### Modules for Business Informatics

#### Basismodule

**inf031 - Object-oriented Modelling and Programming**

<table>
<thead>
<tr>
<th>Module label</th>
<th>Object-oriented Modelling and Programming</th>
</tr>
</thead>
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<tr>
<td>Module code</td>
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<tr>
<td>Credit points</td>
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<td>Workload</td>
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<td>- Fach-Bachelor Mathematik &gt; Nebenfachmodule</td>
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<tr>
<td></td>
<td>- Fach-Bachelor Wirtschaftsinformatik &gt; Basismodule</td>
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<tr>
<td>Contact person</td>
<td>Module responsibility</td>
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<tr>
<td></td>
<td>- Andreas Winter</td>
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<td>- Dietrich Boles</td>
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<td>- Andreas Winter</td>
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<td>- Die im Modul Lehrenden</td>
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<tr>
<td>Entry requirements</td>
<td>Skills to be acquired in this module</td>
</tr>
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<td>Module contents</td>
<td>Reader's advisory</td>
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<tr>
<td>Links</td>
<td>Language of instruction</td>
</tr>
<tr>
<td></td>
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<td>Duration (semesters)</td>
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<tr>
<td>Examination</td>
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inf600 - Business Informatics I

Module label: Business Informatics I
Module code: inf600
Credit points: 6.0 KP
Workload: 180 h

Used in course of study
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Nachhaltigkeitsökonomik > Basismodule
- Fach-Bachelor Wirtschaftsinformatik > Basismodule
- Fach-Bachelor Wirtschaftswissenschaften > Studienrichtung Wirtschaftsinformatik
- Master of Education (Gymnasium) Informatik > Mastermodule
- Master of Education (Wirtschaftspädagogik) Informatik > Mastermodule

Contact person
Module responsibility
Axel Hahn
Authorized examiners
Axel Hahn
Die im Modul Lehrenden

Entry requirements
Skills to be acquired in this module
Business informatics regards itself as an interdisciplinary subject. It connects business administration with computer science. Business informatics also includes information technologies as well as technical subjects and research topics. It is more than just an intersection of research fields and offers e.g. special methods to coordinate corporate strategies and information processing.

The module introduces the entire scope of the field of business informatics.

Professional competence
The students:
- Describe the key aspects of business informatics
- Differentiate business informatics as an interdisciplinary subject from other subjects
- Characterise the functionality of essential application systems and management structures, from the strategical to the tactical and operative level.
- Consider and evaluate case studies and layout options for the conception, development, implementation, usage and maintenance of operational sociotechnical applications systems

Methodological competence
The students:
- Model technical and sociotechnical processes using suitable tools
- Analyse business processes and the demands on their modification and their technical assistance
- Abstract from complex systems in a suitable way to improve the manageability of models

Social competence
The students:
- Present their solutions in front of other groups
- Discuss their outcomes

Self-competence
The students:
- Develop solutions for case studies in groups
- Construct an argument based on acquired knowledge

Module contents
The main topics of business informatics are the presentation and evaluation of configuration options to conceptualise, develop, implement, use and maintain operational sociotechnical application systems. The lecture focuses on information systems of the networked company. Technical, economic, organisational, and psychosocial aspects are considered. The understanding of these relations will be trained by means of case studies taken from Laudon et al. (cf. suggested reading). The lecture gives an overview of the following business informatics fields.
- Information systems, (object of BI)
- Application systems
- E-Commerce and E-Business
- Ethical, social and political aspects
- Business process integration
- Knowledge management
- Support of decision making
- Reorganisation of companies
- Economic evaluation

For a better understanding of each subject, it is recommended to take specific modules later in the course of studies.

**Reader's advisory**

- Frank, Gronau (2002), Systemanalyse im Unternehmen Oldenbourg (Gebundene Ausgabe - Juni 2002)

**Links**

- Language of instruction: German
- Duration (semesters): 1 Semester
- Module frequency: jährlich
- Module capacity: unlimited
- Module level: ---
- Module type: je nach Studiengang Pflicht oder Wahlpflicht
- Lern-/Lehrform / Type of program: V & Ü

**Vorkenntnisse / Previous knowledge**

**Examination**  |  **Time of examination**  |  **Type of examination**
--- | --- | ---
Final exam of module | At the end of the lecture period | Tasks and active partaking during the exercises / written exam or oral exam

**Course type**  |  **Comment**  |  **SWS**  |  **WiSe**  |  **Workload attendance**
--- | --- | --- | --- | ---
Lecture |  | 2.00 |  | 28 h
Exercises |  | 2.00 |  | 28 h

**Total time of attendance for the module**: 56 h
inf601 - Business Informatics II

Module label | Business Informatics II
---|---
Module code | inf601
Credit points | 6.0 KP
Workload | 180 h

Used in course of study
- Fach-Bachelor Informatik > Akzentsetzungsmodul
- Fach-Bachelor Wirtschaftsinformatik > Basismodule
- Fach-Bachelor Wirtschaftswissenschaften > Studienrichtung Wirtschaftsinformatik
- Master of Education (Gymnasium) Informatik > Mastermodule

Contact person
Module responsibility
- Jorge Marx Gomez

Authorized examiners
- Jorge Marx Gomez
- Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module
The module provides the fundamentals and tasks of information management to create an IT strategy. Tasks are especially considered from a strategic perspective and brought closer by methodological skills for each task.

Professional competence
The students:
- name the strategic aspects of information management and identify their impact on technical and operational information management
- examine the essential questions of enterprise reorganization in connection with an information system and recognize the influence of the Internet and its services on commercial processes and information systems by an exemplary system, e.g. SAP R/3
- identify different approaches to information management (Information Ressource Management, Management approach, management approach, personal information management) and understand why determining the value of information management is necessary and how it is done
- specify the objectives of information management, differentiate and classify its tasks appropriately
- recognize the methodological characteristics of information management
- transfer the concept of architecture to the information infrastructure
- assess the importance to plan features for strategic IT-design oriented on IT-architecture
- schedule the procedures concerning the strategical situation analysis of the competition analysis, the information infrastructure and the environmental analysis with the objective to transfer them to simple problems
- name the key contents of strategical IT objectives and are aware of difficulties in determining the measurement category
- identify and learn the scope and central tasks of business process and environmental management (as excursion) and the significance for information management

Methodological competence
The students:
- perform information management tasks using methods of Information Engineering and thereby learn how to transfer and employ the methods to other fields, e.g. economy

Social competence
The students:
- construct solutions to case studies given in the group, i.e. the development of an IT strategy
- discuss the solutions on a technical level
- present the solutions to case studies as part of the exercises

Self-competences
The Students:
accept criticism and understand it as a precondition for the further development of one's own actions

Module contents
The proportion of information technology in the investment budget of companies is rising continuously. For instance, banks spend 25% of all investments for their information systems. Information is not just a production factor, it is also an element of competition. Information is increasingly important for business. The business informatics deals with these economic tasks of information technology.
Information systems in businesses and organisations are of central concern. The interdisciplinary nature of business informatics raises questions about proceedings, problems of models (modelling in a narrow sense) and the application in specific problem domains.

Contents of this module are:

- Information management principles and tasks
- IT architectures
- Infrastructure of information and communication technology
- Strategic, administrative and operative information engineering

Reader's advisory

- Heinrich, Stelzer (2011): Informationsmanagement - Grundlagen, Aufgaben, Methoden. Oldenbourg Verlag
- Krcmar (2015): Informationsmanagement. Springer Verlag

Links

http://www.wi-ol.de

Language of instruction

German

Duration (semesters)

1 Semester

Module frequency

jährlich

Module capacity

unlimited

Modullevel

AS (Akzentsetzung / Accentuation)

Modulart

Pflicht o. Wahlpflicht / compulsory or optional

Lern-/Lehrform / Type of program

V+Ü

Vorkenntnisse / Previous knowledge

Examination

Time of examination

Type of examination

Final exam of module

Usually two weeks after lecture time

Written exam max. 120 minutes

Course type

Comment

SWS

Frequency

Workload attendance

Lecture

2.00

SuSe

28 h

Exercises

2.00

SuSe

28 h

Total time of attendance for the module

56 h
# wir011 - Introduction to Business Administration

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<tr>
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<tr>
<td>Workload</td>
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| Used in course of study| • Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > Basismodule  
  • Fach-Bachelor Mathematik > Nebenfachmodule  
  • Fach-Bachelor Nachhaltigkeitsökonomik > Basismodule  
  • Fach-Bachelor Wirtschaftsinformatik > Basismodule  
  • Fach-Bachelor Wirtschaftswissenschaften > Basismodule  
  • Zwei-Fächer-Bachelor Wirtschaftswissenschaften > Basismodule |
| Contact person        | Module responsibility  
  • Jörn Hoppmann  
  Authorized examiners  
  • Die im Modul Lehrenden |
| Entry requirements    | The goal of the course is that students are able to...  
  - know and understand basic concepts and processes in the context of business administration  
  - apply models and instruments of business administration to develop solutions for practical challenges in companies  
  - critically question the application of common instruments and models and evaluate their advantages and disadvantages in specific decision making situation  
  - put the newly acquired knowledge into a broader context, so it can be deepened in the further course of study and when working in a company |
| Module contents       | The course offers an introduction to the most important concepts, instruments, and frameworks of business administration. Toward this end, the course first introduces the core concepts and provides an overview of the history, goals, structure, and research traditions of business administration. Subsequently, students will gain insights into 11 important areas of business administration: (1) Entrepreneurship, (2) Strategic Management, (3) Logistics and Supply Chain Management, (4) Production Management, (5) Marketing and Sales, (6) Accounting and Controlling, (7) Finance and Investment, (8) Technology and Innovation Management, (9) Human Resource Management, (10) Information Management, and (10) Sustainability Management. Students deepen and apply the knowledge acquired in the lecture in tutorials. In addition, the course includes guest lectures by practitioners to clarify the practical relevance of the content, |
| Language of instruction | German |
| Duration (semesters)  | 1 Semester                                                                      |
| Module capacity       | unlimited                                                                       |
| Modullevel            | ---                                                                             |
| Modulart              | je nach Studiengang Pflicht oder Wahlpflicht                                    |
| Lern-/Lehrform / Type of program |                                                                 |
| Examination           | Time of examination  
  Type of examination  
  1 Prüfungsleistung: 1 Klausur/Antwort-Wahl-Verfahren (Multiple Choice) (i. d. R. 60 – 90 Min.)  
  oder 1 mündl. Prüfung (i. d. R. 20 Min.) oder 1 Hausarbeit (max. 15 Seiten) oder 1 Referat (max. 30 Min.) oder 1 Portfolio (max. 5 Leistungen) |
| Final exam of module  | At the end of the semester                                                       |
| Course type           | Comment  
  SWS  
  Frequency  
  Workload attendance |
| Lecture               | 2.00  
  28 h                                                                 |
| Tutorial              | 2.00  
  28 h                                                                 |
| Total time of attendance for the module | 56 h |

**Comment**
- Frequency: Basic module compulsory if student is majoring in Business Administration (Fach-Bachelor Betriebswirtschaftslehre) or is a minor in Business Administration (Fach-Bachelor Mathematik). In all other modules, Business Administration is a minor.

**Language of instruction**
- German

**Duration (semesters)**
- 1 Semester

**Module capacity**
- unlimited

**Module level**
- ---

**Modulart**
- je nach Studiengang Pflicht oder Wahlpflicht

**Lern-/Lehrform / Type of program**
- Lecture 2.00
  - Frequency: Basic module compulsory if student is majoring in Business Administration (Fach-Bachelor Betriebswirtschaftslehre) or is a minor in Business Administration (Fach-Bachelor Mathematik). In all other modules, Business Administration is a minor.
  - Workload: 28 h
- Tutorial 2.00
  - Frequency: Basic module compulsory if student is majoring in Business Administration (Fach-Bachelor Betriebswirtschaftslehre) or is a minor in Business Administration (Fach-Bachelor Mathematik). In all other modules, Business Administration is a minor.
  - Workload: 28 h

**Total time of attendance for the module**
- 56 h
Aufbaumodule

inf005 - Software Engineering I

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<td>Workload</td>
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Used in course of study
- Fach-Bachelor Informatik > Aufbaumodule
- Fach-Bachelor Mathematik > Nebenfachmodule
- Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule
- Master of Education (Wirtschaftspädagogik) Informatik > Mastermodule
- Zwei-Fächer-Bachelor Informatik > Aufbaumodule

Contact person
Module responsibility
- Andreas Winter

Authorized examiners
- Andreas Winter
- Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module
The objective of the module is to convey the development and maintainance of large scale software systems. The complete software developing process including requirements collection, software architecture and quality control is observed. The basics of object oriented modelling and software development are enhanced.

Professional competence
The students:
- comprehend the different developmental phases of software (especially requirements engineering, software design, software implementation and quality control)
- name the tasks of each phase
- select appropriate methodical utilities
- select suitable methods and utilities for each project phase
- understand the advantages of the modelling process with UML
- model moderate tasks in UML
- understand and develop solutions for given problems by means of development environments

Methodological competence
The students:
- structure, document and evaluate problems and solutions with the tools of object oriented modelling
- apply methods and techniques of object oriented modelling purposefully

Social competence
The students:
- create, present and discuss solutions with modelling techniques
- present and solve modelling problems in teams

Self-competence
The students:
- reflect their problem-solving behaviour with regard to the capabilities of software technology

Module contents
The module introduces fundamental terms and concepts in software engineering. This includes:
- need for software engineering
- activities and process-models in software development
- object-oriented modelling, meta modelling
- interdependencies between code and models
- requirements elicitation
- definition of software architectures
- application of software patterns
- software quality management
- software maintenance, evolution and operation

Software engineering tools are presented and applied in practical exercises.

