

Subdivided Module Catalogue for the Subject

Digital Humanities

as a major in a Bachelor's degree programme
with the degree "Bachelor of Arts"

(120 ECTS credits)

Examination regulations version: 2024

Responsible: Faculty of Arts, Historical, Philological, Cultural and Geographical Studies

Responsible: Chair of Digital Humanities and German Literature of the Modern

Period



Learning Outcomes

German contents and learning outcome available but not translated yet.

Fachliche Ziele

- Die Absolventinnen und Absolventen haben ein solides Überblickswissen über die Grundprinzipien der Digital Humanities, sie können inhaltliche Strukturen von Texten beschreiben und mittels standardisierter Auszeichnungssprachen kodieren, sie kennen zentrale Begriffe und Konzepte der Datenmodellierung und haben die Fähigkeit, diese selbständig zu verwenden.
- Die Absolventinnen und Absolventen verfügen über ein solides Grundwissen in der algorithmischen Prozessierung und der Anwendung von mindestens zwei Programmiersprachen.
- Die Absolventinnen und Absolventen haben geistes- und kulturwissenschaftliche Grundkenntnisse, die weit über das zweite BA-Fach hinausgehen, sowie die Fähigkeit, digitale Ressourcen zu erstellen, zu bearbeiten und zur Beantwortung fachspezifischer Fragen heranzuziehen.
- Die Absolventinnen und Absolventen verfügen über eine vertiefte Kenntnis ausgewählter Forschungsmethoden der Digital Humanities und die Fähigkeit, fachspezifische Fragestellungen so zu operationalisieren, dass sie mit digitalen Bibliotheken und Informationssystemen beantwortet werden können.

Befähigung, eine qualifizierte Erwerbstätigkeit aufzunehmen

- Die Absolventinnen und Absolventen besitzen die F\u00e4higkeit, Fragestellungen der Digital Humanities zu analysieren, Verfahren zu deren L\u00f6sung zu entwickeln und in entsprechenden Arbeitsschritten umzusetzen.
- Die Absolventinnen und Absolventen k\u00f6nnen statistische Verfahren zur L\u00f6sung geistes- oder kulturwissenschaftlicher Fragestellungen heranzuziehen.
- Die Absolventinnen und Absolventen kennen die apparativen, personellen und organisatorischen Notwendigkeiten eines Digitalisierungsprojektes.
- Die Absolventinnen und Absolventen besitzen die F\u00e4higkeit, Problemzusammenh\u00e4nge in m\u00fcndlicher wie schriftlicher Form sachgerecht aufzubereiten und unter Medieneinsatz zielgruppenspezifisch zu vermitteln.

Befähigung zum gesellschaftlichen Engagement

- Die Absolventinnen und Absolventen können gesellschaftliche und kulturelle Entwicklungen, Themen und Positionen in ihrer sprachlichen Verfasstheit und darüber hinaus reflektieren und analysieren. Sie sind in der Lage, sich in einer zunehmend komplexer werdenden Welt zu orientieren und eine Wertvorstellung für das eigene Denken und Handeln zu entwickeln.
- Die Absolventinnen und Absolventen sind in der Lage, geistes- und kulturwissenschaftliche Fragestellungen in die andere Diskurswelt der Informatik zu transferieren. Diese Vermittlerrolle trägt dazu bei, die eigene soziale, kulturgeschichtliche wie geschlechtliche Herkunft kritisch zu reflektieren.

Persönlichkeitsentwicklung

• Die Absolventinnen und Absolventen sind zur selbstständigen und kritischen Reflexion in der Lage und haben gelernt, ihre eigene Position im Dialog mit anderen zu finden, schriftlich und mündlich zu präsentieren und selbstkritisch zu hinterfragen.



Abbreviations used

Course types: $\mathbf{E} = \text{field trip}$, $\mathbf{K} = \text{colloquium}$, $\mathbf{O} = \text{conversatorium}$, $\mathbf{P} = \text{placement/lab course}$, $\mathbf{R} = \text{project}$, $\mathbf{S} = \text{seminar}$, $\mathbf{T} = \text{tutorial}$, $\ddot{\mathbf{U}} = \text{exercise}$, $\mathbf{V} = \text{lecture}$

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

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

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

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

Conventions

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

Notes

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

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

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

In accordance with

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

ASP02015

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

17-Apr-2024 (2024-54)

21-May-2025 (2025-47)

