting
- Selected financial reporting standards
- Conceptual framework for non-financial reporting
- Selected non-financial reporting standards

Intended learning outcomes

Upon completion of this module, students will be able to:
- Classify and evaluate various accounting issues from the perspective of integrated reporting;
- Evaluate alternative actions and develop appropriate accounting strategies;
- Understand the necessity of non-financial statements and an integrated approach to accounting.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
An Introduction to Tax Law & Tax Planning	12-St1-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Taxation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This module will introduce students to the field of business taxation. It will provide an overview of German tax law and will analyse tax effects on economic decisions in standard models for investment and financing decisions.

Intended learning outcomes

Students get an overview of the German tax law and they acquire the ability to recognize and understand the effect of taxation in fundamental ecomonic decisions. Therefore, the module is recommended also for students who don't want to specialize in finance and accounting but rather in management studies.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Corporate Taxation			12-St2-F-262-m01

Module coordinator		Module offered by	
holder of the Chair of Business Management and Business Taxation		Faculty of Management and Economics	

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

In this module, students will acquire an in-depth knowledge of the system of income taxation in Germany which consists of personal income tax, corporate income tax and trade tax, a special income tax on business income.

1 INCOME TAX (EStG)

1.1 Income concepts and legal definitions of income
1.2 Determining income in accordance with the EStG

2 CORPORATE INCOME TAX (KStG)

2.1 Basic principles
2.2 Determination of income
2.3 Loss offset rules
2.4 Special issues with equity capital for tax purposes
2.5 Treatment of shareholdings

3 TRADE TAX (GewStG)
3.1 Basic principles
3.2 Loss offset rules
3.3 Group taxation in the trade tax

4 CASE STUDY PROFIT CALCULATION UNDER COMMERCIAL AND TAX LAW

Intended learning outcomes

Students acquire in-depth knowledge of the system of income taxation in Germany. They are able to solve practical problems of medium to high complexity in this filed by means of the tax code, other legal texts and secondary literature.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Decision Theory		12-I&F-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Based on the decision theory under certainty, this module covers normative decision theory under uncertainty in its manifestations of the expected utility theory and the $\mu - \#$ theory.

Syllabus:

Part 1: Decisions under certainty
1. Fisher mode
2. Revealed preferences
3. Preference relations

Part 2: Decisions under uncertainty: Expected Utility Theory
1. The basic model
2. Risk preferences
3. Intensity of risk aversion
4. Stochastic dominance
5. Prospect Theory

Part 3: Decisions under uncertainty: $\mu - \#$ principle
1. Introduction
2. Relation to expected utility theory
3. Application in Portfolio Theory & Tobin-Separation
4. Properties

Intended learning outcomes

The students acquire knowledge about how to describe appropriate decision situations and how to solve them based on the learned concepts.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Workload
150 h
Teaching cycle
Teaching cycle: summer semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction to Risk Management	12-ERM-262-m01

Module coordinator		Module offered by
holder of the Chair of Business Management and Corporate Finance		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This module provides an overview of the form and approach of the systematic risk management process in a business context. This risk management process consists of the process steps of risk identification, risk assessment and aggregation, risk management and risk control.

This course is based on this process structure and is structured accordingly:

Legal and business motivation for risk management.
Risk identification
Risk assessment and aggregation
Risk control
Risk control and reporting
Risk management information systems (RMIS)
M1 | Legal and business motivation for risk management

In Germany, outside the banking sector, there have been legal regulations for setting up corporate risk management since the KonTraG came into force in 1998. In addition to the legal obligation to set up a risk management system, the systematic handling of risks is also of interest from a business management point of view, as the conscious acceptance of risks has a significant positive influence on the company's ability to plan and control.

M2 | Risk identification

Risk identification involves systematically recording all of a company's major risks. The earlier risks are identified, the more comprehensively appropriate countermeasures can be taken.
Risk identification is a fundamental task of risk management, as it provides the information basis for all further process steps, because only identified risks can be assessed, aggregated and controlled. Various methods can be used to identify risks.

M3 | Risk assessment and aggregation

Once risks have been identified, they must be assessed. Both qualitative and quantitative methods are available for this purpose. The objective of risk assessment is to describe the risk in terms of appropriate statistical distribution functions. Once the relevant risks have been described by distribution functions, the next task is to determine the company's overall risk position by means of a so-called risk aggregation.

M4 | Risk management

This module deals with the options for risk control. Risk management is strongly linked to a company's strategy, as this is also where the company's attitude towards risk is anchored (risk appetite). In addition, the risk coverage potential (=available equity capital) is of decisive and existential importance.
Various strategies can be used to manage risks.

M5 | Risk control and reporting

With the help of early warning indicators (so-called key risk indicators, KRI), (negative) changes in the scope or probability of risk occurrence can be monitored and identified in good time. However, risk control does not only

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

monitor KRI, it is also used to control measures implemented as part of risk management and to evaluate them for efficiency and success.

As part of risk reporting, all findings from the individual risk management process phases are transferred to a risk report. The addressees of the risk report are risk officers, department heads, the Board of Management, the Supervisory Board or external parties such as auditors, shareholders or rating agencies. The scope and level of detail of the risk report depend on the recipient of the report.

M6 | Risk management information systems (RMIS)

A prerequisite for the company-wide and sustainable establishment of a risk management system is the software support provided by risk management information systems. Although known risks can be recorded and processed using standard tools such as Excel spreadsheets, they quickly reach their limits. As soon as additional users are to be integrated, an integrated software approach is required, as risk management information systems entail.

Intended learning outcomes

Students are taught the fundamentals of risk management. The students are able to identify, record and evaluate risks in a structured manner and furthermore express the scope of risk on a mathematical basis. The students are able to derive suitable risk measures and know how risks can be monitored.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Digital Accounting Practice	12-Wipr3-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

SAP S/4HANA, as a leading enterprise resource planning (ERP) system, is transforming financial operations with its advanced capabilities in processing large volumes of data and integrating financial information across business units. This module provides a hands-on introduction to the accounting modules of SAP S/4HANA. Through practical sessions and case studies, students will learn the key functionalities of selected modules and work in groups to explore various case scenarios using the SAP S/4HANA environment.

Intended learning outcomes

Upon completion of this module, students will be able to:
- Understand the basic structure of SAP S/4HANA and selected modules;
- Account for various transactions using SAP S/4HANA;
- Evaluate alternative actions and develop appropriate accounting strategies.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

40 places. WB2: Should the number of applications exceed the number of available places, places will be allocated as follows:
(1) Preference will be given to applicants who have already completed modules in the "Finance Accounting" profile area. Places will be allocated according to the total number of ECTS credits achieved in the corresponding modules.
(2) The remaining places will be allocated to students of other subjects. Places will be allocated by lot.
(3) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure.
(4) A waiting list will be maintained and places re-allocated as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
DATEV: Introduction to DATEV-Software for Tax Accounting	12-DAT-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Taxation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module will introduce students to processes regarding accounting, taxation, financial statements and the audit of these using the DATEV software. DATEV is one of the standard systems used by tax consultants and accountants. Students will not only become familiar with the basics, they will also acquire insights into the processes and functionalities. In the theoretical part, students will acquire the necessary skills that will serve as a basis for the practical part. This practical part will present students with an opportunity to apply their newly acquired knowledge by working with a DATEV system on case studies on the model company Müller & Thurgau GmbH.

Intended learning outcomes

Students acquire practical knowledge in using the DATEV software package for daily book-keeping and for producing annual reports.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

10 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Securities Management	12-WPM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	(not) successfully completed	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Within the framework of this module, students are familiarized with the management of an investment portfolio. Each participant has to manage a special area, for which he/she presents the most important market events in a condensed form in each session and observes the securities account positions belonging to his/her special area. A securities account provided by Castell-Bank Würzburg is managed. Each participant has to prepare his own investment proposals and take part in the general discussion. Based on group discussions, investment decisions are made to buy and sell securities within the securities account. These investment decisions are based on risk considerations as well as tax aspects, which will be introduced to the participants during the course. Furthermore, in addition to macroeconomic topics closely related to securities investment, the course also focuses on the development of the real estate sector.

Intended learning outcomes

Upon completion of the securities seminar, students will be able to

(i) independently assess securities of different asset classes with regard to their risk/reward profile, both on an individual security level and in a portfolio context

(ii) and present and discuss their assessments in a target group-oriented manner.

Courses (type, number of weekly contact hours, language — if other than German)

S (4)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

20 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Introduction to VAT		12-St3-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Taxation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Introduction to German value added tax.

Intended learning outcomes

Students acquire a thorough knowledge of German VAT law. They are able to solve VAT problems of low to medium complexity by using the tax code itself as well as related literature.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
International Business Taxation and Aggressive Tax Planning		12-St4-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Business Valuation between Financial Mathematics and Data on Capital Market	12-UBW-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Content:
This course deals with the "objectified corporate valuation" of public companies, the components of the discount rate and the mathematical structure of the DCF methods.

Outline of syllabus:
1. Introduction
2. Uncertainty as the central problem in the valuation of a company
3. Estimation of surpluses: accuracy and consistency
4. Risk free rate: capitalised value under certainty applying different interest rate structures
5. The risk premium: identification of the relevant risk and its equivalence for valuation object and alternative investment
6. Different discounted cash flow valuation methods: formal foundations and economic principles

Intended learning outcomes

After completion of the module "Business valuation between Financial Mathematics and capital market data" students can
(i) understand the modern process of objectified business valuation theory;
(ii) examine submitted reviews according to consistent application of these methods.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

IT & Operations

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Managerial Problem Solving		12-MPS-262-m01

Module coordinator		Module offered by
holder of the Chair of Business Analytics		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course provides an introduction to data-based methods for modeling and solving quantitative business problems. In particular, Microsoft Excel is used to manage, visualize, and analyze data. In addition, mathematical optimization problems are solved using Excel Solver and the fundamentals of programming with VBA are discussed.