**Reader's advisory**

Helmut Balzert: Lehrbuch der Software-Technik, Spektrum Akademischer Verlag, 3. Auflage 2009

**Links**

**Language of instruction**  German
**Duration (semesters)**  1 Semester
**Module frequency**  jährlich
**Module capacity**  unlimited
**Module level**  ---
**Module type**  je nach Studiengang Pflicht oder Wahlpflicht
**Lern-/Lehrform / Type of program**  V + Ü

**Vorkenntnisse / Previous knowledge**

<table>
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<th>Type of examination</th>
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<tbody>
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<td>Final exam of module</td>
<td>At the end of the lecture period or during the lecture period (portfolio)</td>
<td>Written exam or oral exam or portfolio (? 3 services)</td>
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**Course type**

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<th>Frequency</th>
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<td>Lecture</td>
<td>3.00</td>
<td>WiSe</td>
<td>42 h</td>
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<td>Tutorial</td>
<td>1.00</td>
<td>WiSe</td>
<td>14 h</td>
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**Total time of attendance for the module**  56 h
## Module Contents

- Relational data models
- Relational algebra and its implementation in SQL (the standard of databases)
- Database design on different abstractions (conceptual and logical design)
- Normalisation
- Data base architectures
- Distributed and active databases
- Object-oriented, object-related and XML-based database systems

**Reader’s Advisory**


**Links**

- **Language of instruction**: German
- **Duration (semesters)**: 1 Semester
- **Module frequency**: jährlich
<table>
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<td>V + Ü</td>
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### Vorkenntnisse / Previous knowledge

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<th>Type of examination</th>
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<td>Hands-on exercises and written or oral exam</td>
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<th>SWS</th>
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<tr>
<td>Lecture</td>
<td>3.00</td>
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<td>WiSe</td>
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<tr>
<td>Exercises</td>
<td>1.00</td>
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<td>WiSe</td>
<td>14 h</td>
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Total time of attendance for the module 56 h
inf008 - Information Systems II

Module label: Information Systems II
Module code: inf008
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule
- Fach-Bachelor Wirtschaftswissenschaften > Studienrichtung Wirtschaftsinformatik
- Master Wirtschaftsinformatik > Bereichswahlmodule

Contact person:
- Module responsibility: Marco Grawunder
- Authorized examiners:
  - Marco Grawunder
  - Die im Modul Lehrenden

Entry requirements:
- The Module "Information Systems II" enhances the knowledge and the concepts of "Information Systems I".

Skills to be acquired in this module:
- Professional competence:
  - Know further concepts, languages and architectures of databases
  - Analyse advanced information processing tasks
  - Analyse complex requirements of information systems appropriately
  - Realize information requirements and gather relevant information

- Methodological competence:
  - Propose concrete processing principles for special application classes
  - Reflect specific technologies' consequences and proceedings

- Social competence:
  - The students:

- Self-competence:
  - The students:

Module contents:
- Implementation of databases (architecture, index structures, query processing and optimization)
- Data integration and data analysis (data integration, data warehouses, data mining)
- Information retrieval
- Parallel databases

Reader's advisory:
Suggested reading:
- Härder, T., Rahm, E.: Datenbanksysteme - Konzepte und Techniken der Implementierung, Morgan Kaufmann
- U. Leser, F. Naumann: Informationsintegration: Architekturen und Methoden zur Integration verteilter und heterogener Datenquellen, dpunkt
- Bauer/Günzel: Data-Warehouse-Systeme, dpunkt
- Han/Kamber/Pei: Data Mining: Concepts and Techniques, Morgan Kaufmann

Links
Language of instruction: German
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<th>Duration (semesters)</th>
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<tbody>
<tr>
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<td>Modular</td>
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<td>Lern-/Lehrform / Type of program</td>
<td>VL + Ü</td>
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**Vorkenntnisse / Previous knowledge**

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<tbody>
<tr>
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<td>written or oral Exam</td>
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**Course type**

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<tbody>
<tr>
<td>Lecture</td>
<td>3.00</td>
<td>SuSe</td>
<td>42 h</td>
</tr>
<tr>
<td>Exercises</td>
<td>1.00</td>
<td>SuSe</td>
<td>14 h</td>
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**Total time of attendance for the module**

56 h
inf010 - Computer Networks

<table>
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<td>Workload</td>
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<td>Fach-Bachelor Wirtschaftsinformatik &gt; Aufbaumodule</td>
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</tr>
<tr>
<td></td>
<td>Zwei-Fächer-Bachelor Informatik &gt; Aufbaumodule</td>
</tr>
</tbody>
</table>

**Contact person**

Module responsibility

» Oliver Kramer

Authorized examiners

» Oliver Kramer
» Die im Modul Lehrenden

**Entry requirements**

**Skills to be acquired in this module**

**Professional competence:**

The students:

- Identify the layers of the ISO/OSI model
- Recognise the main concepts and algorithms of each IOS/OSI layer
- Assign technical processes to the layers
- Classify new technologies to the main concepts of the ISO/OSI model
- Compare different methods and approaches of a layer (i.e. TCP and UDP)
- Characterise safety-critical aspects of each layer

**Methodological competence:**

The students

- Administer small networks
- Characterise safety-critical aspects of networks

**Social competence:**

The students work on exercises in small teams

**Self-competence:**

The students recognise their administrative abilities

**Module contents**

Contents of this lecture (cf. suggested reading Tanenbaum and Wetherall)

- Introduction to networks and the internet
- Physical Layer
- Data Link Layer
- MAC Sub-Layer
- Network Layer
- Transport Layer
- Session Layer
- Presentation Layer
- Application Layer
- Technologies (Cable and Co)
- Nyquist Shannons and Transmissions
- CDMA
- Hamming & CRC
- Stop & wait, go back n, selective repeat
- Aloha & CSMA
- Ethernet technologies
- Wifi
- Paket switchen & Dijkstra
- IP Adressing & Header
- TCP
- UDP
- Buckets & TCP-Reno
- DNS
- Flask
- RSA & PGP
- Firewalls
Reader's advisory

- lecture notes

Links
http://einstein.informatik.uni-oldenburg.de/20902.html

Language of instruction
German

Duration (semesters)
1 Semester

Module frequency
jährlich

Module capacity
unlimited

Modullevel
---

Moduleart
je nach Studiengang Pflicht oder Wahlpflicht

Lern-/Lehrform / Type of program
V + Ü

Vorkenntnisse / Previous knowledge

Final exam of module
At the end of the lecture period
Written or oral exam

Course type
Comment
SWS
Frequency
Workload attendance

Lecture
3.00
SuSe
42 h

Exercises
1.00
SuSe
14 h

Total time of attendance for the module
56 h
## inf012 - Operating Systems I

<table>
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<tr>
<th>Module label</th>
<th>Operating Systems I</th>
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<tr>
<td>Module code</td>
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<td>180 h</td>
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<td></td>
<td>Fach-Bachelor Informatik &gt; Aufbaumodule</td>
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<tr>
<td>Contact person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Module responsibility</td>
</tr>
<tr>
<td></td>
<td>Oliver Theel</td>
</tr>
<tr>
<td></td>
<td>Authorized examiners</td>
</tr>
<tr>
<td></td>
<td>Oliver Theel</td>
</tr>
<tr>
<td></td>
<td>Die im Modul Lehrenden</td>
</tr>
<tr>
<td>Entry requirements</td>
<td></td>
</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td>To gain knowledge of and capabilities in the design, the implementation, and the evaluation of operating systems.</td>
</tr>
<tr>
<td>Professional competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>Develop an understanding of operating systems regarding terminology, structure, functionality, conception, central challenges and solutions</td>
</tr>
<tr>
<td></td>
<td>Evaluate the performance of operating systems</td>
</tr>
<tr>
<td></td>
<td>Are aware of the implementation problems of operating systems</td>
</tr>
<tr>
<td></td>
<td>Realise and evaluate solutions of subproblems</td>
</tr>
<tr>
<td></td>
<td>Comprehend and evaluate the functional connections between application systems and hardware</td>
</tr>
<tr>
<td></td>
<td>Understand operating systems as a link between technical and applied computer science</td>
</tr>
<tr>
<td>Methodological competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>Transfer concepts of implementations to other contexts</td>
</tr>
<tr>
<td></td>
<td>Question different solutions wrt. properties</td>
</tr>
<tr>
<td>Social competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>Solve problems in small teams</td>
</tr>
<tr>
<td></td>
<td>Present their solutions to the members of the tutorial</td>
</tr>
<tr>
<td></td>
<td>Discuss their different solutions with members of the tutorial</td>
</tr>
<tr>
<td>Self-competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>Accept criticism</td>
</tr>
<tr>
<td></td>
<td>Question their initial solutions in the light of newly learned methods</td>
</tr>
</tbody>
</table>

### Module contents

The contents of this module are:

1. “Operating systems” definition and structure
2. Requirements of operation systems
3. Technical characteristics of related hardware
4. The need and implementation options of parallel processes
5. Cooperation of processes: communication and synchronisation (semaphores)
6. Memory management: virtual und non-virtual memory management
7. File management

### Reader's advisory


### Links

- Language of instruction: German
- Duration (semesters): 1 Semester
### Module frequency
- Jährlich

### Module capacity
- Unlimited

### Module level
- ---

### Module type
- Je nach Studiengang Pflicht oder Wahlpflicht

### Examination / Type of program
- V + Ü

### Vorkenntnisse / Previous knowledge

<table>
<thead>
<tr>
<th>Examination</th>
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<th>Type of examination</th>
<th>Written or oral exam</th>
</tr>
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<tbody>
<tr>
<td>Final exam of module</td>
<td>End of the lecture period</td>
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<td>Lecture</td>
<td>Comment</td>
<td>SWS</td>
<td>Frequency</td>
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<tr>
<td></td>
<td></td>
<td>2.00</td>
<td>SuSe</td>
</tr>
<tr>
<td>Exercise or tutorial</td>
<td></td>
<td>2.00</td>
<td>SuSe</td>
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</table>

### Total time of attendance for the module
- 56 h
inf016 - Internet Technologies

Module label: Internet Technologies
Module code: inf016
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule
- Master of Education (Gymnasium) Informatik > Mastermodule
- Master of Education (Wirtschaftspädagogik) Informatik > Mastermodule

Contact person:
Module responsibility: Susanne Boll-Westermann
Authorized examiners:
- Susanne Boll-Westermann
- Die im Modul Lehrenden

Entry requirements:
Skills to be acquired in this module:
The graduates of the module know different Internet concepts and technologies. They are able to evaluate the capability of the concepts and techniques to design internet-based applications. The students will apply these concepts and techniques in a project.

Professional competence:
The students:
- Know basic concepts and technologies of the Internet and the web

Methodological competence:
The students:
- Are able to use techniques in projects

Social competence:
The students:
- Implement web-based projects in a team

Self-competence:
The students:
- Reflect their own capability to develop web-based applications

Module contents:
This module deals with the basic development concepts of internet-based applications. It covers the web languages: HTML, CSS, XML, XML-Schema, XPath, XSTL.
It includes the relevant client technologies of web applications (Applets, AJAX, COMET) and server technologies (Forms, Servlets, Java Server Pages, STRUTS, Ruby on Rails).
Additional topics are multimedia on the internet (SMIL, SVG, Flash), usability and accessibility.

The practical project of this module consists of the design, implementation and presentation of a comprehensive web application. The topics of the lecture will be applied and deepened in practice. The project is based on the web framework Ruby on Rails.

Reader’s advisory:
Reserve shelf in the library; extensive list of links in e-learning platform StudIP covering course topics.

Links:
https://www.uni-oldenburg.de/informatik/medieninformatik/lehre/

Language of instruction: German
Duration (semesters): 1 Semester
Module frequency: jährlich
Module capacity: unlimited

Reference text:
Associated with the modules:
- Complements with Software-Systementwurf
- Informationssysteme I
**Informationssysteme II**  
**Technologien des Wissensmanagement im Internet**

<table>
<thead>
<tr>
<th>Modullevel</th>
<th>AS (Akzentsetzung / Accentuation)</th>
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<tr>
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<td>je nach Studiengang Pflicht oder Wahlpflicht</td>
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<tr>
<td>Lern-/Lehrform / Type of program</td>
<td>V+P</td>
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| Vorkenntnisse / Previous knowledge | - HTML  
- Objectoriented programming |

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<th>Time of examination</th>
<th>Type of examination</th>
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<tbody>
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<td>Final exam of module</td>
<td>The practical projects will all be presented on a single project day, which will take place at the end of the lecture period. The oral exam takes place during the last two weeks of the lecture period. If necessary, re-examinations will take place at the end of the term. Find out more about the schedule on the websites of the department and in StudIP.</td>
<td>Project and oral exam or project and written exam</td>
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<table>
<thead>
<tr>
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<th>Frequency</th>
<th>Workload attendance</th>
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<tr>
<td>Project</td>
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<td>2.00</td>
<td>SuSe</td>
<td>28 h</td>
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</table>

**Total time of attendance for the module**  
56 h
inf608 - eBusiness

Module label: eBusiness
Module code: inf608
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodul
- Fach-Bachelor Wirtschaftsinformatik > Bausteinmodule
- Fach-Bachelor Wirtschaftswissenschaften > Studienrichtung Wirtschaftsinformatik
- Master of Education (Gymnasium) Informatik > Mastermodule
- Master of Education (Wirtschaftspädagogik) Informatik > Mastermodule

Contact person
Module responsibility:
- Jorge Marx Gomez

Authorized examiners:
- Jorge Marx Gomez
- Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module:
The module provides an introduction to the "Electronic Business" (e-business). The graduates know the fundamental and current technologies, advanced concepts, applications and competitive strategies of the "Electronic-Commerce" (e-commerce). The knowledge and abilities acquired in this module are directly applicable in study and business. They are deepening the basics from the module „Wirtschaftsinformatik II“. They provide a professional e-business consulting background and the skills to design software products for this area of business in practice.