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



The subject is divided into

| Abbreviation | Module title | ECTS credits | Method of grading | page | | | | |
|--|--|--------------|-------------------|----------|--|--|--|--|
| Compulsory Courses (70 ECTS credits) | | | | | | | | |
| 04-DH-A1-152-m01 | Digital Humanities in Overview | 5 | B/NB | 5 | | | | |
| 04-DH-A4-242-m01 | Programming and Algorithmic Thinking | 5 | B/NB | 7 | | | | |
| 04-DH-A5-242-m01 | Data Modelling and Text Encoding | 5 | B/NB | 8 | | | | |
| 04-DH-A6-242-m01 | Data Preparation and Annotation | 5 | NUM | 9 | | | | |
| 10-M-EHM-242-m01 | Introduction to Advanced Mathematics | 10 | B/NB | 28 | | | | |
| 10-I-IDS-242-m01 | Introduction to Data Science | 5 | NUM | 26 | | | | |
| 10-I-EBV-242-m01 | Introduction to Image Processing | 5 | NUM | 24 | | | | |
| 10-I-EAV-242-m01 | Introduction to Audio Processing | 5 | NUM | 23 | | | | |
| 10-l-TA-242-m01 | Text Analysis | 5 | NUM | 27 | | | | |
| 04-DH-B1-242-m01 | Statistics | 5 | B/NB | 10 | | | | |
| 04-DH-B2-242-m01 | Research Design | 5 | NUM | 11 | | | | |
| 04-DH-B3-242-m01 | 04-DH-B3-242-m01 Free Choice of Project in the Digital Field | | NUM | 12 | | | | |
| Compulsory Electives (20 | ECTS credits) | | | | | | | |
| 04-DH-C1-242-m01 | Digital Editions and Corpora | 5 | NUM | 14 | | | | |
| 04-DH-C4-152-m01 | Data Base | 5 | NUM | 15 | | | | |
| 04-DH-C5-152-m01 | Simulation | 5 | NUM | 16 | | | | |
| 04-DH-C7-242-m01 | Visualization | 5 | NUM | 17 | | | | |
| 04-DtLABA-BM-SW-241- | Level One Module German Linguistics | 5 | NUM | 21 | | | | |
| m01 | Consider Toming in Digital House wiking | <u> </u> | NILIAA | .0 | | | | |
| 04-DH-C8-251-m01 | Special Topics in Digital Humanities | 5 | NUM | 18 | | | | |
| <u> </u> | Key Skills Area (20 ECTS credits) | | | | | | | |
| General Key Skills (5 ECTS credits) Subject-specific Key Skills (15 ECTS credits) | | | | | | | | |
| 04-DH-FSQ1-242-m01 | Digitalisation | - | B/NB | 10 | | | | |
| 04-DH-FSQ4-242-m01 | Research in Practice | 5 | B/NB | 19 20 | | | | |
| 10-l-GML-242-m01 | Practical Foundations of Machine Learning | 5 | NUM | - | | | | |
| Thesis (10 ECTS credits) | ractical roundations of machine Leathing | 5 | INOM | 25 | | | | |
| 04-DH-BA-152-m01 | Bachelor Thesis Digital Humanities | 10 | NUM | 12 | | | | |
| 04-DH-DA-152-III01 | Dachelor mesis digital numanilies | 10 | NUN | 13 | | | | |



| Module | e title | , | | | Abbreviation |
|--|---------|------------------------|---|-------------------|------------------|
| Digital Humanities in Overview | | | | | 04-DH-A1-152-m01 |
| Module | e coord | inator | | Module offered by | |
| holder of the Chair of Digital Humanities and German rature of the Modern Period | | es and German Lite- | Chair of Digital Humanities and German Literature o the Modern Period | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | - | |
| Duration Module level Other prerequisite | | Other prerequisites | | | |
| 1 semester undergraduate | | | | | |
| Camban | 4- | | | | |

Overview of the discipline of digital humanities with a focus on abstraction, formalisation and data modelling as well as text encoding, the digital library and applications in the humanities.

Intended learning outcomes

Students are familiar with the core principles of digital humanities and have gained an overview of the discipline.

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

V(2) + T(2)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every winter semester

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

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Module appears in

Master's degree (1 major) Media Communication (2015)

Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015)

Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (Minor, 2015)

Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2015)

Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015)

Bachelor's degree (2 majors) Digital Humanities (2015)

Master's degree (1 major) General and Applied Linguistics (2016)

Master's degree (1 major) Media Communication (2016)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2016)

Master's degree (1 major) Media Communication (2018)

Bachelor's degree (2 majors) Classical Archaeology (2018)

Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2018)



Bachelor's degree (2 majors) Digital Humanities (2018)

Master's degree (1 major) Media Communication (2019)

Bachelor's degree (1 major, 1 minor) European Ethnology (Minor, 2020)

Bachelor's degree (2 majors) European Ethnology (2020)

Bachelor's degree (1 major, 1 minor) Auxiliary Sciences of History (Minor, 2021)

Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022)

Master's degree (1 major) Media Entertainment (2022)

Master's degree (1 major) Psychology of digital media (2022)

Master's degree (1 major) General and Applied Linguistics (2022)

Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (2022)

Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023)

Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (Minor, 2023)

Bachelor's degree (1 major) Indology/South Asian Studies (2024)

Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024)

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2024)

Bachelor's degree (1 major) Human-Computer-Interaction (2024)

Bachelor's degree (1 major) Classics (2024)

Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025)



| Module title | | | | | Abbreviation |
|--|-------|------------------------|----------------------|--|------------------|
| Programming and Algorithmic Thinking | | | g | | 04-DH-A4-242-m01 |
| Module coordinator | | | | Module offered by | |
| holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | es and German Lite- | Chair of Digital Humanities and German Literature of the Modern Period | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | | |
| Duration Module level Other prerequisites | | 1 | | | |
| 1 seme | ster | undergraduate | | | |

Introduction to the basic concepts of programming and algorithmic thinking (breaking down a task into substeps). Use of important programming tools, as well as existing libraries and their documentation.

Intended learning outcomes

Students should be able to solve simple programming problems independently and be able to use existing libraries for more complex problems.