Intended learning outcomes

1. Prepare, visualize and analyze data sets using Excel
2. Select and forecast different time series problems
3. Understand simple, multiple and dummy regressions
4. Implement and solve linear optimization problems using the Excel Solver
5. Fundamentals of Excel VBA programming

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: employability skills

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Data-Driven Decisions in Practice	12-DDD-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In the course of digital transformation, the amount of data sources on business and social processes is steadily increasing. Decision-makers face the question of how to use this data to develop more attractive products, improve processes, or increase customer satisfaction. The course "Data Driven Decisions (D3) in Practice" addresses how important business decisions can be better made using "big" data. The focus of the course is on implementing a structured process that includes the steps of problem definition and structuring, data collection and preprocessing, modeling and analysis, as well as decision-making.

The course is collaboratively conducted by the Data Driven Decisions (D3) Group, consisting of the Chairs for Enterprise AI, Information Systems and Business Analytics, Information Systems and Systems Development, as well as the Chair for Logistics and Quantitative Methods

Intended learning outcomes

This course is strongly application- and practice-oriented. Using several case studies from various industries and business sectors (e.g., logistics, marketing, etc.), real entrepreneurial problems are examined, demonstrating how companies can make better decisions with the help of extensive data. Participants learn to apply fundamental methods from the fields of optimization and data science and to build data analysis pipelines. A basic understanding or a strong willingness to familiarize oneself with the basics of programming, data science, and optimization is expected.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Data-Driven Supply Chain Management		12-DDSCM-262-m01

Module coordinator		Module offered by
holder of the Chair of Logistics and Quantitative Methods		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course aims to familiarize students with the pioneering methods of "Data-Driven Supply Chain Management (DSCM)". DSCM comprises novel methods that use machine learning to derive tactical and operational planning decisions in supply chain management from a variety of real data. These methods are not only the focus of a now very large field of research, but are also increasingly finding their way into commercial software systems to support supply chain management (e.g. SAP, Blue Yonder, etc.).

Intended learning outcomes

- Students understand the importance of data-driven decisions in SCM and the potential of machine learning.
- After the course, participants will know key DSCM procedures and their applicability to planning problems.
- Students learn to analyze corporate data and use machine learning to achieve better SCM planning results.
- Through case studies, participants recognize the transferability of insights to other SCM areas and potential implementation problems.
- Participants can describe real data descriptively using Python and implement DSCM procedures with machine learning after the course.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Geospatial Data Analytics & Smart Cities	12-GDA-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course teaches how to use spatial data (e.g., from Google Maps) to gain business-relevant insights and make decisions. Students learn to answer entrepreneurial and organizational questions based on data, primarily from urban areas - such as: In which neighborhood should I open my restaurant? What price can I achieve for a property in a specific location? How is mobility demand (for carsharing, e-scooters, etc.) distributed in a city, and how should the business area for such offerings be designed accordingly?

Intended learning outcomes

In this course, students will become proficient in geospatial data science. Students learn essential tools for data manipulation, spatial data handling, and more advanced spatial data analytics techniques like clustering as well as spatial machine learning. Students will gain the skills to extract meaningful insights from real-world geographical data and use them to solve business problems. The course covers both theoretical concepts as well as the necessary application-oriented tools (using Python and Jupyter notebooks) to become a skilled geospatial analyst ready to make data-driven decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

UNIVERSITÄT WÜRZBURG
Julius-Maximilians-

Module title	Abbreviation
Forward and Reverse Business Engineering	12-FRBE-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

"Business Engineering" refers to the method and model-based design theory for companies in the information age. "Forward" refers to design methods (such as situation analysis, requirements analysis and business process modelling) that help implement a new solution. "Reverse" refers to approaches (such as the use and process analysis) that make it possible to improve or re-design existing structures and processes. Market requirements and technological innovation potential are typical reasons for the continuous transformation of a company. The resulting change needs to be implemented into the organisational structure, business processes and information systems.
The course traces the implementation cycle of enterprise software from the point of view of a member of a project team. In addition to acquainting students with the theoretical basis of adaptation, the course will also discuss examples from practical projects.

Intended learning outcomes

The "Forward und Reverse Business Engineering" module aims to achieve the following learning outcomes:
1. Students acquire profound expertise in the process of adapting business software libraries and learn how to apply this knowledge to practical scenarios.
2. Mastery of forward engineering methods such as situation analysis, requirements analysis, process modeling, and business blueprinting, as well as reverse engineering methods like reverse business engineering and their practical implementation in corresponding tools.
3. Students develop interdisciplinary methodological skills that enable them to independently and flexibly tackle complex challenges. This includes, in particular, the application of the aforementioned methods of forward and reverse engineering

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: in the semester in which the course is offered
creditable for bonus

Allocation of places

45 places. WB3
Should the number of applications exceed the number of available places, places will be allocated as follows:
(1) Bachelor's students of Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) will be given preferential consideration.
(2) The remaining places will be allocated to students of other subjects.
(3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.
(4) A waiting list will be maintained and places re-allocated by lot as they become available.

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Web Programming	12-WebP-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The "Web Programming" course combines the theoretical foundations of web programming from both backend and frontend architecture with the practical application of various techniques and methods. The course emphasizes a strong practical approach, with homework and exercises being consistently present. It is aimed primarily at beginners but also accommodates students with programming experience. Our goal is to encourage programming through the course, applicable to students with or without prior knowledge.

Course Structure:
- Fundamental understanding of databases, data modeling, and backend development (ERM, SQL/NoSQL DB, Python)
- Understanding the basics of frontend development and the application of HTML, CSS, and JavaScript
- Distinguishing between programming languages and frameworks (SQL, Python, Flask, HTML, CSS, JavaScript, React) in frontend and backend
- Recognizing and understanding application architecture
- Visualizing data through practical application of the D3.js library
- Recognizing and understanding design patterns and current trends
- Integrating backend and frontend by implementing a Flask web application
- Strengthening modeling and programming skills through regular exercises

Intended learning outcomes

The "Web Programming" module aims to achieve the following learning outcomes:
1. Fundamentals of Web Technologies: Students acquire basic knowledge of HTML, CSS, and JavaScript to develop simple web applications. They also learn to distinguish between various programming languages and frameworks such as Python, Flask, and React, gaining insights into different aspects of web development and their applications.
2. Integration of Frontend and Backend: Through practical projects, students gain a deep understanding of the connection between frontend and backend. They analyze and implement data modeling, databases (SQL/NoSQL), and server-side programming, combining these with user interfaces.
3. Development of User-Centered Web Applications: Students use their knowledge of web technologies to create user-friendly and functional web applications. There is a strong focus on technical and visual implementation. Regular exercises support the deepening and application of the acquired knowledge.
4. Evaluation of Web Trends: Participants critically assess current and future trends in web development, particularly in the areas of usability and new web design techniques. They discuss their impact on practice, recognizing and understanding design patterns and current trends.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title				Abbreviation
Web Engineering				12-AWE-262-m01

Module coordinator			Module offered by	
holder of the Chair of Information Systems Engineering			Faculty of Management and Economics	

ECTS	Method of grading		Only after succ. compl. of module(s)	
5	numerical grade		--	

Duration	Module level		Other prerequisites	
1 semester	undergraduate		--	

Contents

The module provides an introduction to the development of web-based applications based on current development systems, software components and frameworks.

Intended learning outcomes

- Understand the technological foundations of web applications
- Designing the architecture and data model of an application system
- Implementing with the help of SW components and frameworks

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
No Code Analytics	12-EBP-262-m01

Module coordinator	Module offered by
holder of the Chair of Information Systems Engineering	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In this course, students will acquire the technical, organisational and social skills necessary for a real e-business. The principal distinguishing feature of this course is its high practical relevance. The project work - evolving from the conceptual design to status presentations and final report - will be completed in small groups.

Intended learning outcomes

- Understand challenges of real e-business organisations
- Apply the acquired knowledge to solve a specific, real problem
- Present the developed results

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

20 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Computer Science

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Computer Networks and Information Transmission	10-I-RIÜ-191-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science III	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

- Computer networks and the Internet: Structure and Mechanisms of Telecommunication
- Communication Protocols: Basic Principles and the Layer Model
- Computer and Communication Systems: Network Systems, Data Traffic in Distributed Systems and inter-network Communication
- The Internet: Important Protocols and Routing
- Architecture and Structure of Computer Networks: Network Architecture, Access Mechanisms, Flow Control and Traffic Management
- Coding Theory: Mechanisms for Error Detection and Error Correction
- Information Theory: Entropy of Data
- Digital Communication Systems: Signal Modulation

Intended learning outcomes

Students command the technical, theoretical as well as practical knowledge to understand the structure of computer networks, the Internet and communication systems for telecommunication.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b), § 69 I Nr. 1 c)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Theory of Computation		10-I-TI-242-m01

Module coordinator		Module offered by
Dean of Studies Informatik (Computer Science)		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Computability, decidability, countability, finite automata, regular sets, generative grammars, context-free languages, context-sensitive languages, complexity of calculations, P-NP problem, NP completeness.

Intended learning outcomes

The students possess a fundamental and applicable knowledge in the areas of computability, decidability, countability, finite automata, regular sets, generative grammars, context-free languages, context-sensitive languages, complexity of computations, P-NP problem, NP completeness.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 49 I Nr. 1 a)
§ 69 I Nr. 1 a)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Model-based Systems Engineering	10-I-MSE-252-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XI	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Practical teaching of basic concepts of system modeling and development.

Intended learning outcomes

Students have theoretical knowledge of widely used model types (e.g. state machines) and are able to model real systems with UML and implement the models as software.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
IT Security	10-I-SEC-191-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science II	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course provides a broad sweep through concepts and technologies related to IT security:
- Theoretical aspects: information-theoretic security, computational security, introduction to cryptography (historical and modern ciphers, hash functions, pseudo-random generators, message authentication codes, public key cryptography)
- Network security: protocol security, security of TCP/IP, public key infrastructure, user authentication
- Software security: Software vulnerabilities, common programming errors and exploitation techniques, reverse engineering and obfuscation, malware and anti-malware
- Platform security: access control models, security policies, operating system security, virtualization, security mechanisms with support in hardware

Intended learning outcomes

Students will be introduced to the main concepts and abstractions of IT security. They learn how to model threats and analyze security of a system critically from the attacker view point. After visiting the lecture students are going to understand the purpose and function of several security technologies, as well as their limitations. The exercises provide some hands-on experience of security flows in software.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Advanced Programming	10-I-APR-172-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science II	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

With the knowledge of basic programming, taught in introductory lectures, it is possible to realize simpler programs. If more complex problems are to be tackled, suboptimal results like long, incomprehensible functions and code duplicates occur. In this lecture, further knowledge is to be conveyed on how to give programs and code a sensible structure. Also, further topics in the areas of software security and parallel programming are discussed.