Professional competence
The students:

- Name and discuss the eBusiness key challenges
- Discuss the chances of the added value and the changes of commercial models by the internet
- Define the concepts of e-business and e-commerce.
- Discuss the change of retail trade and the transactions between companies in e-business
- Name current payment systems and communication technologies
- Discuss the possibilities of the internet in order to simplify the administration and the coordination of internal and external business processes
- Characterise the challenges for the management caused by e-business and e-commerce
- Differentiate the concepts and conceptualities of e-business
- Assess applications with regard to economic points of view
- Practically learn how to handle core technologies of e-business

Methodological competence
The students:

- Assess the core technologies of e-business and e-commerce
- Apply methods in case studies

Social competence
The students:

- Develop case studies on basis of given problems in groups
- Present their solutions

Self-competence
The students:

- Learn about their own limitations while planning and developing e-commerce applications

Module contents
The module provides the following contents:

- The definition of the core e-business concepts and the technical conditions for the implementation
- Introduction of the variations of e-commerce, especially the Business-to-Consumer (B2C) and Business-to-Business (B2B) concepts and the current research in this field
- Discussion on the economic aspects of e-business based on the theory of informational added value
- Technological basics of the web and current development technologies for e-commerce web
applications and security mechanisms with focus on online-shops and applications (hands-on exercise topics: HTTP, JSP and SQLInjection, PHP, XML, XML-Security, data modelling, Online-Shop development and Online-Shop administration)

Reader's advisory


Links
http://www.wi-ol.de/

Language of instruction
German

Duration (semesters)
1 Semester

Module frequency
jährlich

Module capacity
unlimited

Modullevel
---

Modulart
je nach Studiengang Pflicht oder Wahlpflicht

Lern-/Lehrform / Type of program
V & Ü

Vorkenntnisse / Previous knowledge

Examination
Time of examination
Type of examination
Final exam of module
At the end of the lecture period
Written or oral exam

Course type
Comment
SWS
Frequency
Workload attendance
Lecture
2.00
SuSe
28 h

Exercises
2.00
SuSe
28 h

Total time of attendance for the module
56 h
inf609 - Business Process Management

Module label: Business Process Management
Module code: inf609
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule

Contact person:
Module responsibility
- Axel Hahn

Authorized examiners
- Axel Hahn
- Die im Modul Lehrenden

Entry requirements:
Teaching of the basics of process management. They understand the importance of models for the analysis and design of business processes.

Professional competence:
After attending the module, students will be able to model and classify business processes and to optimize them for given goals.

Methodological competence:
The students can map and evaluate processes in structure models, process chains, and costing models.

Social competence:
The students recognize the importance of employee empowerment for simple, flexible management of processes and design processes on case studies interactively with the intended process participants.

Self competence:
The students are able to independently acquire knowledge and skills within the framework of an eLearning module.

Module contents:
- The basics of process management
- Strategic Process Management / Strategic Process Planning
- Process design (procedure, actual and target modeling)
- Process implementation (process types, process integration using the example SAP ERP)
- Quality and Change Management (ISO 9000, Total Quality Management)
- Process Controlling
- Process management in service companies

Reader's advisory:

Links:
- Language of instruction: German
- Duration (semesters): 1 Semester
- Module frequency: Winterterm and Summerterm
- Module capacity: unlimited
- Module level: AS (Akzentsetzung / Accentuation)
- Modular: je nach Studiengang Pflicht oder Wahlpflicht
- Lern-/Lehrform / Type of program: E-Learning

Vorkenntnisse / Previous knowledge:

Examination:
- Time of examination: At the end of the lecture period
- Type of examination: Written exam
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<td>Exercises</td>
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<td>2.00</td>
<td>SuSe and WiSe</td>
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**Total time of attendance for the module**

56 h
### mat950 - Discrete Mathematics

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<td>Workload</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Florian Heß</td>
</tr>
<tr>
<td></td>
<td>Andreas Stein</td>
</tr>
<tr>
<td></td>
<td>Sandra Stein</td>
</tr>
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<td>Entry requirements</td>
<td></td>
</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Getting to know and to understand the axiomatic structure of mathematics and the importance of mathematical reasoning</td>
</tr>
<tr>
<td></td>
<td>• Mastering basic mathematical proof techniques and their logical structure</td>
</tr>
<tr>
<td></td>
<td>• Recognizing the relevance of premises in mathematical theorems: Localization of premises within proofs and possible consequences if premises are not met</td>
</tr>
<tr>
<td></td>
<td>• Exemplary acquaintance with further mathematical areas and thus expansion of the student's mathematical knowledge</td>
</tr>
<tr>
<td></td>
<td>• Getting to know applications</td>
</tr>
<tr>
<td></td>
<td>• Integration and crosslinking of the student’s mathematical knowledge by establishing relationships between different mathematical areas</td>
</tr>
<tr>
<td></td>
<td>• Learning the essential ideas and methods for discrete structures in mathematics</td>
</tr>
<tr>
<td></td>
<td>• Knowledge of the fundamental concepts and methods of graph theory</td>
</tr>
<tr>
<td></td>
<td>• Knowledge of the fundamental concepts and methods of algebra and number theory, such as groups, rings, fields, residue class rings, Euclidean algorithm, Chinese remainder theorem, polynomials.</td>
</tr>
<tr>
<td></td>
<td>• Knowledge of further concepts and methods for discrete structures, e.g. primality tests, RSA, graph-theoretical algorithms</td>
</tr>
<tr>
<td>Module contents</td>
<td>Elements of propositional logic, proof techniques, sets, relations and maps, combinatorics, graphs and applications, the ring of integers and residue class rings, groups and semi groups</td>
</tr>
<tr>
<td>Reader's advisory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graham, Knuth, Patashnik: Concrete Mathematics, Addison-Wesley 1994.</td>
</tr>
<tr>
<td></td>
<td>Hartmann: Mathematik für Informatiker, Vieweg 2014.</td>
</tr>
<tr>
<td></td>
<td>Teschl, Teschl: Mathematik für Informatiker, Band 1, Springer 2013.</td>
</tr>
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<td>Further reading will be announced in the lecture.</td>
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### Links

<table>
<thead>
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<td>Duration (semesters)</td>
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<tr>
<td>Module frequency</td>
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<td>Modulelevel</td>
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<tr>
<td>Modulart</td>
<td>Pflicht / Mandatory</td>
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</table>

### Lern-/Lehrform / Type of program

<table>
<thead>
<tr>
<th>Vorkenntnisse / Previous knowledge</th>
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</table>

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<th>Examination</th>
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<th>Type of examination</th>
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<td>Final exam of module</td>
<td>after the end of the lecture period</td>
<td>Written exam or oral exam.</td>
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<td>Bonus points can be earned.</td>
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### Course type

<table>
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<th>Comment</th>
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<th>Frequency</th>
<th>Workload attendance</th>
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<tbody>
<tr>
<td>Lecture</td>
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<td>3.00</td>
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<td>WiSe</td>
<td>14 h</td>
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| Total time of attendance for the module | 56 h |

23 / 82
mat955 - Mathematics of Computer Science (Linear Algebra)

<table>
<thead>
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<td>Credit points</td>
<td>6.0 KP</td>
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<td>• Fach-Bachelor Wirtschaftsinformatik &gt; Aufbaumodule</td>
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<tr>
<td>Contact person</td>
<td>Module responsibility</td>
</tr>
<tr>
<td></td>
<td>• Florian Heß</td>
</tr>
<tr>
<td></td>
<td>• Andreas Stein</td>
</tr>
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<td></td>
<td>• Sandra Stein</td>
</tr>
<tr>
<td>Entry requirements</td>
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</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td>• Getting to know and to understand the axiomatic structure of mathematics and the importance of mathematical reasoning</td>
</tr>
<tr>
<td></td>
<td>• Mastering basic mathematical proof techniques and their logical structure</td>
</tr>
<tr>
<td></td>
<td>• Recognizing the relevance of premises in mathematical theorems: Localization of premises within proofs and possible consequences if premises are not met</td>
</tr>
<tr>
<td></td>
<td>• Learning the significant ideas and methods of linear algebra</td>
</tr>
<tr>
<td></td>
<td>• Mastering the fundamental concepts of algebra, such as groups, rings, fields</td>
</tr>
<tr>
<td></td>
<td>• Mastering the fundamental concepts and significant methods of linear algebra, such as systems of linear equations, Gaussian algorithm, vector spaces, dimension, linear maps, matrices, determinants</td>
</tr>
<tr>
<td></td>
<td>• Mastering of further notions and methods of linear algebra, e.g. eigenvectors, eigenvalues, diagonalization</td>
</tr>
<tr>
<td>Module contents</td>
<td>Significant techniques and structures, systems of linear equations, vector spaces, dimension, linear maps, determinants, eigenvalues, diagonalization</td>
</tr>
<tr>
<td>Reader's advisory</td>
<td></td>
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<tr>
<td>Links</td>
<td>S. Bosch: Lineare Algebra, Springer 2014</td>
</tr>
<tr>
<td></td>
<td>G. Fischer: Lineare Algebra, Springer 2014</td>
</tr>
<tr>
<td></td>
<td>B. Huppert, W. Willems: Lineare Algebra, Springer 2010</td>
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<td></td>
<td>M. Koecher: Lineare Algebra und analytische Geometrie, Springer 2003</td>
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<td></td>
<td>H.-J. Kowalsky, G. Michler: Lineare Algebra, de Gruyter 2003</td>
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<td>F. Lorenz: Lineare Algebra, Spektrum 2008</td>
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<td>Lern-/Lehrform / Type of program</td>
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<td>Vorkenntnisse / Previous knowledge</td>
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<tr>
<td>Examination</td>
<td>Time of examination</td>
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<td>Final exam of module</td>
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<td>Course type</td>
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# mat960 - Mathematics of Computer Science (Analysis)

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<td>Used in course of study</td>
<td>• Fach-Bachelor Informatik &gt; Aufbaumodule</td>
</tr>
<tr>
<td></td>
<td>• Fach-Bachelor Wirtschaftsinformatik &gt; Aufbaumodule</td>
</tr>
<tr>
<td>Contact person</td>
<td>Module responsibility</td>
</tr>
<tr>
<td></td>
<td>• Frank Schöpfer</td>
</tr>
<tr>
<td>Entry requirements</td>
<td></td>
</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td>The students learn and apply basic notions and techniques of mathematical analysis.</td>
</tr>
<tr>
<td>Professional competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>- use rigorous mathematical proofs</td>
<td></td>
</tr>
<tr>
<td>- compute limit values and analyse the convergence behaviour of iterative methods</td>
<td></td>
</tr>
<tr>
<td>- apply differential and integral calculus to compute extreme values, to analyse the behaviour of functions and to develop numerical solution methods</td>
<td></td>
</tr>
<tr>
<td>Methodological competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>- analyse formal relations</td>
<td></td>
</tr>
<tr>
<td>- structure and justify solution methods</td>
<td></td>
</tr>
<tr>
<td>Social competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>- develop solutions to given problems in groups</td>
<td></td>
</tr>
<tr>
<td>- accept constructive criticism</td>
<td></td>
</tr>
<tr>
<td>Personal competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>- reflect their solution strategies</td>
<td></td>
</tr>
<tr>
<td>- deepen their understanding of the presented mathematical concepts with exercises and adopt the solution methods</td>
<td></td>
</tr>
<tr>
<td>Module contents</td>
<td></td>
</tr>
<tr>
<td>- Convergence of sequences, series and iterative methods</td>
<td></td>
</tr>
<tr>
<td>- Continuity, differential and integral calculus of functions of one variable</td>
<td></td>
</tr>
<tr>
<td>- Characterization and computation of extreme values</td>
<td></td>
</tr>
<tr>
<td>- Separable and linear ordinary differential equations</td>
<td></td>
</tr>
<tr>
<td>Reader's advisory</td>
<td>Peter Hartmann: Mathematik für Informatiker - ein praxisbezogenes Lehrbuch</td>
</tr>
<tr>
<td></td>
<td>Dirk Hachenberger: Mathematik für Informatiker</td>
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<tr>
<td></td>
<td>Otto Forster: Analysis I</td>
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<tr>
<td></td>
<td>Harro Heuser: Lehrbuch der Analysis, Teil 1</td>
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<td></td>
<td>Konrad Königsberger: Analysis</td>
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<td>Links</td>
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<tr>
<td>Language of instruction</td>
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</tr>
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<td>Duration (semesters)</td>
<td>1 Semester</td>
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<tr>
<td>Module frequency</td>
<td>every year</td>
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<tr>
<td>Module capacity</td>
<td>unlimited</td>
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<tr>
<td>Modulelevel</td>
<td>BC (Basiscurriculum / Base curriculum)</td>
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<tr>
<td>Modulart</td>
<td>Pflicht / Mandatory</td>
</tr>
<tr>
<td>Lern-/Lehrform / Type of program</td>
<td></td>
</tr>
<tr>
<td>Vorkenntnisse / Previous knowledge</td>
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<tr>
<td>Examination</td>
<td>Time of examination</td>
</tr>
<tr>
<td>Final exam of module</td>
<td>At the end of the lecture period written exam</td>
</tr>
<tr>
<td>Course type</td>
<td>Comment</td>
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<td>Lecture</td>
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<td>Exercises</td>
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# mat990 - Mathematics for Economists