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

S (2)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (45 to 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, summer semester

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title | | | | | Abbreviation | |
|---|----------|------------------------|--|-------------------|------------------|--|
| Data Modelling and Text Encoding | | | | | 04-DH-A5-242-m01 | |
| Module | e coord | inator | | Module offered by | | |
| holder of the Chair of Digital Humanities and Gerature of the Modern Period | | es and German Lite- | Chair of Digital Humanities and German Literature of the Modern Period | | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | (not) | successfully completed | | | | |
| Duration Module level Other prerequisit | | Other prerequisites | es | | | |
| 1 semester undergraduate | | | | | | |
| Conten | Contents | | | | | |

Overview of the basics of data modeling and overview of important models, e.g. relational databases, XML, and graphs. Basic methods of coding thematic and formal structures in texts using TEI as an example. Teaching. Practical skills in data modeling and in dealing with text coding.

Intended learning outcomes

Students are familiar with key terms and selected approaches to data modeling, e.g. relational databases and XML, and can use these on their own. Students are familiar with the TEI markup language and are able to apply it to texts.

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

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

Additional information

Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

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

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2024)

Bachelor's degree (1 major) Classics (2024)



| title | | | Abbreviation | |
|--|--|--|---|--|
| Data Preparation and Annotation | | | - | 04-DH-A6-242-m01 |
| Module coordinator | | | Module offered by | |
| holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | Chair of Digital Humanities and German Literature of the Modern Period | |
| Metho | od of grading | Only after succ. con | npl. of module(s) | |
| numei | rical grade | | | |
| Duration Module level Other prerequi | | Other prerequisites | 1 | |
| 1 semester undergraduate | | | | |
| f | coord f the (the M Methonume | coordinator f the Chair of Digital Humanitie the Modern Period Method of grading numerical grade Module level | coordinator f the Chair of Digital Humanities and German Lite- the Modern Period Method of grading numerical grade Module level Other prerequisites | coordinator f the Chair of Digital Humanities and German Lite- the Modern Period Method of grading numerical grade Module offered by Chair of Digital Humanities and German Lite- the Modern Period Only after succ. compl. of module(s) Module level Other prerequisites |

Collect and prepare data (e.g. deal with missing data, standardize data types) and annotate data (develop annotation schema, deal with annotation guidelines, annotate, compare annotations)

Intended learning outcomes

Carry out and present the steps from data collection to data processing and annotation in a principled manner.

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

S (2)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, summer semester

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Madul | a +i+la | | | | Abbreviation | |
|------------------|---|---|----------------------|-----------------------|------------------------------------|--|
| Modul Statist | | | | | | |
| Statist | .103 | | | | 04-DH-B1-242-m01 | |
| Modul | e coord | inator | | Module offered by | | |
| | | Chair of Digital Humanitie | es and German Lite- | | manities and German Literature of | |
| | | Modern Period | T | the Modern Period | | |
| ECTS | | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | | successfully completed | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | undergraduate | <u> </u> | | | |
| Conter | | | | | | |
| | | o statistical methods and | their application in | humanities research | contexts. | |
| | _ | ning outcomes | | | | |
| Studer | nts are | able to use statistical me | thods to answer que | stions in the humani | ities and cultural studies. | |
| Course | es (type | , number of weekly conta | ct hours, language – | - if other than Germa | an) | |
| S (2) | | | | | | |
| | | t in: German and/or Engl | | | | |
| | | sessment (type, scope, la ion on whether module c | | | ation offered — if not every seme- | |
| | | on (20 to 30 minutes) with | | (3 to 5 pages) or | | |
| | | mination (45 to 60 minut ation (approx. 20 minute | | | | |
| | | ssessment: German and | · · | | | |
| | ble for | | | | | |
| Allocat | tion of | places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | Workload | | | | | |
| 150 h | 150 h | | | | | |
| Teachi | Teaching cycle | | | | | |
| Teachi | Teaching cycle: once a year, winter semester | | | | | |
| Referre | Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | , 0 | | 2 , 3 | | |
| | | | | | | |

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)

Module appears in



| Module title | | | | | Abbreviation | |
|--|----------|---------------|----------------------|--|------------------|--|
| Research Design | | | | | 04-DH-B2-242-m01 | |
| Module coordinator | | | | Module offered by | | |
| holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | es and German Lite- | Chair of Digital Humanities and German Literature of the Modern Period | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duration Module level Other prerequisites | | ; | | | | |
| 1 semester undergraduate | | | | | | |
| Conten | Contents | | | | | |

Overview of the individual steps of the research design from the formulation of hypotheses within the framework of a theory to the definition of terms and variables as well as operationalization to data collection and analysis.

Intended learning outcomes

Ability to develop a research plan for a given problem from the field of DH and to justify and carry out the individual steps.