Intended learning outcomes

Students learn advanced programming paradigms especially suited for space applications. Different patterns are then implemented in multiple languages and their efficiency measured using standard metrics. In addition, parallel processing concepts are introduced culminating in the use of GPU architectures for extremely quick processing.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Operating Systems			10-I-BS-242-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XVII	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

Introduction to computer systems, development of operating systems, architecture principles, interrupt processing in operating systems, processes and threads, CPU scheduling, synchronisation and communication, memory management, device and file management, operating system virtualisation.

Intended learning outcomes

The students possess knowledge and practical skills in building and using essential parts of operating systems.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b), § 69 I Nr. 1 c)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Digital computer systems	10-I-RAL-252-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Introduction to digital technologies, Boolean algebras, combinatory circuits, synchronous and asynchronous circuits, hardware description languages, structure of a simple processor, machine programming, memory hierarchy.

Intended learning outcomes

The students possess a knowledge of the fundamentals of digital technologies up to the design and programming of easy microprocessors as well as knowledge for the application of hardware description languages for the design of digital systems.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b), § 69 I Nr. 1 c)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Sustainability and IT		10-I-NIT-212-m01

Module coordinator		Module offered by
Dean of Studies Informatik (Computer Science)		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module addresses social challenges in relation to sustainability, concepts for sustainability, and sustainability goals. The students get an overview of environmental informatics, sustainability informatics, and computational methods for environmental protection and environmental research. The subject areas of the study program are treated as application areas. Other foci are the effect of information technology through its provision and use, the environmental and sustainability balance of IT, and methods for designing sustainable IT systems.

Intended learning outcomes

In the module, students learn what sustainability and sustainability goals are, what direct and indirect effects information technology has on the environment and society, and how information technology can contribute to solving environmental problems and sustainability challenges. Basics for sustainable information technology are learned.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes)
if announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Optimization for Sustainability	10-I-OfN-252-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science I	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In this lecture, we look at different issues from the field of "computer science for sustainability", for example from the areas of mobility, energy, humanitarian aid or environmental protection. Based on these examples, we discuss optimization issues, basic principles and tricks of modeling as an optimization problem and get to know different optimization methods.

Intended learning outcomes

Students are able to set up well-defined optimization problems based on problem descriptions that reflect the essence of the problem. They know essential structures and basic optimization problems on graphs and use these to model problems. Furthermore, students can formulate optimization problems as mathematical programs. They are able to select suitable solution methods and apply them to solve optimization problems.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) Oral exam (15 to 30 minutes, usually) or
b) Oral group exam (2 participants, each 10 to 15 minutes) or
c) Written exam (approx. 60 to 120 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Machine Learning

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Deep Learning		10-I-DL-222-m01

Module coordinator		Module offered by
Dean of Studies Informatik (Computer Science)		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The lecture provides advanced knowledge of deep learning techniques such as FCN, CNN and LSTMs, practical application examples for NN architectures, e.g. in the field of image and speech processing. Current models and methods of machine learning and their technical background are presented. Building on this, models from the field of deep learning, such as CNNs, RNNs and sequence-to-sequence architectures, are discussed. The theoretical foundations of these models, such as training through backpropagation, are also discussed in detail. For all the models covered, it is shown how they are used in practice for specific problems such as image processing and text generation.

Intended learning outcomes

Students have knowledge of the possible applications and limitations of deep learning, of important architectures and how they are implemented in tools such as Tensorflow/Keras, of the ability to reprogram network structures from the literature, of data preparation and of solving concrete tasks.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Algorithms, AI and Data Science 2	10-I-AKIDS2-222-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Building on the introductory course "Algorithms, AI and Data Science 1", this module introduces the logical and algorithmic foundations of computer science and artificial intelligence. In addition to dealing with basic algorithmic strategies for solving fundamental problems, approaches to logical reasoning in computer science are introduced. A treatment of elementary probabilistic methods for modeling uncertainties forms the basis for the introduction of simple statistical methods with which supervised and unsupervised problems of machine learning can be addressed.

Intended learning outcomes

Students master the logical and algorithmic fundamentals of computer science. They are able to independently develop solutions for specific computer science problems using an analytical approach. Students are proficient in common problem-solving strategies and have initial experience of how these can be used in the context of artificial intelligence. They know basic approaches for deriving logical conclusions, have an understanding of formal approaches for modeling uncertainties and know how these are used in the context of machine learning.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Computer Vision	10-I-CV-222-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science IV	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course aims at offering a self-contained account of computer vision and its underlying concepts, including the recent use of deep learning. It starts with an overview of existing and emerging computer vision applications. It shows how image processing is entering multiple fields from our daily life. First, the light-matter interaction is considered and the image acquisition cameras and illumination sources are also discussed. The course then turns to image representation and discretization, and describes pre-processing steps (such as linear and non-linear filters) used to enhance image quality and/or detect specific features. The course will continue by analyzing procedures to extract information from multiple images, with motion and 3D shape as major examples. Finally, the recognition of objects (specific and/or class level) will be discussed and different approaches will be analyzed. A large part of the course concerns deep learning and AI-based approaches to vision tasks.

Intended learning outcomes

- Understanding of important computer vision concepts: light, matter, acquisition of images, color, texture, sampling, quantization, enhancement, feature extraction, segmentation, 3D acquisition, motion, tracking, object recognition.
- Understanding of deep learning (MLP, ConvNets, architectures) and the application to visual data.
- Deployment of vision and learning algorithms from standard libraries.
- Understanding of vision problems, and the ability to propose, debug, validate and explain solutions based on particular algorithms.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Natural Language Processing	10-I-NLP-222-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XII	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Introduction to Text Mining and Natural Language Processing; Traditional computational representations of text data (bag-of-words) and text preprocessing (sentence splitting, tokenization, morphological normalization, stemming); Corpus linguistics and lexical association measures (ngram frequencies, co-occurrences, collocations and terminology extraction); Syntactic analysis: Part-of-Speech tagging and chunking (with Hidden Markov Models and Conditional Random Fields), parsing (Probabilistic Context Free Grammars and parsers); Distributional semantics and latent text representations: distributional hypothesis, Latent Semantic Analysis (LSA), word embeddings; Light introduction to (modern) deep learning-based NLP: embeddings, convolutional and recurrent networks, Transformers. NLP Applications: text classification tasks (e.g., document classification, sentiment analysis) vs. token classification tasks (e.g., information extraction - named entity recognition) vs. text generation tasks (e.g. machine translation and text summarization).

Intended learning outcomes

Students will obtain broad theoretical and practical knowledge of the typical methods and algorithms in the field of text mining and natural language processing. They will be able to solve practical problems with the obtain knowledge: analyze the text data for the task at hand, choose the appropriate representation for their texts as well as the appropriate (machine learning for NLP) model to solve the task. They will have gained rich practical experience implementing solutions for a wide range of common NLP tasks and applications.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
3D Point Cloud Processing	10-I-3D-152-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XVII	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Laser scanning, Kinect and camera models, basic data structures (lists, arrays, oc-trees), calculating normals, k-d trees, registration, features, segmentation, tracking, applications for airborne mapping, applications to mobile mapping.

Intended learning outcomes

Students understand the fundamental principles of all aspects of 3D point cloud processing and are able to communicate with engineers / surveyors / CV people / etc. Students are able to solve problems of modern sensor data processing and have experienced that real application scenarios are challenging in terms of computational requirements, in terms of memory requirements and in terms of implementation issues.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title				Abbreviation
Introduction to AI				10-I-AI-252-m01

Module coordinator			Module offered by	
Dean of Studies Informatik (Computer Science)			Institute of Computer Science	

ECTS	Method of grading		Only after succ. compl. of module(s)	
5	numerical grade		--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

Essential concepts and algorithms of artificial intelligence. Theoretical or practical competences are taught, ranging from classical simple heuristic methods to more complex probabilistic models of artificial intelligence.

Intended learning outcomes

The students have theoretical and practical knowledge in the field of artificial intelligence. They are able to identify and apply appropriate methods to solve problems in the field of AI.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus: Behavioral & Managerial Economics

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Behavioral & Managerial Economics

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Economics and Psychology		12-EAP-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Customer Analytics	12-CA-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Marketing Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Customer analytics involves collecting, managing, and analyzing customer data to gain insights and improve business decisions. Thanks to the explosive growth of media, channels, digital devices, and software applications, a wealth of customer data is now readily available and economically viable to collect. Customer analytics uses customer data along with economic theory, statistics, and econometric modeling to understand customer needs, preferences, and behavior. The goal of customer analytics is to provide companies with valuable information about their customers so they can make better decisions. This information can help them tailor their products, optimize marketing efforts, improve customer satisfaction, and ultimately increase revenue and profitability.

This course provides a comprehensive understanding of fundamental principles, methods, and tools used in customer analytics. The first part of the course focuses on the importance of customer value and its impact on business success. Emphasis is placed on the key methods and analytical tools for assessing and effectively managing customer heterogeneity in data-driven marketing. The remainder of the course focuses on modeling the impact of marketing efforts on customer response, perceptions, and preferences, as well as the use of marketing attribution techniques. To provide a practical and engaging learning experience, the course includes hands-on applications of the material covered using real-world data and relevant software tools.

Intended learning outcomes

- Understand the importance of customer value and its impact on business success.
- Learn key methods and analytical tools to effectively address customer heterogeneity in marketing strategies.
- Develop practical data analysis skills for data-driven marketing decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Decision-Making in Organizations and Teams	12-DMOT-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Applied Microeconomics, esp. Human-Machine Interaction	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Many economic activities result from individual decisions. Understanding these is necessary in order to grasp economic phenomena and effectively influence organizational outcomes. This course, therefore, provides an overview of economic decision-making in teams and organizations. It uses tools from microeconomic theory as well as empirical results from field studies and laboratory experiments. Topics covered in the course include, for example, team production, intrinsic motivation, monetary incentives and fairness, and the allocation of decision rights.