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<th>Mathematics for Economists</th>
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<tbody>
<tr>
<td>Module code</td>
<td>mat990</td>
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<tr>
<td>Credit points</td>
<td>6.0 KP</td>
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<tr>
<td>Workload</td>
<td>180 h</td>
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<tr>
<td>Used in course of study</td>
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<tr>
<td>Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt &gt; Akzentsetzungsmodul</td>
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<tr>
<td>Fach-Bachelor Nachhaltigkeitsökonomik &gt; Basismodule</td>
<td></td>
</tr>
<tr>
<td>Fach-Bachelor Wirtschaftsinformatik &gt; Aufbaumodule</td>
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</tr>
<tr>
<td>Fach-Bachelor Wirtschaftswissenschaften &gt; Basismodule</td>
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<tr>
<td>Zwei-Fächer-Bachelor Wirtschaftswissenschaften &gt; Basismodule</td>
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</tr>
<tr>
<td>Contact person</td>
<td></td>
</tr>
<tr>
<td>Module responsibility</td>
<td></td>
</tr>
<tr>
<td>Angelika May</td>
<td></td>
</tr>
<tr>
<td>Authorized examiners</td>
<td></td>
</tr>
<tr>
<td>Die im Modul Lehrenden</td>
<td></td>
</tr>
<tr>
<td>Die Modulverantwortlichen</td>
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<tr>
<td>Module counseling</td>
<td></td>
</tr>
<tr>
<td>Peter Krug</td>
<td></td>
</tr>
<tr>
<td>Entry requirements</td>
<td></td>
</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td></td>
</tr>
<tr>
<td>Students internalize basic mathematical concepts and methods from analysis and matrix calculation and their applications in economics.</td>
<td></td>
</tr>
<tr>
<td>Professional competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>are proficient in the mathematical fundamentals relevant to economics</td>
<td></td>
</tr>
<tr>
<td>master methods for solving equations and inequalities</td>
<td></td>
</tr>
<tr>
<td>master differential calculus for one and two variables and can integrate</td>
<td></td>
</tr>
<tr>
<td>are able to reliably determine local and global extreme points for functions of one and two variables.</td>
<td></td>
</tr>
<tr>
<td>Methodological competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>analyse formal contexts</td>
<td></td>
</tr>
<tr>
<td>understand the formal mathematical language</td>
<td></td>
</tr>
<tr>
<td>structure problems from the economic sciences and justify their solutions.</td>
<td></td>
</tr>
<tr>
<td>Social competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>construct solutions to given problems in groups</td>
<td></td>
</tr>
<tr>
<td>accept criticism and see it as an aid.</td>
<td></td>
</tr>
<tr>
<td>Self-competence</td>
<td></td>
</tr>
<tr>
<td>The students:</td>
<td></td>
</tr>
<tr>
<td>reflect their actions in establishing solutions</td>
<td></td>
</tr>
<tr>
<td>deepen the presented mathematical concepts in exercises and add them to their actions.</td>
<td></td>
</tr>
<tr>
<td>Module contents</td>
<td></td>
</tr>
<tr>
<td>Basics in real Arithmetic, Rules for Matrix Arithmetic</td>
<td></td>
</tr>
<tr>
<td>Linear equations, linear inequalities and systems of those, quadratic equations, financial mathematics (interest rates and present values, pension calculation)</td>
<td></td>
</tr>
<tr>
<td>Calculus for functions of one variable: derivation rules for power functions, exp and ln, indefinite integral, applications of integral calculus (density function, ordinary differential equations), single-variable optimization (stationary points, extreme-value theorem, local and global extreme points), Approximation methods (linear approximation, Taylor series with Lagrange remainder)</td>
<td></td>
</tr>
<tr>
<td>Functions of two variables (partial derivatives, total differential), Tools for comparative statics (elasticity of substitution, homogeneous and homothetic functions), multivariable optimization tasks (local and global extremes, extremes under constraints)</td>
<td></td>
</tr>
<tr>
<td>Reader's advisory</td>
<td></td>
</tr>
<tr>
<td>Begleitend:</td>
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<table>
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<tr>
<th>Links</th>
<th><a href="http://www.uni-oldenburg.de/wire">www.uni-oldenburg.de/wire</a></th>
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<tbody>
<tr>
<td>Language of instruction</td>
<td>German</td>
</tr>
<tr>
<td>Duration (semesters)</td>
<td>1 Semester</td>
</tr>
<tr>
<td>Module frequency</td>
<td>annual</td>
</tr>
<tr>
<td>Module capacity</td>
<td>unlimited</td>
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<tr>
<td>Module level</td>
<td>AC (Aufbaucurriculum / Composition)</td>
</tr>
<tr>
<td>Modulart</td>
<td>Pflicht o. Wahlpflicht / compulsory or optional</td>
</tr>
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<table>
<thead>
<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td>written exam</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
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<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2.00</td>
<td>WiSe</td>
<td>28 h</td>
</tr>
<tr>
<td>Exercises</td>
<td></td>
<td>2.00</td>
<td>WiSe</td>
<td>28 h</td>
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</table>

| Total time of attendance for the module | 56 h |
# mat991 - Mathematics for Economists II

<table>
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<th>Mathematics for Economists II</th>
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<tbody>
<tr>
<td>Module code</td>
<td>mat991</td>
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<tr>
<td>Credit points</td>
<td>6.0 KP</td>
</tr>
<tr>
<td>Workload</td>
<td>180 h</td>
</tr>
<tr>
<td>Used in course of study</td>
<td>• Fach-Bachelor Nachhaltigkeitsökonomik &gt; Aufbaumodule</td>
</tr>
<tr>
<td></td>
<td>• Fach-Bachelor Wirtschaftsinformatik &gt; Aufbaumodule</td>
</tr>
<tr>
<td>Contact person</td>
<td>Module responsibility</td>
</tr>
<tr>
<td></td>
<td>• Jorge Marx Gomez</td>
</tr>
<tr>
<td></td>
<td>• Angelika May</td>
</tr>
<tr>
<td>Entry requirements</td>
<td>Authorized examiners</td>
</tr>
<tr>
<td></td>
<td>• Angelika May</td>
</tr>
</tbody>
</table>

## Skills to be acquired in this module

The students internalize advanced mathematical methods, know applications in economics and can provide solutions.

### Professional competence

The students:

- are proficient in the quantitative methods relevant to economics
- know vector spaces and die rings
- master the differential calculus for \( n \) variables
- can determine extreme points with general constraints
- can solve special homogeneous and inhomogeneous differential equations.

### Methodological competence

The students:

- analyse complex interrelationships
- understand the formal mathematical language
- structure problems from the economic sciences and find independent solutions.

### Social competence

The students:

- construct solutions to given problems in groups
- accept criticism and see it as an aid.

### Self-competence

The students:

- reflect their actions in establishing solutions
- deepen the presented mathematical concepts in exercises and add them to their actions.

## Module contents

- \( n \)-dimensional vector spaces, linear maps, matrix and vector algebra (determinant, inverse matrix, eigenvalues and eigenvectors), linear systems of equations and their economic application, Functions of \( n \) variables), tools for comparative static (chain rules, implicit differentiation along a level curve, elasticity of substitution), multivariate optimization with and without constraints (necessary and sufficient conditions), general constraints, Kuhn-Tucker conditions.
- Integration, Differential and ordinary differential equations with solution methods for special types.

## Reader's advisory


## Links

- Language of instruction: German
- Duration (semesters): 1 Semester
- Module frequency: annual
### Module capacity
unlimited

### Modullevel
AC (Aufbaucurriculum / Composition)

### Modulart
Pflicht o. Wahlpflicht / compulsory or optional

### Lern-/Lehrform / Type of program

### Vorkenntnisse / Previous knowledge

<table>
<thead>
<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td></td>
<td>written exam (90-120 minutes)</td>
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</tbody>
</table>

Bonus points can be earned.

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2.00</td>
<td>WiSe</td>
<td>28 h</td>
</tr>
<tr>
<td>Exercises</td>
<td></td>
<td>2.00</td>
<td>WiSe</td>
<td>28 h</td>
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**Total time of attendance for the module**
56 h
**mat996 - Introduction to Numerical Analysis**

<table>
<thead>
<tr>
<th>Module label</th>
<th>Introduction to Numerical Analysis</th>
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</thead>
<tbody>
<tr>
<td>Module code</td>
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</tr>
<tr>
<td>Credit points</td>
<td>6.0 KP</td>
</tr>
<tr>
<td>Workload</td>
<td>180 h</td>
</tr>
<tr>
<td>Used in course of study</td>
<td></td>
</tr>
</tbody>
</table>
  - Fach-Bachelor Informatik > Wahlpflichtbereich Mathematik  
  - Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule  
  - Master Informatik > Nicht Informatik |
| Contact person        | Module responsibility              |
|                       | - Alexey Chernov                   |
|                       | - Frank Schöpfer                   |
| Entry requirements    | The students learn and analyze the basic numerical methods. The students learn to implement the basic numerical methods in a computer program. |
| Skills to be acquired in this module | Professional competence  
The students:  
- learn basic numerical methods and algorithms  
- analyze properties of the numerical methods using rigorous mathematical tools  
- implement the basic numerical methods in a computer program  
- interpret results of computer simulations  

| Methodological competence | The students:  
- analyze algorithms with mathematical tools  
- implement numerical algorithms for concrete problems |
| Social competence        | The students:  
- develop solutions to given problems in groups  
- accept constructive criticism |
| Personal competence      | The students:  
- reflect their solution strategies  
- deepen their understanding of the presented mathematical and algorithmical concepts with exercises and adopt the solution methods |
| Module contents          | - Numerical methods for linear systems: LU-, Cholesky decompositions, iterative methods  
- Numerical methods for nonlinear equations: fix-point iterations, Netwon's Method  
- Polynomials, spline and trigonometric interpolation  
- Numerical integration: Newton-Cotes, Gauss quadrature rules, adaptive quadrature and extrapolation methods  
- Stability and conditioning of algorithms and problems |
<p>| Links                   | German |
| Language of instruction | German |
| Duration (semesters)    | 1 Semester |
| Module frequency        | every year |
| Module capacity         | unlimited |
| Modulelevel             | AS (Akzentsetzung / Accentuation) |
| Modulart                | Wahlpflicht / Elective |
| Lern-/Lehrform / Type of program | Analysis I, Lineare Algebra |
| Vorkenntnisse / Previous knowledge | Analysis I, Lineare Algebra |
| Examination             | Time of examination | Type of examination |
| Final exam of module    | At the end of the lecture period written exam | Final exam of module |
| Course type             | Comment | SWS | Frequency | Workload attendance |</p>
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<tr>
<th>Course type</th>
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<th>Frequency</th>
<th>Workload attendance</th>
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<td>WiSe</td>
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**Total time of attendance for the module**

56 h
**wir021 - Double Entry Bookkeeping & Financial Statements under German Law (HGB)**

<table>
<thead>
<tr>
<th>Module label</th>
<th>Double Entry Bookkeeping &amp; Financial Statements under German Law (HGB)</th>
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<tbody>
<tr>
<td>Module code</td>
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<tr>
<td>Credit points</td>
<td>6.0 KP</td>
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<td>Workload</td>
<td>180 h</td>
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<td>Used in course of study</td>
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<td></td>
<td>Fach-Bachelor Mathematik &gt; Nebenfachmodule</td>
</tr>
<tr>
<td></td>
<td>Fach-Bachelor Nachhaltigkeitsökonomik &gt; Basismodule</td>
</tr>
<tr>
<td></td>
<td>Fach-Bachelor Wirtschaftsinformatik &gt; Aufbaumodule</td>
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<tr>
<td></td>
<td>Fach-Bachelor Wirtschaftswissenschaften &gt; Basismodule</td>
</tr>
<tr>
<td></td>
<td>Zwei-Fächer-Bachelor Wirtschaftswissenschaften &gt; Basismodule</td>
</tr>
</tbody>
</table>

**Contact person**

Module responsibility
- Kerstin Lopatta

Authorized examiners
- Die im Modul Lehrenden

**Entry requirements**

none

**Skills to be acquired in this module**

Participants...
1. understand financial accounting as the basis of corporate data and bookkeeping
2. gain comprehensive knowledge of main accounting areas such as procurement, sales, HR, inventory, tax, provisions etc.
3. obtain basic knowledge about annual report process of single entities.

**Module contents**

The main objective of this module is to give the students an overview of the double entry bookkeeping as well as the link between financial accounting, balance sheet and income statement. The acquisition of basis knowledge of the corporate accountancy stands in the foreground, for example, how organizations manage the bookkeeping, legal basis of the annual accounts, creating an inventory, content of accounting and income statement.

**Reader's advisory**


An additional script is provided.

**Links**

http://www.uni-oldenburg.de/accounting/

**Language of instruction**

German

**Duration (semesters)**

1 Semester

**Module frequency**

jährlich

**Module capacity**

unlimited

**Modullevel**

BC (Basiscurriculum)

**Modulart**

Pflicht

**Lern-/Lehrform / Type of program**

**Vorkenntnisse / Previous knowledge**

**Examination**

<table>
<thead>
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<th>at the end of the semester</th>
<th>final exam</th>
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</table>

<table>
<thead>
<tr>
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<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
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<td>2.00</td>
<td></td>
<td>28 h</td>
</tr>
<tr>
<td>Tutorial</td>
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<td>2.00</td>
<td>WiSe</td>
<td>28 h</td>
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**Total time of attendance for the module**

56 h
Module code: wir150
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Betriebswirtschaftslehre für Leistungssportlerinnen und Leistungssportler > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Betriebswirtschaftslehre für Leistungssportlerinnen und Leistungssportler > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Biologie > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Biologie > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Business Administration in mittelständischen Unternehmen > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Business Administration in mittelständischen Unternehmen > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Chemie > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Chemie > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Comparative and European Law > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Comparative and European Law > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Engineering Physics > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Engineering Physics > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Informatik > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Informatik > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Intercultural and Business Administration > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Intercultural and Business Administration > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Interkulturelle Bildung und Beratung > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Interkulturelle Bildung und Beratung > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Mathematik > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Mathematik > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Nachhaltigkeitsökonomik > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Nachhaltigkeitsökonomik > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Biologie > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Biologie > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Physik, Technik und Medizin > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Physik, Technik und Medizin > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Sozialwissenschaften > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Sozialwissenschaften > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Umweltwissenschaften > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Umweltwissenschaften > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Wirtschaftsinformatik > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Wirtschaftsinformatik > Fachnahe Angebote Wirtschaftswissenschaften
- Fach-Bachelor Wirtschaftswissenschaften > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftswissenschaften > Fachnahe Angebote Betriebswirtschaftslehre
- Fach-Bachelor Wirtschaftswissenschaften > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Anglistik > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Anglistik > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Biologie > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Biologie > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Chemie > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Chemie > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Elementarmathematik > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Elementarmathematik > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Ev. Theologie und Religionspädagogik > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Ev. Theologie und Religionspädagogik > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Gender Studies > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Gender Studies > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Germanistik > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Germanistik > Fachnahe Angebote Wirtschaftswissenschaften
- Zwei-Fächer-Bachelor Geschichte > Fachnahe Angebote Betriebswirtschaftslehre
- Zwei-Fächer-Bachelor Geschichte > Fachnahe Angebote Wirtschaftswissenschaften