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

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

approx. 5 exercises (15 to 20 hours total) and term paper (10 to 12 pages) Language of assessment: German and/or English

Allocation of places

Additional information

Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

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

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title | | | | | Abbreviation | |
|--|--|---|----------------------|---|-----------------------------------|--|
| Free Ch | Free Choice of Project in the Digital Field | | | | 04-DH-B3-242-m01 | |
| Module | e coord | inator | | Module offered by | | |
| | | Chair of Digital Humanitie Nodern Period | es and German Lite- | Chair of Digital Hun the Modern Period | nanities and German Literature of | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 10 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | ts | | | | | |
| Practic | al impl | ementation of the knowle | edge acquired in the | Digital Humanities d | egree program. | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to work on a probler n appropriate work steps | _ | • | ods to solve it and implement | |
| Course | Courses (type, number of weekly contact hours, language — if other than German) | | | | | |
| R (o) Module taught in: German and/or English | | | | | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) | | | | | | |

Allocation of places

wrap-up report (15 to 20 pages)

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Additional information

project external to JMU

Workload

300 h

Teaching cycle

Teaching cycle: once a year, winter semester

Language of assessment: German and/or English

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title | | | | | Abbreviation |
|--|------|---------------|----------------------|--|------------------|
| Bachelor Thesis Digital Humanities | | | | - | 04-DH-BA-152-m01 |
| Module coordinator | | | | Module offered by | |
| holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | es and German Lite- | Chair of Digital Humanities and German Literature of the Modern Period | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | nume | rical grade | | | |
| Duration Module level Other prerequisite | | 1 | | | |
| 1 semester undergraduate | | | | | |
| Conten | te | | | | |

Independently researching and writing on a topic in the digital humanities that was selected in consultation with an authorised examiner or (in the case of an interdisciplinary thesis) with two authorised examiners.

Intended learning outcomes

Students are able to:

- independently write an academic paper (define and analyse a problem, conduct a literature search, employ relevant methods, refer to relevant theories, interpret data, draw logical conclusions and offer approaches to the solution of said problem).
- work to deadlines.
- prepare an appropriate written account of the results of their work.

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

No courses assigned to module

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Bachelor's thesis (approx. 30 pages)

Language of assessment: German and/or English

Allocation of places

Additional information

Time to complete: 10 weeks.

Workload

300 h

Teaching cycle

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

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2015)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2016)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2018)

Bachelor's degree (2 majors) Digital Humanities (2018)

Bachelor's degree (2 majors) Digital Humanities (2024)



| Module | e title | | | Abbreviation |
|--|-------------------|--------------------------------------|--|------------------|
| Digital Editions and Corpora | | | | 04-DH-C1-242-m01 |
| Module | e coordinator | | Module offered by | |
| holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | Chair of Digital Humanities and German Literature of the Modern Period | |
| ECTS | Method of grading | Only after succ. compl. of module(s) | | |

| ECTS | TS Method of grading | | Only after succ. compl. of module(s) |
|---------|----------------------|---------------|--------------------------------------|
| 5 | 5 numerical grade | | |
| Duratio | n | Module level | Other prerequisites |
| 1 seme | ster | undergraduate | |

Introduction to the principles of creating and designing digital editions and corpora and their use in subject-specific research contexts.

Intended learning outcomes

Students can create digital editions and corpora and use them to answer subject-specific questions.

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

S (2)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) exercises (approx. 10 to 15 pages) or
- b) presentation (approx. 20 to 30 minutes) with written elaboration (approx. 3 to 5 pages) or
- c) written examination (approx. 45 to 60 minutes) or
- d) oral examination (approx. 20 minutes) or
- e) term paper (approx. 10 to 12 pages) or
- f) practical project (e. g. transcription, encoding and web publication of (approx. 3 to 5) letters)

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every two years, if announced

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title | | | | | Abbreviation | | |
|---|---|--|-----------------------|-----------------------|--------------------------------------|--|--|
| Data B | ase | | | | 04-DH-C4-152-m01 | | |
| Modul | e coord | inator | | Module offered by | | | |
| holder | of the | Chair of Digital Humanitie | es and German Lite- | Chair of Digital Hui | manities and German Literature of | | |
| | | Modern Period | <u> </u> | the Modern Period | | | |
| ECTS | | od of grading | Only after succ. con | npl. of module(s) | | | |
| 5 | | rical grade | | | | | |
| Duratio | | Module level | Other prerequisites | | | | |
| 1 seme | | undergraduate | | | | | |
| Conter | | | , | | | | |
| Introdu | uction t | o creating and editing da | tabases as well as th | eir use in the huma | nities. | | |
| Intend | ed lear | ning outcomes | , | | | | |
| Studer | its are a | able to create databases | and to use them to a | nswer research que | stions from the humanities. | | |
| Course | s (type | , number of weekly conta | act hours, language – | if other than Germ | an) | | |
| S (2) | | | | | | | |
| Modul | e taugh | t in: German and/or Engl | ish | | | | |
| | | | - | | ation offered $-$ if not every seme- | | |
| • | - | ion on whether module c | | a bonus) | | | |
| | | approx. 10 to 15 pages) o on (approx. 20 to 30 minu | | aration (annrox a t | o c pages) or | | |
| | | mination (approx. 45 to 6 | | oration (approx. 3 t | .o 5 pages) of | | |
| | | nation (approx. 20 minut | | | | | |
| | | (approx. 10 to 12 pages) | | | | | |
| | | oject (e. g. transcription, | | ıblication of (approx | x. 3 to 5) letters) | | |
| | | ssessment: German and | / OT ETIGUSTI | | | | |
| Allocat | tion of j | piaces | | | | | |
| 1 1944 | 11.6 | | | | | | |
| Additio | onal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teaching cycle | | | | | | | |
| | | | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | | |
| | | | | | | | |
| Modul | e appea | ars in | | | | | |
| Bachel | Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2015) | | | | | | |
| | Bachelor's degree (2 majors) Digital Humanities (2015) | | | | | | |
| Bachel | achelor's degree (1 major, 1 minor) Digital Humanities (2016) | | | | | | |