We will discuss (in detail) various empirical and theoretical works on economic decision-making in teams and organizations. The relevant research articles will be made available to students.

Some contents of the lecture can also be reviewed and studied using the following textbook:
Gibbons, Robert, and John Roberts, eds. The Handbook of Organizational Economics. Princeton University Press, 2013.

Intended learning outcomes

With this course,
- students will be able to understand and reflect on modern microeconomic concepts and current organizational economics.
- students will learn to master and apply quantitative microeconomic methods.
- students will be enabled to classify and relate specialized knowledge from theoretical microeconomics, experimental and empirical microeconomics, business administration, and psychology.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Economic Experiments		12-EcEx-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Business Strategy for Information and Network Industries	12-BSINI-262-m01

Module coordinator	Module offered by
holder of the Chair of Industrial Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Outline of syllabus:
1. Pricing of information goods
   - market segmentation methods
   - digital rights management and piracy
   - alternative monetisation strategies
2. Network effects
   - consumer demand in markets with network effects, rational expectations
   - monopoly pricing
   - competition in markets with network effects
   - compatibility and multi-homing: dynamic competition
3. Competition in markets with switching costs
4. Two (multi)-sided markets and platforms
   - monopoly pricing in platform markets
   - competition in platform markets: non-price strategies

The course will be taught in English.

Intended learning outcomes

After successful completion of this class, the students should be familiar with issues arising in many of the increasingly important hi-tech industries. They will be able to comment on emerging selling mechanisms for books, music and video. They will be able to explain the underlying logic for observed pricing patterns for software products, social media sites and the services found in the so called sharing economy. They will not only be able to understand observed behavior in information goods markets, industries which exhibit network effects and platform markets but will be able argue for new strategies in light of the specific features a market/product may exhibit.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Economics of Information	12-IÖ-262-m01

Module coordinator	Module offered by
holder of the Chair for Economics, Contract Theory and Information Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

During the 1960/70s, microeconomic theory came to acknowledge that many (if not most) economic transactions are characterized by asymmetric distribution of information – i.e., at least one of the parties participating in a transaction usually is privy to information that the remaining parties do not have access to. This asymmetric distribution of information subsequently was recognized to be a major impediment for transactions to be economically efficient. Contract theory addresses the question how the inefficiencies arising from asymmetric distribution of information can best be mitigated by appropriate design of the contractual (or, more generally, institutional) framework that governs the transaction under consideration. This lecture covers the baseline models of "moral hazard" (i.e., situations where one party has private knowledge after a contract has been signed) and "adverse selection" (i.e., situations where one party has private knowledge before a contract is signed). As applications we will address questions discussed in organizational, personnel or industrial economics, such as incentive design within organizations or the design of labor law regulations and competition laws.

Even though we will work with precise mathematical formalizations of the ideas that we want to think and talk about, this course requires little more than a solid understanding of basic differential calculus. More important than having a solid mathematical background is having a strong interest in formal economic analysis and fun with logical thinking and puzzle solving.

The exposition is primarily based on the following textbook:

- Laffont und Martimort (2002): "The Theory of Incentives"

Intended learning outcomes

After completing the course students will be able to
- explain essential findings of contract theory,
- apply the involved methods to given stylized examples on their own,
- interpret the properties of real-life contracts as the outcome of the interaction between two or more contracting parties in the presence of asymmetric information,
- evaluate government interventions with regard to their effect on the efficiency properties of the interaction between the contracting parties.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Economic Principles of Risk Management		12-Risk-262-m01

Module coordinator	Module offered by
holder of the Chair for Economics, Contract Theory and Information Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	graduate	--

Contents

Rational decisions under uncertainty
1. Measures of risk aversion
2. Mean preserving spread
3. Axiomatic foundations of the expected utility hypothesis (Neumann/Morgenstern, Savage)
4. Insurance contracts
5. Optimal portfolios
6. Adverse selection
7. Moral Hazard
8. Experimental evidence and alternative approaches

Intended learning outcomes

After completing the course students are able to
1. explain the results of the economic theory of decisions under risk,
2. apply the involved methods to given simple examples on their own,
3. recognise, in which real life situations and how the results can be applied.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus: Marketing & Entrepreneurship

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Marketing & Entrepreneurship

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Sustainability Marketing	12-SCRM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Administration and Marketing	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

A key challenge for companies in a marketing context is to choose the right approaches on how to deliver their products and services to customers. In doing so, companies need to carefully consider their customers' needs and requirements to successfully manage company-customer relationships.

This course focuses on classic and new approaches of sales and customer relationship management. In particular, it covers the set-up of sales systems in terms of offline channels (e.g., retail stores) and online channels (e.g., online shops or market places), their interplay (e.g., multi-channel management), or the management of the sales force.

Moreover, it focuses on different types of customer-firm interactions, on approaches of analyzing customer satisfaction and loyalty, as well as on customer complaint management, cross-selling management or customer experience management.

Intended learning outcomes

The major goal of this class is to learn about and understand how sales management and customer relationship management work and to be able to transfer respective concepts to real life / business practice.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Entrepreneurship		12-EPS-262-m01

Module coordinator		Module offered by
holder of the Chair of Entrepreneurship and Strategy		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Description:
The course introduces students to the basics of entrepreneurial self-employment. In addition to discussing theoretical concepts covering the definition, creation and performance of new ventures, the course will also discuss methods and instruments for a potential entrepreneurial career. Several content areas of start-up planning are being covered during the course of the lecture including team compilation, business model creation and financing.

Contents of the course:
1. Introduction to entrepreneurship
2. Human resources in start-ups
3. Opportunity analysis
4. Business modelling
5. Entrepreneurship in the digital industry
6. Business planning
7. Finance
8. Marketing in start-ups

Intended learning outcomes

After completing the module "Entrepreneurship", the students should be able to
(i) describe and problematize the concept of entrepreneurship and the entrepreneurial perspective;
(ii) describe and analyze the entrepreneurial process, its drivers, characteristics and context;
(iii) apply theories within the entrepreneurship field to real life situations;
(iv) take initiatives and independently develop a business idea and use knowledge gained from earlier courses in business administration in order to develop this idea in a business plan sketch;
(v) plan human resources and marketing in a start-up.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Teaching cycle
Teaching cycle: every year, winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Business Plan Lab		12-BPLAB-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Case Studies on Entrepreneurial Behaviour		12-CSEB-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Marketing für Start-Ups	12-MSU-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Scale-up Excellence: Building, Scaling and the Growth of Young Ventures		12-SUE-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Customer Analytics	12-CA-262-m01

Module coordinator	Module offered by
holder of the Junior Professorship of Marketing Analytics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Customer analytics involves collecting, managing, and analyzing customer data to gain insights and improve business decisions. Thanks to the explosive growth of media, channels, digital devices, and software applications, a wealth of customer data is now readily available and economically viable to collect. Customer analytics uses customer data along with economic theory, statistics, and econometric modeling to understand customer needs, preferences, and behavior. The goal of customer analytics is to provide companies with valuable information about their customers so they can make better decisions. This information can help them tailor their products, optimize marketing efforts, improve customer satisfaction, and ultimately increase revenue and profitability.

This course provides a comprehensive understanding of fundamental principles, methods, and tools used in customer analytics. The first part of the course focuses on the importance of customer value and its impact on business success. Emphasis is placed on the key methods and analytical tools for assessing and effectively managing customer heterogeneity in data-driven marketing. The remainder of the course focuses on modeling the impact of marketing efforts on customer response, perceptions, and preferences, as well as the use of marketing attribution techniques. To provide a practical and engaging learning experience, the course includes hands-on applications of the material covered using real-world data and relevant software tools.

Intended learning outcomes

- Understand the importance of customer value and its impact on business success.
- Learn key methods and analytical tools to effectively address customer heterogeneity in marketing strategies.
- Develop practical data analysis skills for data-driven marketing decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Social Commerce	12-SC-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Administration and Marketing	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The transition from Web 1.0 to Web 2.0 was a milestone for the Internet - from static to interactive, social media and strong e-commerce emerged. These areas merged into social commerce. The course covers the origins and basics of social media & e-commerce, defines social commerce, examines its business application, takes a look at future technologies (Web 3.0) and considers sustainability. This gives you a wide range of perspectives for understanding and shaping social commerce.

Course structure:
1. The path to social commerce
2. Basics of social commerce
3. Social commerce
4. Social commerce management - integration into everyday business life
5. Social commerce in the future - influence of new technologies
6. Social commerce - acting responsibly

Intended learning outcomes

- Understanding the basics of social commerce (also from the areas of marketing & e-commerce)
- Application of the course content to develop a social commerce strategy
- Self-competence through independent processing of the course content
- Social competence (in particular communication and cooperation) by working together on parts of the portfolio exam

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Human Resource Management			12-P&O-F-262-m01

Module coordinator	Module offered by
holder of the Chair for Human Resource Management and Organisation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The lecture Personnel Management covers basic methodological, empirical, and institutional concepts of the subject. More specifically, on the basis of the principal-agent model answers are given on how the basic dilemma of the relationship between employer and employee can be solved. Mainly financial incentives on the individual and team level are presented and discussed. In addition, possibilities to reduce information asymmetries are presented.

Intended learning outcomes

Students should be able to understand, discuss and apply basic theories, econometric techniques as well as empirical findings in personnel management.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus: Finance & Accounting

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Finance & Accounting

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Financial Markets Fundamentals		12-FMF-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title				Abbreviation	
International Money & Finance				12-IFM-262-m01	

Module coordinator			Module offered by		
holder of the Senior Professorship for Economics, Money and International Economic Relations			Faculty of Management and Economics		

ECTS	Method of grading		Only after succ. compl. of module(s)		
5	numerical grade		--		

Duration	Module level	Other prerequisites			
1 semester	undergraduate	--			

Contents

The module introduces students to exchange rate theory, the determinants of international financial flows and monetary open economy models for the analysis of monetary and fiscal policy. The module is divided into three parts. The first one covers exchange rates and the second one the balance of payments, international financial flows and financial market globalization. Based on these two, the third one focusses on economic policy applications including the exchange rate regime choice, exchange rate crises and optimum currency area theory.