Fach-Bachelor Betriebswirtschaftslehre für Leistungssportlerinnen und Leistungssportler > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Betriebswirtschaftslehre für Leistungssportlerinnen und Leistungssportler > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Biologie > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Biologie > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Business Administration in mittelständischen Unternehmen > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Business Administration in mittelständischen Unternehmen > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Chemie > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Chemie > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Comparative and European Law > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Comparative and European Law > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Engineering Physics > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Engineering Physics > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Informatik > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Informatik > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Intercultural and Business Administration > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Intercultural and Business Administration > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Mathematik > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Mathematik > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Nachhaltigkeitsökonomik > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Nachhaltigkeitsökonomik > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Biologie > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Biologie > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Physik, Technik und Medizin > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Physik, Technik und Medizin > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Sozialwissenschaften > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Sozialwissenschaften > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Umweltwissenschaften > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Umweltwissenschaften > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Wirtschaftsinformatik > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Wirtschaftsinformatik > Fachnahe Angebote Wirtschaftswissenschaften
Fach-Bachelor Wirtschaftswissenschaften > Akzentsetzungsmodule
Fach-Bachelor Wirtschaftswissenschaften > Fachnahe Angebote Betriebswirtschaftslehre
Fach-Bachelor Wirtschaftswissenschaften > Fachnahe Angebote Wirtschaftswissenschaften
Zwei-Fächer-Bachelor Anglistik > Fachnahe Angebote Betriebswirtschaftslehre
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Zwei-Fächer-Bachelor Elementarmathematik > Fachnahe Angebote Wirtschaftswissenschaften
Zwei-Fächer-Bachelor Ev. Theologie und Religionspädagogik > Fachnahe Angebote Betriebswirtschaftslehre
Zwei-Fächer-Bachelor Ev. Theologie und Religionspädagogik > Fachnahe Angebote Wirtschaftswissenschaften
Zwei-Fächer-Bachelor Gender Studies > Fachnahe Angebote Betriebswirtschaftslehre
Zwei-Fächer-Bachelor Gender Studies > Fachnahe Angebote Wirtschaftswissenschaften
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Zwei-Fächer-Bachelor Germanistik > Fachnahe Angebote Wirtschaftswissenschaften
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| Zwei-Fächer-Bachelor Geschichte > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Informatik > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Informatik > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Interdisziplinäre Sachbildung > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Interdisziplinäre Sachbildung > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Kunst und Medien > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Kunst und Medien > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Materielle Kultur: Textil > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Materielle Kultur: Textil > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Mathematik > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Mathematik > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Musik > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Musik > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Niederlandistik > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Niederlandistik > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Ökonomische Bildung > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Ökonomische Bildung > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Pädagogik > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Pädagogik > Fachnahe Angebote Wirtschaftswissenschaften |
| Zwei-Fächer-Bachelor Philosophie / Werte u. Normen > Fachnahe Angebote Betriebswirtschaftslehre |
| Zwei-Fächer-Bachelor Philosophie / Werte u. Normen > Fachnahe Angebote Wirtschaftswissenschaften |

**Contact person**

Module responsibility

- Ralf Werner Stecking

Authorized examiners

- Die im Modul Lehrenden

**Entry requirements**

**Skills to be acquired in this module** Students

- will understand the fundamental terms of descriptive and inductive statistics.
- will be able to choose and calculate appropriate measures and methods in order to describe empirical data properly.
- are familiar with concepts of probability theory and will be able to transfer statistical results from sample to population.

**Module contents**

Measuring and tabular / graphic representation of the data, summary statistics (arithmetic mean, statistical dispersion), two-dimensional distributions (graphic / tabular depiction, statistical independence, contingency, simple linear regression, and correlation), fundaments of probability theory and probability distribution, sampling distributions, estimation and test methods.

**Reader's advisory**


**Links**

**Language of instruction** German

**Duration (semesters)** 1 Semester

**Module frequency** jährlich

**Module capacity** unlimited

**Modullevel** ---
<table>
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<td>2.00</td>
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<tr>
<td>Tutorial</td>
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<th>56 h</th>
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wir083 - Purchasing, Operations, and Logistics Management

Module label: Purchasing, Operations, and Logistics Management
Module code: wir083
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > Akzentsetzungsmodul
- Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule
- Fach-Bachelor Wirtschaftswissenschaften > Aufbaumodule
- Master of Education (Wirtschaftspädagogik) Wirtschaftswissenschaften > Mastermodule
- Zwei-Fächer-Bachelor Wirtschaftswissenschaften > Aufbaumodule
- Zwei-Fächer-Bachelor Wirtschaftswissenschaften > Schwerpunkt Management und Ökonomie

Contact person:
Module responsibility
  - Christian Busse
Authorized examiners
  - Die im Modul Lehrenden
Module counseling
  - Sina Duensing

Entry requirements:
Skills to be acquired in this module:
Students obtain an overview of the most important operational functions of an industrial or service company. These are procurement, production and logistics. Students will get to know typical operational challenges and familiarize themselves with established approaches and methods for analyzing and improving procurement, production and logistics operations.

Module contents:
The module comprises a lecture (course number 2.02.231) and an accompanying tutorial (course numbers 2.02.231a to 2.02.231j). The lecture is based on the textbook "Grundzüge der Beschaffung, Produktion und Logistik" by Kummer, Grün and Jammernegg in the third edition of 2013 and the associated workbook, as well as partly on the textbook "Operations Management: Konzepte, Methoden und Anwendungen" by Thonemann in the third edition of 2015. The purpose of the lecture is to explain the fundamental problems and their solutions theoretically. The tutorials focus on application and practice and offer time for questions. There are no formal or content-related participation or entrance requirements.

Reader's advisory:

Links:

Language of instruction: German
Duration (semesters): 1 Semester

Module frequency:
unlimited

Reference text:
The module takes place in the summer semester. Please refer to the syllabus available via Stud.IP for a more detailed description of content and procedure.

Modulelevel:
-

Modulart:
jе nach Studiengang Pflicht oder Wahlpflicht

Lern-Lehrform / Type of program:

Vorkenntnisse / Previous knowledge:

Examination:

Time of examination: Type of examination

Final exam of module:

KL

Course type: Comment: SWS: Frequency: Workload attendance
Lecture: 2.00: SuSe and WiSe: 28 h
Tutorial: 2.00: SuSe and WiSe: 28 h

Total time of attendance for the module: 56 h
Akzentsetzungsmodule

inf006 - Software Engineering II

<table>
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<tr>
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<tr>
<td>Credit points</td>
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<tr>
<td>Workload</td>
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</table>

Used in course of study
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Master of Education (Gymnasium) Informatik > Mastermodule
- Master Wirtschaftsinformatik > Bereichswahlimodule

Contact person

Module responsibility
- Andreas Winter

Authorized examiners
- Andreas Winter
- Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module
The objective of the module inf005 Software Engineering II is to deepen the subjects and skills of the module Software Engineering I. Special software engineering topics will be presented, deepened and discussed. The lecture deals with different software engineering methods and technology which will be discussed in the seminar. The discussions are contextualised by scientific research projects, practical projects and latest research findings.

Professional competence
The students:
- Deepen software engineering methods and techniques
- Use specific software engineering methods and techniques
- Differentiate developmental techniques of software systems
- Discuss software engineering topics
- Design software systems by using appropriate methods
- Solve software engineering problems independently
- Reflect self-designed software engineering solutions critically and present them appropriately

Methodological competence
The Students:
- Structure problems with modelling techniques
- Develop actual methods of software engineering
- Present software engineering solutions
- Write scientific papers independently

Social competence
The Students:
- Explain and discuss software development solutions in their practical use
- Accept criticism and see it as an asset

Self-competence
The Students:
- Reflect their problem-solving behaviour with regard to the possibilities of software technology
- Internalize the presented developmental methods and integrate them in their own actions

Module contents
The following subjects are provided:
- Concept of systems
- Iterative and agile process models of software development
- System development and cost estimation
- Methods, techniques and tools to collect requirements
- Techniques to develop and describe software architecture
- Measurement and evaluation of software systems
- Extended techniques of modelling, meta-modelling, domain specific languages
- Model based development
- Methods and techniques of software evolution

Reader's advisory

- Helmut Balzert: Lehrbuch der Software-Technik, Spektrum Akademischer Verlag, 3. Auflage 2009

and actual papers from IEEE Software, IEEE Transactions on Software-Engineering, Informatik-Spektrum and conferences (z.B. ICSE, ICSM, WCRE, CSMR, ICPC, SLE, u.a.)

Links

<table>
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<th>Language of instruction</th>
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<td>Module capacity</td>
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Lern-/Lehrform / Type of program

Vorkenntnisse / Previous knowledge: Softwaretechnik I

<table>
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<th>Type of examination</th>
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<th>At the end of the lecture period</th>
<th>Portfolio (30-minute presentation, 1 paper (4 pages, IEEE) and oral exam)</th>
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<td>SuSe</td>
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<td>Seminar</td>
<td>2.00</td>
<td>SuSe</td>
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<td>28 h</td>
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Total time of attendance for the module 56 h
inf009 - Database Practical

**Module label**  Database Practical

**Module code**  inf009

**Credit points**  6.0 KP

**Workload**  180 h

**Used in course of study**
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Master of Education (Wirtschaftspädagogik) Informatik > Praktische Vertiefung der Informatik
- Zwei-Fächer-Bachelor Informatik > Praktische Vertiefung

**Contact person**
- Module responsibility: Marco Grawunder
- Authorized examiners: Marco Grawunder, Die im Modul Lehrenden

**Entry requirements**

**Skills to be acquired in this module**
The objective of this module is to gather practical experience on databases and information systems. The students get an overview of the technical realisation, implementation and optimisation of a professional database management system.

**Professional competence**
The students:
- Realise, implement and program data base systems
- Program and implement database-oriented system routines
- Implement optimisation goals in the modelling phase
- Administer professional database systems (installation, maintenance and adjustment)
- Recognise database systems’ performance problems and are able to fix them with according methods
- Organise and control processes of database systems

**Social competence**
The students:
- Solve database system problems in a team

**Self-competence**
The students:
- Acknowledge the limits of their ability to cope with pressure during the implementation and are aware of failures
- Reflect their self-perception

**Module contents**
The module “Practical Course Databases” is a related practical course of the module “Information Systems I”. The objectives of this module are special technical concepts of a database system and practical solutions in database programming and optimisation.

Contents of this module are:
- System-oriented database management programming,
- Implementation of catalogue systems,
- Optimisation strategies based on parallelisation and partitioning requirements

**Reader's advisory**
Held Andrea (2005), Oracle 10g Hochverfügbarkeit Addison-Wesley.
Held Andrea (2015), Oracle 12c New Features Addison Wesley.

**Links**

**Language of instruction**  German

**Duration (semesters)**  1 Semester
<table>
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**Vorkenntnisse / Previous knowledge**

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## inf014 - Operating Systems Practical

<table>
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| Used in course of study | • Fach-Bachelor Informatik > Akzentsetzungsmodul  
                           • Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodul  
                           • Master of Education (Wirtschaftspädagogik) Informatik > Praktische Vertiefung der Informatik  
                           • Zwei-Fächer-Bachelor Informatik > Praktische Vertiefung |
| Contact person        | Module responsibility  
                           • Oliver Theel                                          |
| Authorized examiners  | • Oliver Theel                                          |
|                       | • Die im Modul Lehrenden                                |

### Entry requirements

**Skills to be acquired in this module**

The aim of this module is to get practical experience in the field of analysis, design, and implementation methods of components of operating systems and their interactions.

#### Professional competence

The students:

- Familiarise with complex software systems
- Implement hardware-related components of operating systems
- Describe parallel system operation executions
- Understand the basic concepts of the programming language C++
- Identify software errors systematically, especially regarding parallel software
- Work in teams
- Use UNIX standard software to solve problems
- Recognise the advantage of working with virtual machines

#### Methodological competence

The students:

- Are aware of the challenges in handling operating systems
- Transfer operating system concepts to a practical context
- Analyse different solutions to a problem wrt. their properties
- Select the most suitable solution

#### Social competence

The students:

- Solve problems in small teams
- Present their solutions to all teams
- Discuss their different solutions within their own team and among all teams

#### Self-competence

The students:

- Accept criticism
- Organise the workflows within their teams
- Question their potential solutions in the light of criticism received
- Identify own shortcomings in their initial ability to successfully transfer theory to praxis

### Module contents

The contents of this module are:

- Analysis of a rudimentary operating system
- Design and implementation of a process management subsystem
- Design and implementation of process synchronisation mechanisms
- Design and implementation of a virtual memory management subsystem
- Design and implementation of a file subsystem or dialog subsystem
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inf017 - Interactive Systems

Module label: Interactive Systems
Module code: inf017
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Betriebswirtschaftslehre für Leistungssporterinnen und Leistungssportler > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Biologie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Business Administration in mittelständischen Unternehmen > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Chemie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Comparative and European Law > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Engineering Physics > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Interkulturelle Bildung und Beratung > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Mathematik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Nachhaltigkeitsökonomik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Pädagogik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Pädagogisches Handeln in der Migrationsgesellschaft > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Physik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Physik, Technik und Medizin > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Sozialwissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Umweltwissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Wirtschaftswissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Wirtschaftswissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Master of Education (Gymnasium) Informatik > Mastermodule
- Zwei-Fächer-Bachelor Anglistik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Biologie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Chemie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Elementarmathematik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Ev. Theologie und Religionspädagogik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Gender Studies > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Germanistik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Geschichte > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Informatik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Interdisziplinäre Sachbildung > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Kunst und Medien > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Materielle Kultur: Textil > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Mathematik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Musik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Niederlandistik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Ökonomische Bildung > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
### Contact person

Module responsibility
- Susanne Boll-Westermann

Authorized examiners
- Susanne Boll-Westermann
- Die im Modul Lehrenden

### Entry requirements

**Skills to be acquired in this module**

**Professional competence**

The students:

- name the basic concepts and characteristics of usable user interfaces
- characterise the basic elements of the user-centered design of interactive systems

**Methodological competence:**

The students:

- characterise the basic approaches to analyse context of use and user requirements
- explain methods for the design and prototypical implementation of interactive systems
- characterise established evaluation techniques and are able to use them

**Social competence**

The students:

- develop and present solutions for Human-Computer-Interaction related problems

### Module contents

The field of interactive systems deals with the tasks, concepts and technologies of human-computer interaction and its user-friendly and suitable design. The lecture is based on the so-called Human Centred Design Process and includes models of interaction between humans and their environment, iterative design, prototyping techniques, study and evaluation processes. Basic design principles, methods and tools are presented. Practical tasks complete the lecture.