Bachelor's degree (1 major, 1 minor) Digital Humanities (2016)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2018)

Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2018)

Bachelor's degree (2 majors) Digital Humanities (2018)

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title | | | | | Abbreviation | | |
|-------------------|---|--|---------------------------------------|----------------------|------------------------------------|--|--|
| Simula | tion | | | • | 04-DH-C5-152-m01 | | |
| Modul | e coordi | inator | | Module offered by | J | | |
| holder | of the C | Chair of Digital Humanit | ies and German Lite- | Chair of Digital Hu | ımanities and German Literature o | | |
| rature | of the <i>N</i> | lodern Period | | the Modern Period | d | | |
| ECTS | | d of grading | Only after succ. con | npl. of module(s) | | | |
| 5 | | rical grade | | | | | |
| Duratio | | Module level | Other prerequisites | | | | |
| 1 seme | | undergraduate | | | | | |
| Conten | ts | | | | | | |
| Introdu | iction to | creating simulations a | s well as their use in t | he humanities and | cultural studies. | | |
| Intend | ed learr | ing outcomes | | | | | |
| Studen | its are a | ble to create simulatio | ns and to use them to | answer research qu | uestions from the humanities. | | |
| Course | s (type, | number of weekly con | tact hours, language – | - if other than Germ | nan) | | |
| S (2) | | | | | | | |
| Module | e taught | t in: German and/or Eng | glish | | | | |
| Metho | d of ass | essment (type, scope, | language — if other th | an German, examin | nation offered — if not every seme | | |
| ster, in | formati | on on whether module | can be chosen to earn | a bonus) | | | |
| a) Exer | cises (a | pprox. 10 to 15 pages) | or | | | | |
| | | n (approx. 20 to 30 min | · · · · · · · · · · · · · · · · · · · | oration (approx. 3 | to 5 pages) or | | |
| | | nination (approx. 45 to | | | | | |
| | | ation (approx. 20 minu (approx. 10 to 12 pages | | | | | |
| | | ject (e. g. transcription | | ublication of (appro | ox. 3 to 5) letters) | | |
| | | ssessment: German an | | | 9 9, | | |
| Allocat | ion of p | laces | | | | | |
| | | | | | | | |
| Additio | nal info | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycle | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination reg | ulations for teaching- | degree programmes | s) | | |
| | | | | | | | |
| Module appears in | | | | | | | |
| Bachel | or's deg | gree (1 major, 1 minor) [| Digital Humanities (Mi | nor, 2015) | | | |
| | _ | gree (2 majors) Digital H | _ | | | | |
| | _ | • | _ | | | | |
| | Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) | | | | | | |
| | _ | gree (1 major, 1 minor) l gree (1 major, 1 minor) [| = | | | | |

| Bachelor's degree (2 majors) Digital Humanities (2018) |
|--|
| Bachelor's degree (2 majors) Digital Humanities (2024) |

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module | e title | | | | Abbreviation |
|--------------------------------|--|---------------------|----------------------|--|------------------|
| Visualization | | | | | 04-DH-C7-242-m01 |
| Modul | Module coordinator | | | Module offered by | |
| 1 | holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | Chair of Digital Humanities and German Literature of the Modern Period | |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duration Module level Other pr | | Other prerequisites | 3 | | |
| 1 seme | 1 semester undergraduate | | | - | |
| Conter | Contents | | | | |

Introduction to the principles of visualization and overview of reliable strategies for visualizing data types such as statistical data, distributions, text, graphs, etc.

Intended learning outcomes

Ability to justify the selection of a visualization strategy for given data and the practical skills to implement the chosen visualization strategy.

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

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) exercises (approx. 10 to 15 pages) or
- b) presentation (approx. 20 to 30 minutes) with written elaboration (approx. 3 to 5 pages) or
- c) written examination (approx. 45 to 60 minutes) or
- d) oral examination (approx. 20 minutes) or
- e) term paper (approx. 10 to 12 pages) or
- f) practical project (e. g. transcription, encoding and web publication of (approx. 3 to 5) letters)