Intended learning outcomes

Students will acquire a basic understanding of international finance and learn analyzing practical examples with monetary models. Students gain expertise on institutional aspects and theoretical models. Having completed the module, students will be able to understand current developments in international finance and apply models and theories to analyze and evaluate these.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Financial Accounting	12-Wipr1-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Financial reporting should generate information that is made accessible to various stakeholders. Companies based in Germany are generally required to prepare annual financial statements according to the accounting principles of the German Commercial Code (HGB). This module offers a systematic analysis and interpretation of the applicable accounting principles. In addition to the purpose and principles of accounting, more extensive recognition and valuation principles in the annual financial statement, as well as group accounting practices are covered.

Outline
- Introduction to the basic functions of accounting
- Overview of the German system of Generally Accepted Accounting Principles (GAAP)
- Recognition principles
- Initial and subsequent measurement principles
- Necessity of consolidated financial statements
- Scope of consolidation
- Basics of consolidation

Intended learning outcomes

Upon completion of this module, students will be able to:
- Classify and evaluate various accounting issues from a theoretical perspective;
- Evaluate alternative actions and develop appropriate accounting strategies;
- Understand the necessity of consolidated financial statements and perform basic consolidation measures.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Integrated Reporting	12-Wipr2-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In today's global economy, transparency of corporate reporting has become more essential than ever before. Stakeholders, including investors, customers, and the general public, are increasingly demanding a holistic view of a company's performance, not just in financial terms but also in terms of its environmental, social, and governance (ESG) impacts. Integrated Reporting goes beyond traditional financial reporting by integrating information about a company's social, environmental, and economic impacts. This module introduces the two major frameworks for financial and sustainability reporting in the European Union, namely the International Financial Reporting Standards (IFRS) and the European Sustainability Reporting Standards (ESRS). We will provide a systematic overview of both frameworks and introduce selected standards in more depth.

Outline
- Introduction to the basic functions of accounting
- Overview of the institutional framework
- Conceptual framework for financial reporting
- Selected financial reporting standards
- Conceptual framework for non-financial reporting
- Selected non-financial reporting standards

Intended learning outcomes

Upon completion of this module, students will be able to:
- Classify and evaluate various accounting issues from the perspective of integrated reporting;
- Evaluate alternative actions and develop appropriate accounting strategies;
- Understand the necessity of non-financial statements and an integrated approach to accounting.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Bachelor's with 1 major Business Information Systems (2026)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
An Introduction to Tax Law & Tax Planning	12-St1-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Taxation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This module will introduce students to the field of business taxation. It will provide an overview of German tax law and will analyse tax effects on economic decisions in standard models for investment and financing decisions.

Intended learning outcomes

Students get an overview of the German tax law and they acquire the ability to recognize and understand the effect of taxation in fundamental ecomonic decisions. Therefore, the module is recommended also for students who don't want to specialize in finance and accounting but rather in management studies.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Corporate Taxation			12-St2-F-262-m01

Module coordinator		Module offered by
holder of the Chair of Business Management and Business Taxation		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In this module, students will acquire an in-depth knowledge of the system of income taxation in Germany which consists of personal income tax, corporate income tax and trade tax, a special income tax on business income.

1 INCOME TAX (EStG)

1.1 Income concepts and legal definitions of income
1.2 Determining income in accordance with the EStG

2 CORPORATE INCOME TAX (KStG)

2.1 Basic principles
2.2 Determination of income
2.3 Loss offset rules
2.4 Special issues with equity capital for tax purposes
2.5 Treatment of shareholdings

3 TRADE TAX (GewStG)
3.1 Basic principles
3.2 Loss offset rules
3.3 Group taxation in the trade tax

4 CASE STUDY PROFIT CALCULATION UNDER COMMERCIAL AND TAX LAW

Intended learning outcomes

Students acquire in-depth knowledge of the system of income taxation in Germany. They are able to solve practical problems of medium to high complexity in this filed by means of the tax code, other legal texts and secondary literature.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Decision Theory	12-I&F-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Based on the decision theory under certainty, this module covers normative decision theory under uncertainty in its manifestations of the expected utility theory and the $\mu - \#$ theory.

Syllabus:

Part 1: Decisions under certainty
1. Fisher mode
2. Revealed preferences
3. Preference relations

Part 2: Decisions under uncertainty: Expected Utility Theory
1. The basic model
2. Risk preferences
3. Intensity of risk aversion
4. Stochastic dominance
5. Prospect Theory

Part 3: Decisions under uncertainty: $\mu - \#$ principle
1. Introduction
2. Relation to expected utility theory
3. Application in Portfolio Theory & Tobin-Separation
4. Properties

Intended learning outcomes

The students acquire knowledge about how to describe appropriate decision situations and how to solve them based on the learned concepts.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Workload
150 h
Teaching cycle
Teaching cycle: summer semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction to Risk Management	12-ERM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This module provides an overview of the form and approach of the systematic risk management process in a business context. This risk management process consists of the process steps of risk identification, risk assessment and aggregation, risk management and risk control.

This course is based on this process structure and is structured accordingly:

Legal and business motivation for risk management.
Risk identification
Risk assessment and aggregation
Risk control
Risk control and reporting
Risk management information systems (RMIS)
M1 | Legal and business motivation for risk management

In Germany, outside the banking sector, there have been legal regulations for setting up corporate risk management since the KonTraG came into force in 1998. In addition to the legal obligation to set up a risk management system, the systematic handling of risks is also of interest from a business management point of view, as the conscious acceptance of risks has a significant positive influence on the company's ability to plan and control.

M2 | Risk identification

Risk identification involves systematically recording all of a company's major risks. The earlier risks are identified, the more comprehensively appropriate countermeasures can be taken.
Risk identification is a fundamental task of risk management, as it provides the information basis for all further process steps, because only identified risks can be assessed, aggregated and controlled. Various methods can be used to identify risks.

M3 | Risk assessment and aggregation

Once risks have been identified, they must be assessed. Both qualitative and quantitative methods are available for this purpose. The objective of risk assessment is to describe the risk in terms of appropriate statistical distribution functions. Once the relevant risks have been described by distribution functions, the next task is to determine the company's overall risk position by means of a so-called risk aggregation.

M4 | Risk management

This module deals with the options for risk control. Risk management is strongly linked to a company's strategy, as this is also where the company's attitude towards risk is anchored (risk appetite). In addition, the risk coverage potential (=available equity capital) is of decisive and existential importance.
Various strategies can be used to manage risks.

M5 | Risk control and reporting

With the help of early warning indicators (so-called key risk indicators, KRI), (negative) changes in the scope or probability of risk occurrence can be monitored and identified in good time. However, risk control does not only

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

monitor KRI, it is also used to control measures implemented as part of risk management and to evaluate them for efficiency and success.

As part of risk reporting, all findings from the individual risk management process phases are transferred to a risk report. The addressees of the risk report are risk officers, department heads, the Board of Management, the Supervisory Board or external parties such as auditors, shareholders or rating agencies. The scope and level of detail of the risk report depend on the recipient of the report.

M6 | Risk management information systems (RMIS)

A prerequisite for the company-wide and sustainable establishment of a risk management system is the software support provided by risk management information systems. Although known risks can be recorded and processed using standard tools such as Excel spreadsheets, they quickly reach their limits. As soon as additional users are to be integrated, an integrated software approach is required, as risk management information systems entail.

Intended learning outcomes

Students are taught the fundamentals of risk management. The students are able to identify, record and evaluate risks in a structured manner and furthermore express the scope of risk on a mathematical basis. The students are able to derive suitable risk measures and know how risks can be monitored.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Digital Accounting Practice	12-Wipr3-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Accounting	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

SAP S/4HANA, as a leading enterprise resource planning (ERP) system, is transforming financial operations with its advanced capabilities in processing large volumes of data and integrating financial information across business units. This module provides a hands-on introduction to the accounting modules of SAP S/4HANA. Through practical sessions and case studies, students will learn the key functionalities of selected modules and work in groups to explore various case scenarios using the SAP S/4HANA environment.

Intended learning outcomes

Upon completion of this module, students will be able to:
- Understand the basic structure of SAP S/4HANA and selected modules;
- Account for various transactions using SAP S/4HANA;
- Evaluate alternative actions and develop appropriate accounting strategies.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

40 places. WB2: Should the number of applications exceed the number of available places, places will be allocated as follows:
(1) Preference will be given to applicants who have already completed modules in the "Finance Accounting" profile area. Places will be allocated according to the total number of ECTS credits achieved in the corresponding modules.
(2) The remaining places will be allocated to students of other subjects. Places will be allocated by lot.
(3) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure.
(4) A waiting list will be maintained and places re-allocated as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
DATEV: Introduction to DATEV-Software for Tax Accounting		12-DAT-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Taxation	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module will introduce students to processes regarding accounting, taxation, financial statements and the audit of these using the DATEV software. DATEV is one of the standard systems used by tax consultants and accountants. Students will not only become familiar with the basics, they will also acquire insights into the processes and functionalities. In the theoretical part, students will acquire the necessary skills that will serve as a basis for the practical part. This practical part will present students with an opportunity to apply their newly acquired knowledge by working with a DATEV system on case studies on the model company Müller & Thurgau GmbH.

Intended learning outcomes

Students acquire practical knowledge in using the DATEV software package for daily book-keeping and for producing annual reports.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

10 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Securities Management	12-WPM-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	(not) successfully completed	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Within the framework of this module, students are familiarized with the management of an investment portfolio. Each participant has to manage a special area, for which he/she presents the most important market events in a condensed form in each session and observes the securities account positions belonging to his/her special area. A securities account provided by Castell-Bank Würzburg is managed. Each participant has to prepare his own investment proposals and take part in the general discussion. Based on group discussions, investment decisions are made to buy and sell securities within the securities account. These investment decisions are based on risk considerations as well as tax aspects, which will be introduced to the participants during the course. Furthermore, in addition to macroeconomic topics closely related to securities investment, the course also focuses on the development of the real estate sector.