### Reader's advisory

- Alan Dix, Janet Finlay, Gregory Abowd, Russell Beale: Human Computer Interaction.
- Bernhard Preim, Raimund Dachselt: Interaktive Systeme
- Further articles and papers that are presented in the lecture

### Links

- **Language of instruction**: German
- **Duration (semesters)**: 1 Semester
- **Module frequency**: jährlich
- **Module capacity**: unlimited
- **Modullevel**: AS (Akzentsetzung / Accentuation)
- **Modulart**: je nach Studiengang Pflicht oder Wahlpflicht
- **Lern-/Lehrform / Type of program**: V+Ü
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**Total time of attendance for the module**: 56 h
inf018 - Media Processing

Module label  Media Processing
Module code  inf018
Credit points  6.0 KP
Workload  180 h

Used in course of study

- Fach-Bachelor Betriebswirtschaftslehre für Leistungssportlerinnen und Leistungssportler > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Biologie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Business Administration in mittelständischen Unternehmen > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Chemie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Comparative and European Law > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Engineering Physics > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Informatik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Interkulturelle Bildung und Beratung > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Mathematik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Nachhaltigkeitsökonomik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Pädagogik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Pädagogisches Handeln in der Migrationsgesellschaft > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Physik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Physik, Technik und Medizin > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Sozialwissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Umweltwissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Wirtschaftswissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Fach-Bachelor Wirtschaftswissenschaften > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Master of Education (Gymnasium) Informatik > Mastermodule
- Master of Education (Wirtschaftspädagogik) Informatik > Mastermodule
- Master of Education (Wirtschaftspädagogik) Informatik > Praktische Vertiefung der Informatik
- Master Wirtschaftsinformatik > Bereichswahlmodule
- Zwei-Fächer-Bachelor Anglistik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Biologie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Chemie > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Elementarmathematik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Ev. Theologie und Religionspädagogik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Germanistik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Geschichte > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Informatik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Informatik > Praktische Vertiefung
- Zwei-Fächer-Bachelor Interdisziplinäre Sachbildung > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Kunst und Medien > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Materieelle Kultur: Textil > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
- Zwei-Fächer-Bachelor Mathematik > PP "Medieninformatik für Studierende musisch-künstlerischer Fächer"
Contact person

Module responsibility
- Susanne Boll-Westermann

Authorized examiners
- Susanne Boll-Westermann
- Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module

Professional competence:
The students:
- name the basic concepts and characteristics of digital media
- name the core concepts of encoding and compressing images, videos and audio files
- characterise the complexity of the analysis, classification and processing of unstructured media, using the examples of image analysis
- apply concepts of encoding, compression and image analysis independently

Module contents

Media processing technologies are presented in the lecture. One focus of the lecture is the encoding of digital images and the compression of an image, image enhancement and image processing. The lecture also deals with encoding and analysis of video and audio. This lecture is accompanied by simple practical tasks.

Reader's advisory

- Reserve shelf in the library: extensive list of links in e-learning platform StudIP covering course topics.

Links

https://www.uni-oldenburg.de/informatik/medieninformatik/lehre/

Language of instruction
German

Duration (semesters)
1 Semester

Module frequency
jährlich

Module capacity
unlimited

Modullevel
AS (Akzentsetzung / Accentuation)

Modulart
je nach Studiengang Pflicht oder Wahlpflicht

Lern-Lehrform / Type of program
V+P

Vorkenntnisse / Previous knowledge

Examination
Time of examination
Type of examination

Final exam of module
At the end of the lecture period
Project and oral exam

Course type
Comment
SWS
Frequency
Workload attendance

Lecture
2.00
WiSe
28 h

Project
2.00
WiSe
28 h
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inf021 - Advanced Java Technology Practical

Module label: Advanced Java Technology Practical
Module code: inf021
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Master of Education (Wirtschaftspädagogik) Informatik > Praktische Vertiefung der Informatik
- Zwei-Fächer-Bachelor Informatik > Praktische Vertiefung

Contact person:
Module responsibility: Dietrich Boles
Authorized examiners:
- Dietrich Boles
- Die im Modul Lehrenden

Entry requirements:
Skills to be acquired in this module:
The objective of this practical course is to introduce advanced concepts and technologies of the Java Standard Edition. The students will be able to use the technologies to implement large-scale applications.

Professional competence:
The students:
- Name the essential packages of the JDK class library
- Structure large-scale programs properly and implement them extensively
- Set up own Java class libraries
- Look up required classes in the JDK-Library and solve problems with these classes
- Structure their programs properly
- Understand and interpret large-scale programs
- Evaluate the quality of large-scale programs related to their maintainability, reusability and expandability

Methodological competence:
The students:
- Search for solutions on the internet

Social competence:
The students:
- Discuss own and someone else’s solutions

Self-competence:
The students:
- Reflect their problem-solving behaviour and take up new solutions, e.g. from the internet

Module contents:
A selection of the following subjects is presented during the practical course:

- GUI (AWT, Swing, JavaFX)
- Java-Basics and Collection-API
- Graphics and multimedia
- Events
- Model-View-Control (MVC)
- Threads
- Internationalisation, localization
- Reflection
- IO, Files
- Tools (compiler, classloader, printer, …)
- Storage technologies (XML and serialisation)
- Distributed programming (sockets and RMI)
- Databases (JDBC)
- Compression
- Security concepts
The practical course is based on a large-scale project. This project is developed step-by-step relating to the subjects of the course.

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inf521 - Medical Informatics

Module label: Medical Informatics
Module code: inf521
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Master of Education (Gymnasium) Informatik > Mastermodule

Contact person:
Module responsibility
- Rainer Röhrig

Authorized examiners
- Rainer Röhrig
- Die im Modul Lehrenden

Entry requirements:

Skills to be acquired in this module:

Professional competence
The students:
- know the medical and healthcare computer science applications
- know typical IT solutions and infrastructures
- know the legal framework to process care data
- know medical classifications and nomenclatures and the DRG-System and are able to apply them

Methodological competence
The students:
- know bio-medical research requirements and patient data privacy methods
- know communication standards and apply them in small-scale scenarios
- know and apply patient safety and risk management methods
- know and apply biosignal and image processing methods

Social competence
The students:
- Realise the importance of communication during the software development process between developer, customer and user of a successful and secure system. Feedback, request, respectful cooperation and the empathy of other disciplines' working processes are of great importance.

Self-competence
The students:
- Realise their responsibility as a medical informatic and reflect their impact on patients, medical employers and hospitals (corporates)

Module contents:
- Medical informatics introduction / medical documentation
- Medical documentation / progression of disease
- Healthcare information systems
- Terminology and classification / Medical controlling
- Image processing / interoperability and communication standards
- Medical data privacy
- Medical research
- Analyses of information system data
- Decision making support and process management
- MI/MT patient safetiness (Regulatory Affairs)
- Telemedicine / Customer Health informatics
- Medical technology introduction, biomedical technology
- Biosignal processing, sensor technology
- Robotics, prosthetics

Reader's advisory:
- Jan van Bemmel, M.A. Musen, Mark A. Musen (Hrsg.): Handbook of Medical Informatics. Springer, Heidelberg 1997
- Christian Johner und Peter Haas (Hrsg.): Praxishandbuch IT im Gesundheitswesen
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| Total time of attendance for the module | 56 h |
inf530 - Artificial Intelligence

Module label: Artificial Intelligence

Module code: inf530

Credit points: 6.0 KP

Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Master of Education (Gymnasium) Informatik > Mastermodule

Contact person:
- Module responsibility
  - Jürgen Sauer
- Authorized examiners
  - Jürgen Sauer
  - Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module:

The students are familiar with the basic concepts of artificial intelligence (AI). They know the concept of rational agents and their behavior. They know how to implement expert systems. They also know basic search and problem solving techniques as well as techniques of knowledge representation. The students can compare different problem solving techniques and use them within other problem contexts.

Professional competence

The students:

- describe the concept of rational agents and their behavior in an agent environment
- name and describe the basic search and problem solving techniques of Artificial Intelligence
- describe and implement expert systems
- describe basic techniques of knowledge representation

Methodological competence

The students:

- acknowledge the basic methods of AI
- transfer AI methods to other application areas
- evaluate AI methods regarding their appropriateness for distinct problem areas
- modify and adapt AI methods for specific application areas

Social competence

The students:

- work in teams
- present results to groups

Self-competence

The students:

- reflect their results with regard to the methods of AI

Module contents

- Overview of AI
- Rational agents and agent based systems
- Search and other problem solving techniques
- Knowledge representation
- Planning

Reader's advisory


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| **Total time of attendance for the module** | 56 h |
# inf603 - Planning and Simulation in Logistics

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<td>180 h</td>
</tr>
<tr>
<td>Used in course of study</td>
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</tr>
<tr>
<td></td>
<td>Fach-Bachelor Informatik &gt; Akzentsetzungsmodule</td>
</tr>
<tr>
<td></td>
<td>Fach-Bachelor Wirtschaftsinformatik &gt; Akzentsetzungsmodule</td>
</tr>
<tr>
<td></td>
<td>Master of Education (Gymnasium) Informatik &gt; Mastermodule</td>
</tr>
<tr>
<td>Contact person</td>
<td></td>
</tr>
<tr>
<td>Module responsibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jürgen Sauer</td>
</tr>
<tr>
<td>Authorized examiners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jürgen Sauer</td>
</tr>
<tr>
<td></td>
<td>Die im Modul Lehrenden</td>
</tr>
<tr>
<td>Entry requirements</td>
<td></td>
</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td>Introduction to the problems/challenges of simulation and planning of applications in production and logistics. The students will learn the simulation with a tool in hands-on exercises.</td>
</tr>
<tr>
<td></td>
<td><strong>Learning objectives:</strong> The Students have knowledge of basic problems/challenges of simulating and planning in the field of production and logistic. They know approaches and algorithms to solve simulation and planning problems/challenges. They are able to model solutions for simple production problems/challenges with a simulation tool and are able to solve given tasks with it.</td>
</tr>
<tr>
<td></td>
<td><strong>They are able:</strong></td>
</tr>
<tr>
<td></td>
<td>- to identify, classify and associate solutions to problems/challenges</td>
</tr>
<tr>
<td></td>
<td>- to model and implement a production plan with the simulation tool</td>
</tr>
<tr>
<td>Professional competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>- Characterise basic problems/challenges of the production planning and logistic simulation</td>
</tr>
<tr>
<td></td>
<td>- Name approaches/concepts and algorithms to solve simulation and planning problems/challenges</td>
</tr>
<tr>
<td></td>
<td>- Identify, classify and assign solutions to planning problems/challenges</td>
</tr>
<tr>
<td></td>
<td>- Model and implement a given production process with a simulation tool</td>
</tr>
<tr>
<td>Methodological competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>- Model small production problems with a simulation tool and solve given tasks with the tool</td>
</tr>
<tr>
<td>Social competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>- Develop solutions to given simulation problems in small groups</td>
</tr>
<tr>
<td></td>
<td>- Present the solutions to other groups</td>
</tr>
<tr>
<td>Self-competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>- Reflect their own solutions in conjunction with other solutions</td>
</tr>
<tr>
<td>Module contents</td>
<td>This module provides the basic production and logistic planning and simulation approaches/concepts. Supply chain planning problems are introduced and simple algorithmic solutions are introduced and implemented. The hands-on simulation with a tool is provided by a case study from the production.</td>
</tr>
<tr>
<td>Reader's advisory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- selected material on the simulation tool</td>
</tr>
<tr>
<td></td>
<td>- others will be announced in the lecture</td>
</tr>
<tr>
<td>Links</td>
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</tr>
<tr>
<td>-------------------------------------------</td>
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<td>Language of instruction</td>
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<td>Duration (semesters)</td>
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<td>Module capacity</td>
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<tr>
<td>Modullevel</td>
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</tr>
<tr>
<td>Modulart</td>
<td>je nach Studiengang Pflicht oder Wahlpflicht</td>
</tr>
<tr>
<td>Lern-Lehrform / Type of program</td>
<td>V &amp; Ü</td>
</tr>
<tr>
<td>Vorkenntnisse / Previous knowledge</td>
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</tr>
<tr>
<td>Examination</td>
<td>Time of examination</td>
</tr>
<tr>
<td>Final exam of module</td>
<td>At the end of the lecture period</td>
</tr>
<tr>
<td>Course type</td>
<td>Comment</td>
</tr>
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<td>Lecture</td>
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<tr>
<td>Exercises</td>
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<tr>
<td>Total time of attendance for the module</td>
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</table>
inf609 - Business Process Management

Module label               Business Process Management
Module code               inf609
Credit points             6.0 KP
Workload                  180 h

Used in course of study
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Aufbaumodule

Contact person
Module responsibility
- Axel Hahn
Authorized examiners
- Axel Hahn
- Die im Modul Lehrenden

Entry requirements
Skills to be acquired in this module
Teaching of the basics of process management. They understand the importance of models for the analysis and design of business processes.

Professional competence
After attending the module, students will be able to model and classify business processes and to optimize them for given goals.

Methodological competence
The students can map and evaluate processes in structure models, process chains, and costing models.

Social competence
The students recognize the importance of employee empowerment for simple, flexible management of processes and design processes on case studies interactively with the intended process participants.

Self competence
The students are able to independently acquire knowledge and skills within the framework of an eLearning module.