Language of assessment: German and/or English

Allocation of places

Additional information

Workload

150 h

Teaching cycle

Teaching cycle: every two years, if announced

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

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title Abbreviation | | | | | | | | |
|--|--|--|---|---|-----------------------------------|--|--|--|
| Specia | l Topics | s in Digital Humanities | | | 04-DH-C8-251-m01 | | | |
| | | | | 1 a 1 1 cc 11 | | | | |
| | e coord | | | Module offered by | | | | |
| | holder of the Chair of Digital Humanities and German Literature of the Modern Period | | | Chair of Digital Hun the Modern Period | nanities and German Literature of | | | |
| ECTS | | od of grading | Only after succ. con | | | | | |
| 5 | | rical grade | | ipt. or inodute(s) | | | | |
| Duratio | | Module level | Other prerequisites | | | | | |
| 1 seme | - | undergraduate | | | | | | |
| Contents | | | | | | | | |
| Conten | | | | | | | | |
| Intond | od loor | ning outcomes | | | | | | |
| intend | ea teari | ning outcomes | | | | | | |
| | | | | | | | | |
| | s (type | , number of weekly conta | act hours, language – | - if other than Germa | in) | | | |
| S (2) Modul | e taugh | t in: German and/or Engl | ish | | | | | |
| | | sessment (type, scope, la | | | tion offered — if not every seme- | | | |
| | | approx. 10 to 15 pages) of | | a 2011a3) | | | | |
| | | n (approx. 20 to 30 minu | | ooration (approx. 3 to | o 5 pages) or | | | |
| | | mination (approx. 45 to 6 | | | y pages, e. | | | |
| | | ation (approx. 20 minute | | | | | | |
| | | (approx. 10 to 12 pages) | | | | | | |
| | | oject (e. g. transcription, ssessment: German and | | iblication of (approx | . 3 to 5) letters) | | | |
| | tion of p | | / OI Eligiisii | | | | | |
| Allocal | LIOII OI J | naces | | | | | | |
| V q q itic | anal inf | ormation | | | | | | |
| Additio | Jiiat IIII | omiation | | | | | | |
| Worklo | | | | | | | | |
| |)au | | | | | | | |
| 150 h | | | | | | | | |
| | ng cycl | | | | | | | |
| | | e: every two years, if anno | | | | | | |
| Referre | ed to in | LPO I (examination regu | llations for teaching-o | degree programmes) | | | | |
| | | | | | | | | |
| Modul | e appea | rs in | Module appears in | | | | | |
| Bachel | lor's de | gree (1 major, 1 minor) Di | Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2015) | | | | | |
| | | Bachelor's degree (2 majors) Digital Humanities (2015) | | | | | | |
| Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) | | | | | | | | |
| | | gree (1 major, 1 minor) Di | umanities (2015) gital Humanities (20: | 16) | | | | |
| Bachel | lor's de | gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di | umanities (2015) gital Humanities (20: gital Humanities (20: | 16) 18) | | | | |
| Bachel Bachel | lor's de lor's de | gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di | umanities (2015) gital Humanities (201 gital Humanities (201 gital Humanities (Mir | 16) 18) | | | | |
| Bachel Bachel Bachel | lor's de lor's de lor's de | gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di gree (2 majors) Digital Hu | umanities (2015) gital Humanities (20: gital Humanities (20: gital Humanities (Mir umanities (2018) | 16) 18) | | | | |
| Bachel Bachel Bachel Bachel | lor's de lor's de lor's de lor's de | gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di gree (1 major, 1 minor) Di | umanities (2015) gital Humanities (202 gital Humanities (202 gital Humanities (Min umanities (2018) umanities (2024) | 16) 18) nor, 2018) | | | | |



| Module title | | | | | Abbreviation |
|--------------------------|-----------------------|------------------------|----------------------|-------------------------------|--------------------|
| Digitalisation | | | | | 04-DH-FSQ1-242-m01 |
| Module coordinator | | | | Module offered by | |
| head o | f Digita | lisation Unit | | Institute of Computer Science | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | | |
| Duratio | Duration Module level | | Other prerequisites | | |
| 1 semester undergraduate | | | | | |
| Conter | Contents | | | | |

The module provides an overview of the field of digitalissation with a focus on practical examples. The focus is on image and text digitalisation, in particular on methods of automatic text recognition of prints (OCR) and handwritten manuscripts (HTR). Beyond the necessary basics in the field of image processing and text coding, the legal aspects of digitalisation will be covered.

Intended learning outcomes

Students are familiar with central methods of text and image digitalization and the associated methodological foundations. They have practical experience with current text recognition tools and are familiar with legal aspects in the field of digitised resources.

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

S (2)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) exercises (approx. 10 to 15 pages) or
- b) presentation (approx. 20 to 30 minutes) with written elaboration (approx. 3 to 5 pages) or
- c) written examination (approx. 45 to 60 minutes) or
- d) oral examination (approx. 20 minutes) or
- e) term paper (approx. 10 to 12 pages) or
- f) practical project (e. g. transcription, encoding and web publication of (approx. 3 to 5) letters) Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, summer semester

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)



| Module title | | Abbreviation |
|--|----------------------|-----------------------------------|
| Research in Practice | | 04-DH-FSQ4-242-m01 |
| Module coordinator | Module offered by | |
| holder of the Chair of Digital Humanities and German Lite- | Chair of Digital Hun | nanities and German Literature of |

| | | | T | |
|-------------|------------------------------|---------------|--------------------------------------|--|
| ECTS | ECTS Method of grading | | Only after succ. compl. of module(s) | |
| 5 | (not) successfully completed | | | |
| Duratio | Duration Module level | | Other prerequisites | |
| 1 seme | ester | undergraduate | | |

the Modern Period

Contents

In the course, a current DH research problem is dealt with from reading the relevant research to the practical implementation of a current solution approach.

Intended learning outcomes

rature of the Modern Period

Familiarity with current methods for solving research problems and the ability to apply these methods independently on the basis of current research literature.