Intended learning outcomes

Upon completion of the securities seminar, students will be able to

(i) independently assess securities of different asset classes with regard to their risk/reward profile, both on an individual security level and in a portfolio context

(ii) and present and discuss their assessments in a target group-oriented manner.

Courses (type, number of weekly contact hours, language — if other than German)

S (4)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

20 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Introduction to VAT			12-St3-F-262-m01

Module coordinator		Module offered by	
holder of the Chair of Business Management and Business Taxation		Faculty of Management and Economics	

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

Introduction to German value added tax.

Intended learning outcomes

Students acquire a thorough knowledge of German VAT law. They are able to solve VAT problems of low to medium complexity by using the tax code itself as well as related literature.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
International Business Taxation and Aggressive Tax Planning		12-St4-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Business Valuation between Financial Mathematics and Data on Capital Market			12-UBW-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Corporate Finance	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Content:
This course deals with the "objectified corporate valuation" of public companies, the components of the discount rate and the mathematical structure of the DCF methods.

Outline of syllabus:
1. Introduction
2. Uncertainty as the central problem in the valuation of a company
3. Estimation of surpluses: accuracy and consistency
4. Risk free rate: capitalised value under certainty applying different interest rate structures
5. The risk premium: identification of the relevant risk and its equivalence for valuation object and alternative investment
6. Different discounted cash flow valuation methods: formal foundations and economic principles

Intended learning outcomes

After completion of the module "Business valuation between Financial Mathematics and capital market data" students can
(i) understand the modern process of objectified business valuation theory;
(ii) examine submitted reviews according to consistent application of these methods.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus: IT & Operations

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

IT & Operations

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Managerial Problem Solving		12-MPS-262-m01

Module coordinator		Module offered by
holder of the Chair of Business Analytics		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course provides an introduction to data-based methods for modeling and solving quantitative business problems. In particular, Microsoft Excel is used to manage, visualize, and analyze data. In addition, mathematical optimization problems are solved using Excel Solver and the fundamentals of programming with VBA are discussed.

Intended learning outcomes

1. Prepare, visualize and analyze data sets using Excel
2. Select and forecast different time series problems
3. Understand simple, multiple and dummy regressions
4. Implement and solve linear optimization problems using the Excel Solver
5. Fundamentals of Excel VBA programming

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: employability skills

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Data-Driven Decisions in Practice	12-DDD-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In the course of digital transformation, the amount of data sources on business and social processes is steadily increasing. Decision-makers face the question of how to use this data to develop more attractive products, improve processes, or increase customer satisfaction. The course "Data Driven Decisions (D3) in Practice" addresses how important business decisions can be better made using "big" data. The focus of the course is on implementing a structured process that includes the steps of problem definition and structuring, data collection and preprocessing, modeling and analysis, as well as decision-making.

The course is collaboratively conducted by the Data Driven Decisions (D3) Group, consisting of the Chairs for Enterprise AI, Information Systems and Business Analytics, Information Systems and Systems Development, as well as the Chair for Logistics and Quantitative Methods

Intended learning outcomes

This course is strongly application- and practice-oriented. Using several case studies from various industries and business sectors (e.g., logistics, marketing, etc.), real entrepreneurial problems are examined, demonstrating how companies can make better decisions with the help of extensive data. Participants learn to apply fundamental methods from the fields of optimization and data science and to build data analysis pipelines. A basic understanding or a strong willingness to familiarize oneself with the basics of programming, data science, and optimization is expected.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Data-Driven Supply Chain Management		12-DDSCM-262-m01

Module coordinator		Module offered by
holder of the Chair of Logistics and Quantitative Methods		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course aims to familiarize students with the pioneering methods of "Data-Driven Supply Chain Management (DSCM)". DSCM comprises novel methods that use machine learning to derive tactical and operational planning decisions in supply chain management from a variety of real data. These methods are not only the focus of a now very large field of research, but are also increasingly finding their way into commercial software systems to support supply chain management (e.g. SAP, Blue Yonder, etc.).

Intended learning outcomes

- Students understand the importance of data-driven decisions in SCM and the potential of machine learning.
- After the course, participants will know key DSCM procedures and their applicability to planning problems.
- Students learn to analyze corporate data and use machine learning to achieve better SCM planning results.
- Through case studies, participants recognize the transferability of insights to other SCM areas and potential implementation problems.
- Participants can describe real data descriptively using Python and implement DSCM procedures with machine learning after the course.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Geospatial Data Analytics & Smart Cities		12-GDA-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course teaches how to use spatial data (e.g., from Google Maps) to gain business-relevant insights and make decisions. Students learn to answer entrepreneurial and organizational questions based on data, primarily from urban areas - such as: In which neighborhood should I open my restaurant? What price can I achieve for a property in a specific location? How is mobility demand (for carsharing, e-scooters, etc.) distributed in a city, and how should the business area for such offerings be designed accordingly?

Intended learning outcomes

In this course, students will become proficient in geospatial data science. Students learn essential tools for data manipulation, spatial data handling, and more advanced spatial data analytics techniques like clustering as well as spatial machine learning. Students will gain the skills to extract meaningful insights from real-world geographical data and use them to solve business problems. The course covers both theoretical concepts as well as the necessary application-oriented tools (using Python and Jupyter notebooks) to become a skilled geospatial analyst ready to make data-driven decisions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Forward and Reverse Business Engineering	12-FRBE-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

"Business Engineering" refers to the method and model-based design theory for companies in the information age. "Forward" refers to design methods (such as situation analysis, requirements analysis and business process modelling) that help implement a new solution. "Reverse" refers to approaches (such as the use and process analysis) that make it possible to improve or re-design existing structures and processes. Market requirements and technological innovation potential are typical reasons for the continuous transformation of a company. The resulting change needs to be implemented into the organisational structure, business processes and information systems.

The course traces the implementation cycle of enterprise software from the point of view of a member of a project team. In addition to acquainting students with the theoretical basis of adaptation, the course will also discuss examples from practical projects.

Intended learning outcomes

The "Forward und Reverse Business Engineering" module aims to achieve the following learning outcomes:
1. Students acquire profound expertise in the process of adapting business software libraries and learn how to apply this knowledge to practical scenarios.
2. Mastery of forward engineering methods such as situation analysis, requirements analysis, process modeling, and business blueprinting, as well as reverse engineering methods like reverse business engineering and their practical implementation in corresponding tools.
3. Students develop interdisciplinary methodological skills that enable them to independently and flexibly tackle complex challenges. This includes, in particular, the application of the aforementioned methods of forward and reverse engineering

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: in the semester in which the course is offered
creditable for bonus

Allocation of places

45 places. WB3
Should the number of applications exceed the number of available places, places will be allocated as follows:
(1) Bachelor's students of Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) will be given preferential consideration.
(2) The remaining places will be allocated to students of other subjects.
(3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.
(4) A waiting list will be maintained and places re-allocated by lot as they become available.

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h
Teaching cycle
Teaching cycle: winter semester
Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Web Programming	12-WebP-F-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Business Information Systems	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The "Web Programming" course combines the theoretical foundations of web programming from both backend and frontend architecture with the practical application of various techniques and methods. The course emphasizes a strong practical approach, with homework and exercises being consistently present. It is aimed primarily at beginners but also accommodates students with programming experience. Our goal is to encourage programming through the course, applicable to students with or without prior knowledge.

Course Structure:
- Fundamental understanding of databases, data modeling, and backend development (ERM, SQL/NoSQL DB, Python)
- Understanding the basics of frontend development and the application of HTML, CSS, and JavaScript
- Distinguishing between programming languages and frameworks (SQL, Python, Flask, HTML, CSS, JavaScript, React) in frontend and backend
- Recognizing and understanding application architecture
- Visualizing data through practical application of the D3.js library
- Recognizing and understanding design patterns and current trends
- Integrating backend and frontend by implementing a Flask web application
- Strengthening modeling and programming skills through regular exercises

Intended learning outcomes

The "Web Programming" module aims to achieve the following learning outcomes:
1. Fundamentals of Web Technologies: Students acquire basic knowledge of HTML, CSS, and JavaScript to develop simple web applications. They also learn to distinguish between various programming languages and frameworks such as Python, Flask, and React, gaining insights into different aspects of web development and their applications.
2. Integration of Frontend and Backend: Through practical projects, students gain a deep understanding of the connection between frontend and backend. They analyze and implement data modeling, databases (SQL/ NoSQL), and server-side programming, combining these with user interfaces.
3. Development of User-Centered Web Applications: Students use their knowledge of web technologies to create user-friendly and functional web applications. There is a strong focus on technical and visual implementation. Regular exercises support the deepening and application of the acquired knowledge.
4. Evaluation of Web Trends: Participants critically assess current and future trends in web development, particularly in the areas of usability and new web design techniques. They discuss their impact on practice, recognizing and understanding design patterns and current trends.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English
Course type: online course Virtuelle Hochschule Bayern (vhb)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Web Engineering		12-AWE-262-m01

Module coordinator		Module offered by
holder of the Chair of Information Systems Engineering		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module provides an introduction to the development of web-based applications based on current development systems, software components and frameworks.

Intended learning outcomes

- Understand the technological foundations of web applications
- Designing the architecture and data model of an application system
- Implementing with the help of SW components and frameworks

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
No Code Analytics		12-EBP-262-m01

Module coordinator		Module offered by
holder of the Chair of Information Systems Engineering		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In this course, students will acquire the technical, organisational and social skills necessary for a real e-business. The principal distinguishing feature of this course is its high practical relevance. The project work - evolving from the conceptual design to status presentations and final report - will be completed in small groups.