Module contents
- The basics of process management
- Strategic Process Management / Strategic Process Planning
- Process design (procedure, actual and target modeling)
- Process implementation (process types, process integration using the example SAP ERP)
- Quality and Change Management (ISO 9000, Total Quality Management)
- Process Controlling
- Process management in service companies

Reader's advisory
- Gadatsch, A. (2010), Grundkurs Geschäftsprozess-Management, &., Aufl., Wiesbaden

Links
Language of instruction     German
Duration (semesters)        1 Semester
Module frequency            Winterterm and Summerterm
Module capacity             unlimited
Modullevel                  AS (Akzentsetzung / Accentuation)
Modularart                  je nach Studiengang Pflicht oder Wahlpflicht
Lern-/Lehrform/Type of program E-Learning

Vorkenntnisse / Previous knowledge
Examination Time of examination Type of examination
Final exam of module At the end of the lecture period Written exam
<table>
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<th>Frequency</th>
<th>Workload attendance</th>
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<td>2.00</td>
<td>SuSe and WiSe</td>
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<tr>
<td>Exercises</td>
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<td>2.00</td>
<td>SuSe and WiSe</td>
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<td><strong>Total time of attendance for the module</strong></td>
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### inf610 - Enterprise Architecture Management

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<tr>
<td>Module code</td>
<td>inf610</td>
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<tr>
<td>Credit points</td>
<td>6.0 KP</td>
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<tr>
<td>Workload</td>
<td>180 h</td>
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</tbody>
</table>
| Used in course of study | - Fach-Bachelor Informatik > Akzentsetzungsmodule  
|                   | - Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule  |
| Contact person    | Module responsibility  
|                   |  » Axel Hahn  
|                   | Authorized examiners  
|                   |  » Die im Modul Lehrenden |
| Entry requirements| This module adresses basic elements of enterprise architectures and their management as well as concepts and methodologies used to describe and develop enterprise architectures. |
| Skills to be acquired in this module | Professional competences  
|                   | The students  
|                   |  » Have knowledge of components of enterprise architectures and used enterprise architecture frameworks  
|                   |  » Choose Enterprise Architecture Frameworks based on requirements and needs  |
|                   | Methodological competences  
|                   | The students:  
|                   |  » Identify business goals and describe the resulting business processes  
|                   |  » Design fitting IT-architectures  
|                   |  » Analyze and harmonize different architectures into an enterprise architecture  |
|                   | Social competences  
|                   | The students:  
|                   |  » Extend their ability to work as a team  
|                   |  » Create, present and discuss exercises using EAM methods  
|                   |  » Identify and solve problems and challenges in the harmonization of enterprise architectures using EAM methods  |
|                   | Self-competences  
|                   | The students:  
|                   |  » Reflect their actions in identifying possible solutions using EAM methods  
|                   |  » Learn methodical and scientific procedures in the processing of accompanying exercises  
<p>|                   |  » Develop the ability to look at different aspects of systems in a superordinate and common (company) context, including the methods of EAM. |
| Module contents   | Enterprise Architecture Management (EAM) is an interdisciplinary approach for the integration of information systems in enterprises and enterprise-like structures to support their business objectives and business processes. EAM addresses the harmonization of these aspects on the basis of the respective IT-architecture and business architectures to a holistic enterprise architecture. The description and development of such architectures is structured by Enterprise Architecture Frameworks like TOGAF and ZACHMAN. In general, the following architectural perspectives are taken into account: business architecture, information and data architecture, application architecture and technology architecture. |
|                   | - Strategisches Management der IT-Landschaft Ein praktischer Leitfaden für das Enterprise Architecture Management – Inge Hanschke - 978-3-446-43509-4 |
| Links             | |
| Language of instruction | German |</p>
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<td>Module capacity</td>
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<tr>
<td>Modullevel</td>
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<tr>
<td>Modulart</td>
<td>je nach Studiengang Pflicht oder Wahlpflicht</td>
</tr>
<tr>
<td>Lern-/Lehrform / Type of program</td>
<td>Language: German, the Lecture will be in English</td>
</tr>
<tr>
<td>Vorkenntnisse / Previous knowledge</td>
<td>Business informatics I</td>
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<table>
<thead>
<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
</tr>
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<tbody>
<tr>
<td>Final exam of module</td>
<td>Oral examination or written examination at the end of the semester</td>
<td>With an appropriate number of participants (&lt;12 students), an oral examination will be held. In case of a high number of participants (&gt;12 students), an exam will be held instead. It counts the number of participants in the Stud.IP at the beginning of the first course. Exercises are issued during the semester, the successful completion of them is credited to the examination with a maximum total of 10% bonus.</td>
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</table>

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
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<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2.00</td>
<td>SuSe or WiSe</td>
<td>28 h</td>
</tr>
<tr>
<td>Exercises</td>
<td></td>
<td>2.00</td>
<td>SuSe or WiSe</td>
<td>28 h</td>
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| Total time of attendance for the module | 56 h |
### inf853 - Application Fields of Computer Science I

<table>
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<tr>
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<td>Credit points</td>
<td>6.0 KP</td>
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<td>Workload</td>
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**Used in course of study**
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule

**Contact person**
- Module responsibility
  - Die im Modul Lehrenden
  - Authorized examiners
  - Die im Modul Lehrenden

**Entry requirements**

**Skills to be acquired in this module**
- The students are introduced into a different subject area and its methods.

**Professional competence**
- The students:
  - Know a computer science application area
  - Transfer computer science methods and development models to/with IT application area requirements

**Methodological competence**
- The students:
  - Know and name ways of thinking and methods of other subject areas

**Social competence**
- The students:
  - Communicate considerately and appropriately with users and experts

**Self-competence**
- The students:
  - Plan their informatical actions independently
  - Reflect their contributions critically and discuss them with users and experts

**Module contents**
- According to the assigned task

**Reader’s advisory**
- According to the assigned task

**Links**
- Languages of instruction: German, English
- Duration (semesters): 1 Semester
- Module frequency: unregelmäßig
- Module capacity: unlimited
- Modullevel: ---
- Modulart: je nach Studiengang Pflicht oder Wahlpflicht
- Lern-/Lehrform / Type of program: 2 courses out of VL, Ü, S, P, PR

**Vorkenntnisse / Previous knowledge**

<table>
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<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
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<td>Final exam of module</td>
<td>Exercises or presentation or oral exam or written exam</td>
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</table>

**Course type**
- Course selection

**SWS**
- 4.00

**Frequency**
- SuSe or WiSe
| Workload attendance | 56 h |
### inf854 - Application Fields of Computer Science II

**Module label**  
Application Fields of Computer Science II

**Module code**  
inf854

**Credit points**  
6.0 KP

**Workload**  
180 h

**Used in course of study**  
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule

**Contact person**  

**Module responsibility**
- Die im Modul Lehrenden

**Authorized examiners**
- Die im Modul Lehrenden

**Entry requirements**

**Skills to be acquired in this module**
The students are introduced into a different subject area and its methods.

**Professional competence**
The students:

- Know a computer science application area
- Transfer computer science methods and development models to/with IT application area requirements

**Methodological competence**
The students:

- Know and name ways of thinking and methods of other subject areas

**Social competence**
The students:

- Communicate considerately and appropriately with users and experts

**Self-competence**
The students:

- Plan their informatical actions independently
- Reflect their contributions critically and discuss them with users and experts

**Module contents**  
According to the assigned task

**Reader's advisory**  
According to the assigned task

**Links**

**Languages of instruction**  
German, English

**Duration (semesters)**  
1 Semester

**Module frequency**  
halbjährlich

**Module capacity**  
unlimited

**Modullevel**  
---

**Modulart**  
je nach Studiengang Pflicht oder Wahlpflicht

**Lern-/Lehrform / Type of program**  
2 courses out of VL, Ü, S, P, PR

**Vorkenntnisse / Previous knowledge**

**Examination**  

**Time of examination**  

**Type of examination**  
Exercises or presentation or oral exam or written exam

**Final exam of module**  
Course selection

**Course type**
Course selection

**SWS**  
4.00

**Frequency**  
SuSe or WiSe
| Workload attendance | 56 h |
**inf855 - Application Fields of Computer Science III**

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<td>Contact person</td>
<td>Module responsibility</td>
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<td>● Die im Modul Lehrenden</td>
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<tr>
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<td>Authorized examiners</td>
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<td></td>
<td>● Die im Modul Lehrenden</td>
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</tr>
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<td>Skills to be acquired in this module</td>
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<tr>
<td></td>
<td>The students:</td>
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<tr>
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<td>● Know a computer science application area</td>
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<tr>
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<td>● Transfer computer science methods and development models to/with IT application area requirements</td>
</tr>
<tr>
<td>Methodological competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>● Know and name ways of thinking and methods of other subject areas</td>
</tr>
<tr>
<td>Social competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>● Communicate considerately and appropriately with users and experts</td>
</tr>
<tr>
<td>Self-competence</td>
<td>The students:</td>
</tr>
<tr>
<td></td>
<td>● Plan their informatical actions independently</td>
</tr>
<tr>
<td></td>
<td>● Reflect their contributions critically and discuss them with users and experts</td>
</tr>
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<td>Module contents</td>
<td>According to the assigned task</td>
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<td>Reader's advisory</td>
<td>According to the assigned task</td>
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<td>Links</td>
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<tr>
<td>Vorkenntnisse / Previous knowledge</td>
<td>Examination Time of examination Type of examination</td>
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<td></td>
<td>Final exam of module Exercises or presentation or oral exam or written exam</td>
</tr>
<tr>
<td></td>
<td>Course type Course selection</td>
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<tr>
<td></td>
<td>SWS 4.00</td>
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<tr>
<td></td>
<td>Frequency SuSe and WiSe</td>
</tr>
<tr>
<td>Workload attendance</td>
<td>56 h</td>
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inf856 - Application Fields of Computer Science IV

Module label
Application Fields of Computer Science IV

Module code
inf856

Credit points
6.0 KP

Workload
180 h

Used in course of study
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule

Contact person
Module responsibility
- Die im Modul Lehrenden

Authorized examiners
- Die im Modul Lehrenden

Entry requirements
Skills to be acquired in this module
The students are introduced into a different subject area and its methods.

Professional competence
The students:
- Know a computer science application area
- Transfer computer science methods and development models to/with IT application area requirements

Methodological competence
The students:
- Know and name ways of thinking and methods of other subject areas

Social competence
The students:
- Communicate considerately and appropriately with users and experts

Self-competence
The students:
- Plan their informatical actions independently
- Reflect their contributions critically and discuss them with users and experts

Module contents
According to the assigned task

Reader's advisory
According to the assigned task

Links

Languages of instruction
German, English

Duration (semesters)
1 Semester

Module frequency
halbjährlich

Module capacity
unlimited

Modullevel
AS (Akzentsetzung / Accentuation)

Modulart
Pflicht o. Wahlpflicht / compulsory or optional

Lern-/Lehrform / Type of program
2 courses out of VL, Ü, S, P, PR

Vorkenntnisse / Previous knowledge

Examination
Type of examination
Final exam of module
Exercises or presentation or oral exam or written exam

Course type
Course selection

SWS
4.00

Frequency
SuSe and WiSe
| Workload attendance | 56 h |
inf857 - Application Fields of Computer Science V

Module label: Application Fields of Computer Science V
Module code: inf857
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Fach-Bachelor Informatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule

Contact person:
Module responsibility:
- Die im Modul Lehrenden

Authorized examiners:
- Die im Modul Lehrenden

Entry requirements:

Skills to be acquired in this module:
The students are introduced into a different subject area and its methods.

Professional competence:
The students:
- Know a computer science application area
- Transfer computer science methods and development models to/with IT application area requirements

Methodological competence:
The students:
- Know and name ways of thinking and methods of other subject areas

Social competence:
The students:
- Communicate considerately and appropriately with users and experts

Self-competence:
The students:
- Plan their informatical actions independently
- Reflect their contributions critically and discuss them with users and experts

Module contents:
According to the assigned task

Reader's advisory:
According to the assigned task

Links:
Languages of instruction: German, English
Duration (semesters): 1 Semester
Module frequency: halbjährlich
Module capacity: unlimited
Modullevel: ---
Modulart: je nach Studiengang Pflicht oder Wahlpflicht
Lern-/Lehrform / Type of program: 2 courses out of VL, Ü, S, P, PR
Vorkenntnisse / Previous knowledge:

Examination:
- Final exam of module
- Exercises or presentation or oral exam or written exam

Course type:
Course selection

SWS: 4.00
Frequency: WiSe
| Workload attendance | 56 h |
### wir032 - Managerial Accounting

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<td>• Fach-Bachelor Mathematik &gt; Nebenfachmodule</td>
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<td>• Fach-Bachelor Wirtschaftsinformatik &gt; Akzentsetzungsmodule</td>
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<td>• Fach-Bachelor Wirtschaftswissenschaften &gt; Basismodule</td>
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<tr>
<td>• Zwei-Fächer-Bachelor Wirtschaftswissenschaften &gt; Basismodule</td>
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</table>

**Contact person**

- Module responsibility
  - Kerstin Lopatta
  - Sebastian Tideman

- Authorized examiners
  - Die im Modul Lehrenden

- Module counseling
  - Sebastian Tideman

**Entry requirements**

**Skills to be acquired in this module**

This course is an introduction to the use of accounting information by managers for decision-making, planning and control. It is designed to equip students with the concepts and techniques of management accounting for identifying and resolving strategic issues faced by managers in various business contexts.

**Module contents**

See leading textbook

**Reader's advisory**

Seal et al., Management Accounting, McGraw-Hill Education Ltd, 5. Edition

**Links**

- Language of instruction: English
- Duration (semesters): 1 Semester
- Module frequency: jährlich
- Module capacity: unlimited
- Modullevel: BC (Basiscurriculum)
- Moduleart: Pflicht

**Lern-/Lehrform / Type of program**

**Vorkenntnisse / Previous knowledge**

**Examination**

<table>
<thead>
<tr>
<th>Time of examination</th>
<th>Type of examination</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>end of term</td>
<td>written exam</td>
<td>28 h</td>
</tr>
</tbody>
</table>

**Final exam of module**

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>2.00</td>
<td></td>
<td></td>
<td>28 h</td>
</tr>
<tr>
<td>Tutorial</td>
<td>2.00</td>
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<td></td>
<td>28 h</td>
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**Total time of attendance for the module**

56 h
## wir060 - Financial Accounting

<table>
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<tr>
<th>Module label</th>
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<tbody>
<tr>
<td>Module code</td>
<td>wir060</td>
</tr>
<tr>
<td>Credit points</td>
<td>6.0 KP</td>
</tr>
<tr>
<td>Workload</td>
<td>180 h</td>
</tr>
<tr>
<td>Used in course of study</td>
<td></td>
</tr>
<tr>
<td>- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt &gt; Aufbaumodule</td>
<td></td>
</tr>
<tr>
<td>- Fach-Bachelor Mathematik &gt; Nebenfachmodule</td>
<td></td>
</tr>
<tr>
<td>- Fach-Bachelor Wirtschaftsinformatik &gt; Akzentsetzungsmodule</td>
<td></td>
</tr>
<tr>
<td>- Fach-Bachelor Wirtschaftswissenschaften &gt; Aufbaumodule</td>
<td></td>
</tr>
<tr>
<td>- Zwei-Fächer-Bachelor Wirtschaftswissenschaften &gt; Aufbaumodule</td>
<td></td>
</tr>
<tr>
<td>Contact person</td>
<td>Kerstin Lopatta</td>
</tr>
<tr>
<td>Authorized examiners</td>
<td>Die im Modul Lehrenden</td>
</tr>
<tr>
<td>Entry requirements</td>
<td>none</td>
</tr>
<tr>
<td>Skills to be acquired in this module</td>
<td>The students</td>
</tr>
<tr>
<td>- obtain knowledge on IFRS accounting in general and specific topics such as financial instruments, intangible assets and provisions;</td>
<td></td>
</tr>
<tr>
<td>- understand the framework of IFRS;</td>
<td></td>
</tr>
<tr>
<td>- understand the international focus and necessity of IFRS;</td>
<td></td>
</tr>
<tr>
<td>- obtain knowledge on IFRS from both a legal and economic perspective.</td>
<td></td>
</tr>
</tbody>
</table>

### Module contents
This module is based on accounting and annual financial statement, while focusing exclusively on the international financial reporting standards (IFRS). In terms of content, the course covers subjects such as the most important concepts, tangible and intangible assets as well as liability items on the basis of the fundamental standards and case studies.