 $\textbf{Courses} \ (\textbf{type}, \textbf{number of weekly contact hours, language} - \textbf{if other than German})$

S (2)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (45 to 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

Allocation of places

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Additional information

--

Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

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

--

Module appears in



| Module title | | | | | Abbreviation |
|-------------------------------------|--------------------------------|-----------------------|---------------------|-----------------------------|-------------------------|
| Level One Module German Linguistics | | | | | 04-DtLABA-BM-SW-241-m01 |
| Module coordinator | | | | Module offered by | |
| holder | of the | Chair of German Lingu | istics | Institute of German Studies | |
| ECTS | Meth | od of grading | Only after succ. co | mpl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duration | Duration Module level Other pr | | Other prerequisites | 5 | |
| 1 seme | 1 semester undergraduate | | | | |
| Contents | | | | | |

Within the lecture, this module aims to provide an overview and first introduction to the important parts of German linguistics. At the same time, the seminar that is a part of the module, provides students with analytical and description methods up to the word level, for example morphological segmentation and classification of individual word forms into basic morphemes, morphology and inflectional morphemes, morphological and semantic analysis of word formation structures, phonetic and phonological transcription in International Phonetic Alphabet (IPA)-phonetics, graphical realisation of phonemes and associated with orthography principles. The associated tutorial helps to practise further and to become more confident with the analytical and description methods, acquired in the seminar.

Intended learning outcomes

Students possess an overview of the discipline German linguistics and its individual subdisciplines. They are able to describe and analyse linguistic units up to the word level assuredly. Thanks to the module, students are familiar with the basic analytical and description techniques of linguistics, which will be extended and consolidated in the following modules.

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

V(2) + S(2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 75 minutes)

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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

§ 43 | Nr. 2 b) § 63 | Nr. 2 b)

Module appears in

Module studies (Bachelor) Orientierungsstudien (2020)

Module studies (Bachelor) German Language and Literature (2023)

First state examination for the teaching degree Grundschule German (2024)

First state examination for the teaching degree Gymnasium German (2024)

First state examination for the teaching degree Realschule German (2024)

First state examination for the teaching degree Mittelschule German (2024)

Bachelor's degree (2 majors) German Language and Literature (2024)

Bachelor's degree (1 major, 1 minor) German Language and Literature (2024)



Bachelor's degree (1 major, 1 minor) German Language and Literature (Minor, 2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)

Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024)

First state examination for the teaching degree Grundschule German (2025)

First state examination for the teaching degree Realschule German (2025)

First state examination for the teaching degree Gymnasium German (2025)

First state examination for the teaching degree Mittelschule German (2025)

Bachelor's degree (1 major, 1 minor) German Language and Literature (2025)

Bachelor's degree (1 major, 1 minor) German Language and Literature (Minor, 2025)

Bachelor's degree (1 major) Computer Science (2025)

Bachelor's degree (2 majors) German Language and Literature (2025)



| Modul | e title | · | | | Abbreviation |
|-----------------------------------|---|---------------------|----------------------|-------------------------------|------------------|
| Introduction to Audio Processing | | | | • | 10-I-EAV-242-m01 |
| Modul | e coord | inator | | Module offered by | |
| | holder of the Professorship for Computer Science (Computational Humanities) | | | Institute of Computer Science | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duration Module level Other prere | | Other prerequisites | | | |
| 1 semester undergraduate | | | | | |
| Conter | Contents | | | | |

This lecture introduces digital audio data processing and analysis, covering the following topics: Basic properties of audio data, audio signal processing (especially time-frequency transforms), selected machine-learning methods, main application areas (speech, music, environmental sounds), typical tasks (classification, detection, analysis) and algorithmic approaches

Intended learning outcomes

The students have a fundamental understanding of audio data as well as theoretical and practical knowledge in audio signal processing and specialized machine-learning methods. They have gained experience with typical analysis tasks and are able to understand, adapt and apply corresponding algorithms.

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

 $V(2) + \ddot{U}(1)$

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (45 to 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

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Additional information

--

Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module | e title | | | Abbreviation | | |
|-------------------------------------|---|---------------------|----------------------|-------------------------------|------------------|--|
| Introduction to Image Processing | | | | - | 10-I-EBV-242-m01 | |
| Module | e coord | inator | | Module offered by | | |
| | holder of the Professorship for Computer Science (Computational Humanities) | | | Institute of Computer Science | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duration Module level Other prerequ | | Other prerequisites | ; | | | |
| 1 semester undergraduate | | | | | | |
| Conten | Contents | | | | | |

This lecture introduces digital image processing and analysis, covering the following topics: Basic properties of image data, image acquisition, signal processing (especially filters and transforms), image compression, main application areas (documents, photos, ...), typical tasks in image processing and analysis and algorithmic approaches, including selected machine learning methods

Intended learning outcomes

The students have a fundamental understanding of image data as well as theoretical and practical knowledge in image processing and specialized machine-learning methods. They have gained experience with typical analysis tasks and are able to understand, adapt and apply corresponding algorithms.

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

 $V(2) + \ddot{U}(1)$

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (approx. 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: once a year, summer semester

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

--

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module title | | | | | Abbreviation | |
|---|---|---------------------|----------------------|-------------------------------|------------------|--|
| Practical Foundations of Machine Learning | | | | | 10-I-GML-242-m01 | |
| Module | e coord | inator | | Module offered by | | |
| | holder of the Professorship for Computer Science (Computational Humanities) | | | Institute of Computer Science | | |
| ECTS | Metho | od of grading | Only after succ. con | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duration Module level Other prere | | Other prerequisites | | | | |
| 1 semester undergraduate | | | | | | |
| Conten | Contents | | | | | |

This lecture introduces the conceptual foundations of machine learning and covers the following topics: Knowledge representation, training paradigms (supervised, unsupervised, reinforcement, mixed forms), data preparation and experimental design (training/validation/test), evaluation (cross-validation), generalization and robustness, interpretability, typical models (regression, k-means, SVM, random forest, neural networks)

Intended learning outcomes

The students have a fundamental understanding of machine learning as well as theoretical and practical knowledge of typical methods, procedures, and models.