Intended learning outcomes

- Understand challenges of real e-business organisations
- Apply the acquired knowledge to solve a specific, real problem
- Present the developed results

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

20 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus: Informatik

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Computer Science

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Computer Networks and Information Transmission		10-I-RIÜ-191-m01

Module coordinator		Module offered by
holder of the Chair of Computer Science III		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

- Computer networks and the Internet: Structure and Mechanisms of Telecommunication
- Communication Protocols: Basic Principles and the Layer Model
- Computer and Communication Systems: Network Systems, Data Traffic in Distributed Systems and inter-network Communication
- The Internet: Important Protocols and Routing
- Architecture and Structure of Computer Networks: Network Architecture, Access Mechanisms, Flow Control and Traffic Management
- Coding Theory: Mechanisms for Error Detection and Error Correction
- Information Theory: Entropy of Data
- Digital Communication Systems: Signal Modulation

Intended learning outcomes

Students command the technical, theoretical as well as practical knowledge to understand the structure of computer networks, the Internet and communication systems for telecommunication.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b), § 69 I Nr. 1 c)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Theory of Computation	10-I-TI-242-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Computability, decidability, countability, finite automata, regular sets, generative grammars, context-free languages, context-sensitive languages, complexity of calculations, P-NP problem, NP completeness.

Intended learning outcomes

The students possess a fundamental and applicable knowledge in the areas of computability, decidability, countability, finite automata, regular sets, generative grammars, context-free languages, context-sensitive languages, complexity of computations, P-NP problem, NP completeness.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 49 I Nr. 1 a)
§ 69 I Nr. 1 a)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Model-based Systems Engineering	10-I-MSE-252-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XI	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents
Practical teaching of basic concepts of system modeling and development.

Intended learning outcomes
Students have theoretical knowledge of widely used model types (e.g. state machines) and are able to model real systems with UML and implement the models as software.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus

Allocation of places
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Additional information
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Workload
150 h

Teaching cycle
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Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
IT Security	10-I-SEC-191-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science II	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course provides a broad sweep through concepts and technologies related to IT security:
- Theoretical aspects: information-theoretic security, computational security, introduction to cryptography (historical and modern ciphers, hash functions, pseudo-random generators, message authentication codes, public key cryptography)
- Network security: protocol security, security of TCP/IP, public key infrastructure, user authentication
- Software security: Software vulnerabilities, common programming errors and exploitation techniques, reverse engineering and obfuscation, malware and anti-malware
- Platform security: access control models, security policies, operating system security, virtualization, security mechanisms with support in hardware

Intended learning outcomes

Students will be introduced to the main concepts and abstractions of IT security. They learn how to model threats and analyze security of a system critically from the attacker view point. After visiting the lecture students are going to understand the purpose and function of several security technologies, as well as their limitations. The exercises provide some hands-on experience of security flows in software.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Advanced Programming	10-I-APR-172-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science II	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

With the knowledge of basic programming, taught in introductory lectures, it is possible to realize simpler programs. If more complex problems are to be tackled, suboptimal results like long, incomprehensible functions and code duplicates occur. In this lecture, further knowledge is to be conveyed on how to give programs and code a sensible structure. Also, further topics in the areas of software security and parallel programming are discussed.

Intended learning outcomes

Students learn advanced programming paradigms especially suited for space applications. Different patterns are then implemented in multiple languages and their efficiency measured using standard metrics. In addition, parallel processing concepts are introduced culminating in the use of GPU architectures for extremely quick processing.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Operating Systems	10-I-BS-242-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XVII	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Introduction to computer systems, development of operating systems, architecture principles, interrupt processing in operating systems, processes and threads, CPU scheduling, synchronisation and communication, memory management, device and file management, operating system virtualisation.

Intended learning outcomes

The students possess knowledge and practical skills in building and using essential parts of operating systems.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b), § 69 I Nr. 1 c)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Digital computer systems	10-I-RAL-252-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Introduction to digital technologies, Boolean algebras, combinatory circuits, synchronous and asynchronous circuits, hardware description languages, structure of a simple processor, machine programming, memory hierarchy.

Intended learning outcomes

The students possess a knowledge of the fundamentals of digital technologies up to the design and programming of easy microprocessors as well as knowledge for the application of hardware description languages for the design of digital systems.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b), § 69 I Nr. 1 c)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Sustainability and IT		10-I-NIT-212-m01

Module coordinator		Module offered by
Dean of Studies Informatik (Computer Science)		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module addresses social challenges in relation to sustainability, concepts for sustainability, and sustainability goals. The students get an overview of environmental informatics, sustainability informatics, and computational methods for environmental protection and environmental research. The subject areas of the study program are treated as application areas. Other foci are the effect of information technology through its provision and use, the environmental and sustainability balance of IT, and methods for designing sustainable IT systems.

Intended learning outcomes

In the module, students learn what sustainability and sustainability goals are, what direct and indirect effects information technology has on the environment and society, and how information technology can contribute to solving environmental problems and sustainability challenges. Basics for sustainable information technology are learned.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes)
if announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

Qualification goal: scientific competences

Workload

150 h

Teaching cycle

Teaching cycle: every year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Optimization for Sustainability	10-I-OfN-252-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science I	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In this lecture, we look at different issues from the field of "computer science for sustainability", for example from the areas of mobility, energy, humanitarian aid or environmental protection. Based on these examples, we discuss optimization issues, basic principles and tricks of modeling as an optimization problem and get to know different optimization methods.

Intended learning outcomes

Students are able to set up well-defined optimization problems based on problem descriptions that reflect the essence of the problem. They know essential structures and basic optimization problems on graphs and use these to model problems. Furthermore, students can formulate optimization problems as mathematical programs. They are able to select suitable solution methods and apply them to solve optimization problems.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) Oral exam (15 to 30 minutes, usually) or
b) Oral group exam (2 participants, each 10 to 15 minutes) or
c) Written exam (approx. 60 to 120 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Focus: Machine Learning

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Machine Learning

(ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Deep Learning		10-I-DL-222-m01

Module coordinator		Module offered by
Dean of Studies Informatik (Computer Science)		Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The lecture provides advanced knowledge of deep learning techniques such as FCN, CNN and LSTMs, practical application examples for NN architectures, e.g. in the field of image and speech processing. Current models and methods of machine learning and their technical background are presented. Building on this, models from the field of deep learning, such as CNNs, RNNs and sequence-to-sequence architectures, are discussed. The theoretical foundations of these models, such as training through backpropagation, are also discussed in detail. For all the models covered, it is shown how they are used in practice for specific problems such as image processing and text generation.

Intended learning outcomes

Students have knowledge of the possible applications and limitations of deep learning, of important architectures and how they are implemented in tools such as Tensorflow/Keras, of the ability to reprogram network structures from the literature, of data preparation and of solving concrete tasks.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Algorithms, AI and Data Science 2	10-I-AKIDS2-222-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Building on the introductory course "Algorithms, AI and Data Science 1", this module introduces the logical and algorithmic foundations of computer science and artificial intelligence. In addition to dealing with basic algorithmic strategies for solving fundamental problems, approaches to logical reasoning in computer science are introduced. A treatment of elementary probabilistic methods for modeling uncertainties forms the basis for the introduction of simple statistical methods with which supervised and unsupervised problems of machine learning can be addressed.

Intended learning outcomes

Students master the logical and algorithmic fundamentals of computer science. They are able to independently develop solutions for specific computer science problems using an analytical approach. Students are proficient in common problem-solving strategies and have initial experience of how these can be used in the context of artificial intelligence. They know basic approaches for deriving logical conclusions, have an understanding of formal approaches for modeling uncertainties and know how these are used in the context of machine learning.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Computer Vision	10-I-CV-222-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science IV	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This course aims at offering a self-contained account of computer vision and its underlying concepts, including the recent use of deep learning. It starts with an overview of existing and emerging computer vision applications. It shows how image processing is entering multiple fields from our daily life. First, the light-matter interaction is considered and the image acquisition cameras and illumination sources are also discussed. The course then turns to image representation and discretization, and describes pre-processing steps (such as linear and non-linear filters) used to enhance image quality and/or detect specific features. The course will continue by analyzing procedures to extract information from multiple images, with motion and 3D shape as major examples. Finally, the recognition of objects (specific and/or class level) will be discussed and different approaches will be analyzed. A large part of the course concerns deep learning and AI-based approaches to vision tasks.

Intended learning outcomes

- Understanding of important computer vision concepts: light, matter, acquisition of images, color, texture, sampling, quantization, enhancement, feature extraction, segmentation, 3D acquisition, motion, tracking, object recognition.
- Understanding of deep learning (MLP, ConvNets, architectures) and the application to visual data.
- Deployment of vision and learning algorithms from standard libraries.
- Understanding of vision problems, and the ability to propose, debug, validate and explain solutions based on particular algorithms.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Natural Language Processing	10-I-NLP-222-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XII	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Introduction to Text Mining and Natural Language Processing; Traditional computational representations of text data (bag-of-words) and text preprocessing (sentence splitting, tokenization, morphological normalization, stemming); Corpus linguistics and lexical association measures (ngram frequencies, co-occurrences, collocations and terminology extraction); Syntactic analysis: Part-of-Speech tagging and chunking (with Hidden Markov Models and Conditional Random Fields), parsing (Probabilistic Context Free Grammars and parsers); Distributional semantics and latent text representations: distributional hypothesis, Latent Semantic Analysis (LSA), word embeddings; Light introduction to (modern) deep learning-based NLP: embeddings, convolutional and recurrent networks, Transformers. NLP Applications: text classification tasks (e.g., document classification, sentiment analysis) vs. token classification tasks (e.g., information extraction - named entity recognition) vs. text generation tasks (e.g. machine translation and text summarization).

Intended learning outcomes

Students will obtain broad theoretical and practical knowledge of the typical methods and algorithms in the field of text mining and natural language processing. They will be able to solve practical problems with the obtain knowledge: analyze the text data for the task at hand, choose the appropriate representation for their texts as well as the appropriate (machine learning for NLP) model to solve the task. They will have gained rich practical experience implementing solutions for a wide range of common NLP tasks and applications.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
3D Point Cloud Processing	10-I-3D-152-m01

Module coordinator	Module offered by
holder of the Chair of Computer Science XVII	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Laser scanning, Kinect and camera models, basic data structures (lists, arrays, oc-trees), calculating normals, k-d trees, registration, features, segmentation, tracking, applications for airborne mapping, applications to mobile mapping.