### Reader's advisory
International Financial Reporting Standards (IFRS)
Lecture notes with additional references will be provided via the e-learning platform Stud.IP.

### Links
http://www.uni-oldenburg.de/accounting/

### Language of instruction
English

### Duration (semesters)
1 Semester

### Module frequency
jährlich

### Module capacity
unlimited

### Reference text
Lectures are held in English; tutorials are held in English or German.

### Modullevel
BM (Basismodul)

### Modulart
Pflicht

### Lern-/Lehrform / Type of program

## Vorkenntnisse / Previous knowledge

<table>
<thead>
<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td>At the end of the semester; a midterm exam might be held during the semester.</td>
<td>written exam</td>
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</table>

### Course type

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2.00</td>
<td></td>
<td>28 h</td>
</tr>
<tr>
<td>Tutorial</td>
<td></td>
<td>2.00</td>
<td></td>
<td>28 h</td>
</tr>
<tr>
<td>Seminar</td>
<td></td>
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### Total time of attendance for the module
56 h
**wir070 - Principles of Marketing**

<table>
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<tr>
<th>Module label</th>
<th>Principles of Marketing</th>
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<tbody>
<tr>
<td>Module code</td>
<td>wir070</td>
</tr>
<tr>
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<td>6.0 KP</td>
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<tr>
<td>Workload</td>
<td>180 h</td>
</tr>
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</table>

**Used in course of study**
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftswissenschaften > Aufbaumodule
- Master of Education (Wirtschaftspädagogik) Wirtschaftswissenschaften > Mastermodule
- Zwei-Fächer-Bachelor Wirtschaftswissenschaften > Aufbaumodule

**Contact person**
- Module responsibility
  - Thorsten Raabe
- Authorized examiners
  - Die im Modul Lehrenden

**Entry requirements**

**Skills to be acquired in this module**
Upon completion of the module, students will be able to:
- recognize and provide solutions to challenges in market-oriented business management
- reflect on market-oriented business management with regard to practise, as well as related societal and ethical implications
- actively participate in scholarly marketing discourse
- build their own capacities to acquire knowledge and skills within the discipline

**Module contents**
The module focuses on the fundaments of marketing in the sense of market-orientated management by linking philosophy and theoretical connections, as well as the necessary analytical and methodical knowledge with concrete case studies.

**Reader's advisory**

**Links**
- Language of instruction: German
- Duration (semesters): 1 Semester
- Module frequency: jährlich
- Module capacity: unlimited
- Modulelevel: AC (Aufbaucurriculum)
- Modulart: Wahlpflicht

**Lern-/Lehrform / Type of program**

**Vorkenntnisse / Previous knowledge**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td>end of term</td>
<td>written exam; voluntary contributions that improve grades may undertaken as 'portfolio-presentations' during tutorials</td>
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<table>
<thead>
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<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
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<td>Lecture</td>
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<td>2.00</td>
<td></td>
<td>28 h</td>
</tr>
<tr>
<td>Seminar und Tutorium</td>
<td></td>
<td>2.00</td>
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<td>28 h</td>
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**Total time of attendance for the module** 56 h
## wir082 - Corporate Finance

<table>
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<tr>
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<tr>
<td>Credit points</td>
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<td>Workload</td>
<td>180 h</td>
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<tr>
<td>Used in course of study</td>
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</tr>
<tr>
<td></td>
<td>Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt &gt; Akzentsetzungsmodule</td>
</tr>
<tr>
<td></td>
<td>Fach-Bachelor Mathematik &gt; Nebenfachmodule</td>
</tr>
<tr>
<td></td>
<td>Fach-Bachelor Wirtschaftsinformatik &gt; Akzentsetzungsmodule</td>
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<td></td>
<td>Fach-Bachelor Wirtschaftswissenschaften &gt; Akzentsetzungsmodule</td>
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<tr>
<td></td>
<td>Master of Education (Wirtschaftspädagogik) Wirtschaftswissenschaften &gt; Mastermodule</td>
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<td></td>
<td>Zwei-Fächer-Bachelor Wirtschaftswissenschaften &gt; Aufbaumodule</td>
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<td></td>
<td>Zwei-Fächer-Bachelor Wirtschaftswissenschaften &gt; Schwerpunkt Management und Ökonomie</td>
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</table>

### Contact person
- Module responsibility
  - Jörg Prokop

### Authorized examiners
- Die im Modul Lehrenden

### Entry requirements
- Students
  - understand the role corporate finance plays in today’s business environment,
  - are able to make consistent investment decisions based on established financial models both under certainty and under uncertainty,
  - are able to place these models in within the broader context of economic theory, including both neoclassical theory and principal-agent theory,
  - are able to assess the limitations of these models,
  - analyze firm’s main sources of (long-term) financing.

### Skills to be acquired in this module
- Students

### Module contents
#### Course outline:
1. Introduction
2. Valuation and Capital Budgeting
3. Risk and Return
4. Long-Term Financing

This course is an introduction to corporate finance. It covers typical tools and techniques used in making investment and financing decisions, and it provides insights into their theoretical foundations. The concept of time value of money and net present value is discussed in detail, first under certainty, and then in the presence of uncertainty. We will examine the relationship between an investment’s risk and its return, and discuss ways to derive risk-adjusted cost of equity capital. In addition, the course provides insights into firms’ main sources of (long-term) financing.

The topics covered in this course are relevant for financial decision-making in various areas of business management, including operations management, marketing, and in particular corporate strategy.

### Reader's advisory
- Main textbook:
- Supplementary readings:
  - Berk & DeMarzo, Corporate Finance, current edition, Boston (Mass.).
  - Brealey, Myers & Allen, Principles of Corporate Finance, current edition, Boston (Mass.).

### Links
- [http://www.uni-oldenburg.de/fiwi_bbl/](http://www.uni-oldenburg.de/fiwi_bbl/)

### Language of instruction
- English

### Duration (semesters)
- 1 Semester

### Module frequency
- jährlich

### Module capacity
- unlimited

### Modullevel
- ---

### Modulart
- je nach Studiengang Pflicht oder Wahlpflicht

### Lern-/Lehrform / Type of program

### Vorkenntnisse / Previous knowledge

### Examination
<table>
<thead>
<tr>
<th>Time of examination</th>
<th>Type of examination</th>
</tr>
</thead>
<tbody>
<tr>
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### Final exam of module
<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2.00</td>
<td></td>
<td>28 h</td>
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## Course Type

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial</td>
<td></td>
<td>2.00</td>
<td></td>
<td>28 h</td>
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</table>

**Total time of attendance for the module** 56 h
wir200 - Principles of Organisation

Module label  Principles of Organisation
Module code  wir200
Credit points  6.0 KP
Workload  180 h

Used in course of study
- Fach-Bachelor Wirtschaftsinformatik > Akzentsetzungsmodule
- Fach-Bachelor Wirtschaftswissenschaften > Studienrichtung Betriebswirtschaftlehre
- Master of Education (Wirtschaftspädagogik) Wirtschaftswissenschaften > Mastermodule

Contact person
Module responsibility
- Thomas Breisig
- Jörg Prokop

Authorized examiners
- Die im Modul Lehrenden

Module counseling
- Teodora Todorova
- Thomas Breisig

Entry requirements

Skills to be acquired in this module
Upon completion of the module, students will be able to:

- explain and apply the approaches and instruments of organisational sciences;
- demonstrate a familiarity with the basic assumptions, strategies, and core themes of organisational theories and are able to compare and reflect upon them;
- know different forms of organisational design and are able to differentiate them;
- know how to identify and predict issues and developments within operational and organisational structures and processes;
- demonstrate an awareness of the relevance of organisational culture, can describe its characteristics and discuss different analytical techniques;
- describe and analyse processes of organizational change, can point out their influences on strategy, organisational culture, operational and organisational structure, and estimate the relevance of change process initiation;
- work cooperatively and self-dependant within teams and to present complex professional contents precisely and with profound arguments (if chosen to present a topic within the seminar).

Furthermore, the students are able:
- to locate a specific research question within the scientific discussion in this research area and to interlink, reflect and evaluate it accordingly
- to press their point within the scientific discussion in this research area.

Module contents
The module contents are arranged in the following way:

- Basic concepts and conceptual demarcation
- Objectives of an organisation
- Dimensions in formal organisation
- Organisational culture
- Organisational structure
- Operational structure and processes

These basic principles of organisation are presented and discussed within the lectures. Current economic and business developments are included. Seminars and tutorials are offered to deepen the lecture presentations and to relate them to examples and cases.

Reader's advisory

Further literature will be announced during the semester according to the particular lecture/seminar content.

Links
www.uol.de/orgpers

Language of instruction  German

Duration (semesters)  1 Semester

Module frequency  jährlich

Module capacity  unlimited

Modullevel  ---

Modulart  je nach Studiengang Pflicht oder Wahlpflicht
<table>
<thead>
<tr>
<th>Lern-/Lehrform / Type of program</th>
<th>Vorkenntnisse / Previous knowledge</th>
<th>Basic modules in business administration</th>
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<tbody>
<tr>
<td>Examination</td>
<td>Time of examination</td>
<td>Type of examination</td>
</tr>
<tr>
<td><strong>Final exam of module</strong></td>
<td>Written exam: end of the lecture period</td>
<td>written exam or presentation or portfolio</td>
</tr>
<tr>
<td></td>
<td>Presentation: During the lecture period</td>
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</tr>
<tr>
<td></td>
<td>Portfolio: During the lecture period</td>
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<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2.00</td>
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<td>28 h</td>
</tr>
<tr>
<td>Seminar</td>
<td></td>
<td>2.00</td>
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<td>28 h</td>
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</table>

**Total time of attendance for the module** 56 h
wir400 - Strategic and International Marketing

Module label: Strategic and International Marketing

Module code: wir400

Credit points: 6.0 KP

Workload: 180 h

Used in course of study:
- Fach-Bachelor Betriebswirtschaftslehre mit juristischem Schwerpunkt > Akzentsetzungsmodul
- Fach-Bachelor Wirtschaftswissenschaften > Studienrichtung Betriebswirtschaftslehre
- Master of Education (Wirtschaftspädagogik) Wirtschaftswissenschaften > Mastermodule
- Master Wirtschaftsinformatik > Module der Wirtschaftswissenschaften (Fachbachelor)

Contact person:
- Module responsibility: Thorsten Raabe
- Authorized examiners: Die im Modul Lehrenden
- Module counseling: Sören Sundermann

Entry requirements:

Skills to be acquired in this module:
- recognize challenges facing marketing strategy in the field of markets and societies and draw conclusions for business management
- elaborate and reflect upon the theoretical and conceptual foundations of strategic marketing planning
- come up with examples that exemplify the systemic connection between strategic and instrumental marketing planning
- discuss core assumptions of internationalization in the context of strategy planning and critically reflect upon its implications
- build market research skills in an international context using different methods
- develop their own perspectives on the conceptualization and implementation of international marketing strategies and advance them in discourses

Module contents:
The core of the module is the application of strategic planning methods in Marketing. A broadened understanding of Marketing in the areas of competitors, market agents and stakeholder orientation will be substantiated in theoretical and practical-normative view. International marketing forms an integrated part of strategic marketing planning; its basics and internal conception are formulated precisely in this course.

Reader's advisory:
Latest editions of:
- Meffert, H., Marketing-Management, Analyse - Strategie - Implementierung, Wiesbaden
- Kreikebaum H., Strategische Unternehmensplanung, Stuttgart/ Berlin/ Köln
- Benkenstein, M., Strategisches Marketing, Stuttgart/ Berlin/ Köln

Links:
- Language of instruction: German
- Duration (semesters): 1 Semester
- Module frequency: jährlich
- Module capacity: unlimited
- Module level: AS (Akzentsetzung)
- Module type: Wahlpflicht

Lern-/Lehrform / Type of program:

Vorkenntnisse / Previous knowledge:
- Examination: Time of examination: end of term
- Type of examination: written exam; voluntary contributions that improve grades may undertaken as 'portfolio-presentations' during tutorials

Course type:
- Lecture: 2.00 SWS, Frequency: 28 h
- Tutorial: 2.00 SWS, Frequency: 28 h
- Seminar: 0 h
<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
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<td></td>
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<td>56 h</td>
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</table>
# Abschlussmodul

**bam - Bachelor Thesis and Colloquium**

<table>
<thead>
<tr>
<th>Module label</th>
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<tbody>
<tr>
<td>Module code</td>
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<tr>
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<td>Workload</td>
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**Used in course of study**
- Fach-Bachelor Wirtschaftsinformatik > Abschlussmodul

**Contact person**
- Module responsibility
  - Oliver Theel
  - Axel Hahn
  - Lehrende der Informatik

**Entry requirements**

**Skills to be acquired in this module**

**Module contents**

**Reader's advisory**

**Links**

**Language of instruction**
- German

**Duration (semesters)**
- 1 Semester

**Module frequency**

**Module capacity**
- unlimited

**Modulart**
- je nach Studiengang Pflicht oder Wahlpflicht

**Lern-Lehrform / Type of program**

**Vorkenntnisse / Previous knowledge**

**Examination**
- Final exam of module
  - Time of examination
  - Type of examination
    - G

**Course type**
- Seminar

**SWS**
- 2.00

**Frequency**

**Workload attendance**
- 28 h