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

 $V(2) + \ddot{U}(1)$

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (45 to 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Workload

150 h

Teaching cycle

Teaching cycle: once a year, winter semester

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

--

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)



| Module title | | | | | Abbreviation | |
|------------------------------|---|---------------|----------------------|-------------------------------|------------------|--|
| Introduction to Data Science | | | | - | 10-I-IDS-242-m01 | |
| Module | e coord | inator | | Module offered by | | |
| | holder of the Chair of Computer Science XII (Natural Language Processing) | | | Institute of Computer Science | | |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | Duration Module level Other | | Other prerequisites | Other prerequisites | | |
| 1 seme | 1 semester undergraduate | | | | | |
| Conten | Contents | | | | | |

This course introduces practically oriented lectures that introduce the core principles and methods of data science, including: data collection and preprocessing, descriptive analysis and visualization of data, predictive data analysis, working with special data types such as images, text, and graphs/networks, statistical testing of results obtained with methods working on data, and ethical aspect of data science (e.g., biases and fairness).

Intended learning outcomes

The students have a fundamental understanding of a practical data science pipeline and are able to successfully carry out meaningful real-world data science work, starting from (i) posing the research question that is to be answered with data-based evidence, over (ii) explorative analysis of the data and proposing the most suitable methodological approach for the task at hand, to (iii) analyzing the results, their statistical strength, and implications thereof.

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

 $V(2) + \ddot{U}(1)$

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (45 to 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

--

Additional information

--

Workload

150 h

Teaching cycle

Teaching cycle: once a year, summer semester

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

--

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Module | e title | | | | Abbreviation | | | |
|---|----------------------|---------------|---------------------|--------------------------------------|-----------------|--|--|--|
| Text Ar | nalysis | | | | 10-I-TA-242-m01 | | | |
| Module | e coord | inator | | Module offered by | | | | |
| holder of the Chair of Computer Science XII (Natural Language Processing) | | | | Institute of Computer Science | | | | |
| ECTS | Method of grading Or | | Only after succ. co | Only after succ. compl. of module(s) | | | | |
| 5 | nume | rical grade | | | | | | |
| Duration | | Module level | Other prerequisites | Other prerequisites | | | | |
| 1 semester | | undergraduate | | | | | | |
| Contents | | | | | | | | |

This lecture introduces methods for processing of and working with text data. Topically, the lecture will cover computational representations of text, text classification and clustering methods, approaches and models for syntactic analysis of text, algorithms for extracting information from text, methods for modeling text meaning (i.e., semantics), and approaches to evaluate the performance of text processing methods. The course will also introduce a number of machine learning models commonly used in text processing tasks.

Intended learning outcomes

The students have a fundamental understanding of processing text data as well as theoretical and practical knowledge in specialized machine-learning methods for text processing. They have gained experience with typical text analysis tasks and are able to understand, adapt and apply corresponding and algorithms.

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

 $V(2) + \ddot{U}(1)$

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) presentation (20 to 30 minutes) with written elaboration (3 to 5 pages) or
- b) written examination (45 to 60 minutes) or
- c) oral examination (approx. 20 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

Additional information

Workload

150 h

Teaching cycle

Teaching cycle: once a year, summer semester

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

Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)

Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)



| Modul | e title | | | | Abbreviation | | | |
|--|----------|------------------------------------|---------------------|--------------------------|------------------|--|--|--|
| Introdu | uction t | o Advanced Mathematics | 5 | | 10-M-EHM-242-m01 | | | |
| Module coordinator | | | | Module offered by | | | | |
| Dean of Studies Mathematik (Mathematics) | | | | Institute of Mathematics | | | | |
| ECTS | Metho | hod of grading Only after succ. co | | mpl. of module(s) | | | | |
| 10 | (not) | successfully completed | | | | | | |
| Duration | | Module level | Other prerequisites | | | | | |
| 2 semester | | undergraduate | | | | | | |
| Combando | | | | | | | | |

The lecture provides an introduction and in-depth study of higher mathematics and covers the following topics: Complex numbers, functions and their properties, limits and continuity of functions, differential calculus, systems of linear equations, vectors and matrices, eigenvalues and eigenvectors; differential calculus of several variables (especially applications as well as advanced topics); basics of probability theory

Intended learning outcomes

Students develop a basic understanding of higher mathematics and can deepen their knowledge based on this understanding in the second part of the course. They are able to apply their theoretical knowledge and the methods they have learned to different contexts.

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

 $V(4) + \ddot{U}(2)$

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- a) written examination (60 to 120 minutes) or
- b) oral examination of one candidate each or in groups of up to 2 candidates (15 to 30 minutes per candidate) or
- c) project work (e. g. written solutions and corresponding explanations, 10 to 15 pages total)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

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Additional information

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Workload

300 h

Teaching cycle

Teaching cycle: once a year, winter semester + summer semester

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

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Module appears in

Bachelor's degree (2 majors) Digital Humanities (2024)