Intended learning outcomes

Students understand the fundamental principles of all aspects of 3D point cloud processing and are able to communicate with engineers / surveyors / CV people / etc. Students are able to solve problems of modern sensor data processing and have experienced that real application scenarios are challenging in terms of computational requirements, in terms of memory requirements and in terms of implementation issues.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 22 II Nr. 3 b)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction to AI	10-I-AI-252-m01

Module coordinator	Module offered by
Dean of Studies Informatik (Computer Science)	Institute of Computer Science

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Essential concepts and algorithms of artificial intelligence. Theoretical or practical competences are taught, ranging from classical simple heuristic methods to more complex probabilistic models of artificial intelligence.

Intended learning outcomes

The students have theoretical and practical knowledge in the field of artificial intelligence. They are able to identify and apply appropriate methods to solve problems in the field of AI.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Key Skills Area

(20 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

General Key Skills

(5 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Subject-specific Key Skills

(15 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Subject-specific Key Skills, Compulsory Courses

(5 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Introduction to Scientific Work	12-WIA-262-m01

Module coordinator	Module offered by
--	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites
2 semester	--	Students must have fulfilled the GOP requirements before registering for the course.

Contents

The following topics will be covered:
- Introduction to the subject: explanation of terms, purpose and benefits of academic writing and research
- Stages of academic writing and research:
- Stage 1 : orientation and planning
- Stage 2 : collecting and evaluating material
- Stage 3 : writing a draft
- Stage 4 : revision and submission
- Time management
- Presentation

Intended learning outcomes

Students acquire knowledge of scientific methods. Many chairs and departments of the faculty recommend to participate or expect successful participation ahead of the application process for the bachelor thesis.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Subject-specific Key Skills, Compulsory Electives

(10 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Management, Economics, and Sustainability		12-BNE-262-m01

Module coordinator		Module offered by
--		Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	--	--

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (1)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation	
Internship (at least 8 weeks, graded)			12-Prak1-262-m01	

Module coordinator			Module offered by	
Dean of the Faculty of Business Management and Economics			Faculty of Management and Economics	

ECTS	Method of grading		Only after succ. compl. of module(s)	
5	numerical grade		--	

Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	

Contents

This module includes a placement with a duration of approximately 4 weeks at a company or other organisation in the area of economics as well as the subsequent presentation of the placement report.

Intended learning outcomes

Students have the knowledge of relevant practical problem areas and the ability to implement the knowledge acquired in the course of study.

Courses (type, number of weekly contact hours, language — if other than German)

P (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

portfolio (approx. 50 hours total)

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation
Student (Teaching) Assistant			12-Tut1-262-m01

Module coordinator	Module offered by
Dean of the Faculty of Business Management and Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	(not) successfully completed	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This module includes tutoring activities in a tutorial offered by a Chair at the Faculty of Business Management and Economics.

Intended learning outcomes

Students have the ability to guide a group, to present content understandable and to develop training materials.

Courses (type, number of weekly contact hours, language — if other than German)

No courses assigned to module

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

portfolio (approx. 50 hours total)

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Managerial Practice Lectures	12-VGP-262-m01

Module coordinator	Module offered by
holder of the Professorship of Economic Journalism	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

In this lecture, we invite board members of publicly listed companies, SMEs and Startups to discuss contemporary challenges of corporate management.

Students gain sustainable insights into current management practices, challenges of corporate management in various industries, and discuss pressing managerial issues with C-level executives. In individual and group assignments, students are required to connect management theories with the managerial challenges of the speakers.

Managers of the different companies are required to address the following questions that will foster a detailed discussion at the end of each lecture:

- What are the current challenges facing your company?

- Which strategies do you employ to respond to these challenges?

- How have leadership concepts and approaches changed in your company?

Intended learning outcomes

After participating in this module, students should be able to combine theoretical approaches with current challenges in management. The students obtain a realistic insight into a cross-section of the German economy. Through discussions reports and group presentations students' social skills are trained in addition to professional skills.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

UNIVERSITÄT WÜRZBURG
Julius-Maximilians-

Module title			Abbreviation
Economist Practice Lectures			12-VWP-262-m01

Module coordinator	Module offered by
holder of the Senior Professorship for Economics, Money and International Economic Relations	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The content of the seminar is the active participation in as well as the follow-up of the lectures of economists from different national and international fields of activity, which are organized for the event.

The invitation of speakers from practice strengthens the practical orientation of the scientifically founded and at the same time internationally oriented education at the faculty of economics of the University of Würzburg.

In this way, students will gain lasting insights into the fields of activity of economists, gain an insight into practical activities, discuss these with high-ranking economists and combine them with theoretical economic knowledge gained during their studies.

Intended learning outcomes

By participating in the seminar, Master's students of the faculty of economics and business administration should get to know the different fields of activity of economists and the questions that determine the daily work of the speakers in the course of the lectures.

In addition, the participants of the seminar will have the opportunity to apply the knowledge of economics they have acquired during their studies. For this purpose, in addition to a discussion with the speakers following the respective lecture, a debating workshop is offered to the participants of the seminar, in which the students are to learn economic argumentation and debate management. The learned contents and competencies will be tested at the end of the semester.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: each semester

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title			Abbreviation	
Testimonials from tax experts			12-St5-262-m01	

Module coordinator			Module offered by	
--			Faculty of Management and Economics	

ECTS	Method of grading		Only after succ. compl. of module(s)	
5	numerical grade		--	

Duration	Module level	Other prerequisites	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Career planning and professional skills for students of Management and Economics	12-CC-KPBK-262-m01

Module coordinator	Module offered by
Dean of the Faculty of Business Management and Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module was designed in cooperation with the university's Career Centre specifically for students on Bachelor degree programs in the field of business and economics and is taught by lecturers from the Career Centre. In addition to teaching subject-related key skills, it offers support with career orientation and starting a career in the field of business and economics.

As part of the module, students exchange ideas with people from different cultures on interesting topics in order to promote intercultural skills, get to know professional fields for graduates in business and economics and receive information on the various fields of activity. With the help of a strengths/weaknesses analysis, the participants' personal key competencies are analysed and potential for improvement is identified. Guidelines for the design of the CV and cover letter as well as an unsolicited application are covered and the preparation of professional application documents is learnt. Participants practise their presentation skills and how to deal with real job interviews using their individual strengths.

Intended learning outcomes

After completing the module, students will be familiar with career prospects, be able to create appealing application documents and be confident in job interviews. They are also prepared for intercultural encounters and have a feel for the different behaviours and approaches of people from different cultures. Students will have mastered the preparation of a comprehensive application portfolio and the special features of unsolicited applications. They are also familiar with argumentative principles for dealing with job interviews.

Students can deal well with the general and specific requirements for graduates in the field of business and economics when finding and starting a career.

Courses (type, number of weekly contact hours, language — if other than German)

S (4)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

15 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Additional information
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Workload
150 h

Teaching cycle
Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Training of Intercultural Competences		12-IK-262-m01

Module coordinator	Module offered by
Dean of the Faculty of Business Management and Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The module "Intercultural Skills Training" offers a holistic view of the skills required for successful interaction and cooperation in intercultural contexts. Content typically includes cultural diversity awareness, intercultural communication, conflict resolution in intercultural situations, cultural value systems and their impact on behavior and decision making, and strategies to promote intercultural teamwork and leadership. In addition, case studies, role plays and practical exercises are often used to actively involve participants in the learning process and strengthen their skills in dealing with cultural diversity.

Intended learning outcomes

The module aims to develop participants' understanding, empathy and flexibility to operate effectively in global work environments and multicultural societies. After the course, participants will have the skills and understanding to navigate successfully in an increasingly interconnected and diverse world and to build and maintain positive relationships in intercultural contexts.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title	Abbreviation
Intercultural Competence	12-IKG-262-m01

Module coordinator	Module offered by
holder of the Chair of Business Management and Industrial Management	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

This lecture discusses challenges of globalisation from an economic point of view. Based on a basic overview of leadership in a global world, the topic of multiculturality in a business context is discussed in detail. Simulations, case studies and exercises are used to illustrate relevant issues.

Intended learning outcomes

Students have gained a comprehensive understanding of relevant topics regarding globalization in the business context. In addition, students have learned how to interact with colleagues and business partners in a cross-cultural environment.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

30 places. WA1:
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: after announcement

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation	
Selected Topics in Subject-Specific Transferable Skills 1		12-STKC1-262-m01	

Module coordinator		Module offered by	
--		Faculty of Management and Economics	

ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	

Duration	Module level	Other prerequisites	
1 semester	--	--	

Contents

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Intended learning outcomes

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Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or
b) portfolio (approx. 50 hours total)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Thesis Area

(15 ECTS credits)

Module Catalogue for the Subject
Business Information Systems
Bachelor's with 1 major, 180 ECTS credits

Module title		Abbreviation
Bachelor Thesis Business Information Systems with colloquium		12-BA-Wiinf-262-m01

Module coordinator	Module offered by
Dean of the Faculty of Business Management and Economics	Faculty of Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
15	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Students will complete their degree with a Bachelor's thesis in which they will be required to research and write on a topic from the area of business information systems. This thesis may either take the form of an analysis and structured presentation of the existing literature on a certain topic or may, as is often the case, also include a presentation of the students' own original achievements, e. g. new algorithms developed by students, surveys, the prototypical demonstration of a concept they developed or the application and (further) development of a theoretical model. Check the websites of the chairs for further information.

Intended learning outcomes

The acquisition of specialized skills presupposes the reception of national and international (mainly english) literature. Students are able to understand relevant contributions to research and professional practice and to critically analyze and assess their relevance to their own specific questions. They can recognize and assess major lines of development and dynamics within the field of study.

Courses (type, number of weekly contact hours, language — if other than German)

No courses assigned to module

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

bachelor's thesis (20 to 30 pages) and final colloquium (approx. 20 minutes); weighted 2:1
Language of assessment: German and/or English
Assessment offered: Registration on a continuous basis as agreed upon with supervisor.

Allocation of places

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Additional information

Time to complete: 10 weeks

Workload

450 h

Teaching cycle

Teaching cycle: each semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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