Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Subdivided Module Catalogue

for the Subject

# Digital Humanities

as a Master's with 1 major

with the degree "Master of Arts"

(120 ECTS credits)

Examination regulations version: 2016
Responsible: Faculty of Arts, Historical, Philological, Cultural and Geographical Studies
Responsible: Institute of German 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 können geistes- und kulturwissenschaftliches Wissen modellieren, daraus digitale Objekte erstellen und schließlich präsentieren. Sie beherrschen anspruchsvolle digitale geisteswissenschaftliche Werkzeuge, können digitale Textobjekte algorithmisch prozessieren und analysieren und - auch in großer Zahl - verwalten.
- Die Absolventinnen und Absolventen besitzen die Fähigkeit, Fragestellungen der Digital Humanities im Kontext der aktuellen Forschung zu operationalisieren, einen Workflow zu ihrer Beantwortung zu konzipieren, die nötigen Arbeitsschritte (s. o.) durchzuführen und das gesamte Projekt zu dokumentieren.

**Befähigung, eine qualifizierte Erwerbstätigkeit aufzunehmen**

- Die Absolventinnen und Absolventen besitzen die Fähigkeit, Fragestellungen der Digital Humanities zu analysieren, Verfahren zu deren Lösung zu entwickeln und in entsprechenden Arbeitsschritten umzusetzen.
- Die Absolventinnen und Absolventen können Problemzusammenhänge in mündlicher wie schriftlicher Form sachgerecht aufbereiten und - unter Medieneinsatz - zielgruppenspezifisch vermitteln.
- Durch die Auswahl bestimmter Module aus dem Wahlpflichtbereich kann ein Schwerpunkt "Data Science" gebildet werden. Ein entsprechendes Zertifikat ist in Vorbereitung (Herbst 2020).

**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.
- Den Absolventinnen und Absolventen stand die Möglichkeit offen, im Rahmen eines Auslandsaufenthalts internationale und interkulturelle Kompetenzen zu sammeln und eine interkulturelle Sensibilisierung zu erreichen.

# Abbreviations used

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

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

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

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

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

# Conventions

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

# Notes

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

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

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

# In accordance with

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

**ASPO2015**

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

**04-Apr-2016 (2016-53)**

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-G-1-162-m01 | Creating Digital Objects 1 | 5 | B/NB | 5 |
| 04-DH-G-2-162-m01 | Creating Digital Objects 2 | 5 | NUM | 6 |
| 04-DH-H-1-162-m01 | Presenting Digital Objects 1 | 5 | B/NB | 7 |
| 04-DH-H-2-162-m01 | Presenting Digital Objects 2 | 5 | NUM | 8 |
| 04-DH-I-1-162-m01 | Practice of Digital Objects 1 | 5 | NUM | 9 |
| 04-DH-I-2-162-m01 | Practice of Digital Objects 2 | 5 | NUM | 10 |
| 04-DH-J-1-162-m01 | Processing and Analyzing of Digital Objects 1 | 5 | NUM | 11 |
| 04-DH-J-2-162-m01 | Processing and Analyzing of Digital Objects 2 | 5 | B/NB | 12 |
| 04-DH-K-1-162-m01 | Managing Digital Objects 1 | 5 | B/NB | 13 |
| 04-DH-K-2-162-m01 | Managing Digital Objects 2 | 5 | NUM | 14 |
| 04-DH-L-1-162-m01 | Modelling Digital Objects 1 | 5 | NUM | 15 |
| 04-DH-L-2-162-m01 | Modelling Digital Objects 2 | 5 | NUM | 16 |
| 04-DH-M-162-m01 | Project in Digital Humanities | 10 | B/NB | 17 |
| **Compulsory Electives (20 ECTS credits)** | | | | |
| 10-I=DM-161-m01 | Data Mining | 5 | NUM | 21 |
| 10-I=HCI-161-m01 | Introduction into Human-Computer Interaction | 5 | NUM | 22 |
| 10-I=IR-161-m01 | Information Retrieval | 5 | NUM | 23 |
| 10-I=DB-161-m01 | Databases | 5 | NUM | 20 |
| 10-I=SEM3-161-m01 | Seminar 1 - Current Topics in Computer Science | 5 | NUM | 25 |
| 06-MCS-Usab-152-m01 | Usability and Software Ergonomics | 10 | NUM | 19 |
| **Thesis (30 ECTS credits)** | | | | |
| 04-MA-DH-162-m01 | Master Thesis Digital Humanities | 30 | NUM | 18 |

| Module title | | | Abbreviation |
|---|---|---|---|
| **Creating Digital Objects 1** | | | 04-DH-G-1-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | (not) successfully completed | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Advanced methods of creation and management of digital objects and their presentation. Sophisticated techniques and markup methods.

**Intended learning outcomes**

Students are able to create and annotate digital objects and to select and use appropriate standards with respect to efficiency and sustainability.

**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) written examination (approx. 60 minutes) or b) presentation (approx. 15 minutes) and term paper (approx. 5 pages) or c) exercises (4 out of 6, approx. 2 pages each)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Creating Digital Objects 2** | | | 04-DH-G-2-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Advanced methods of creation and management of digital objects and their presentation. Sophisticated techniques and markup methods.

**Intended learning outcomes**

Students are able to create and annotate digital objects and to select and use appropriate standards with respect to efficiency and sustainability.

**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)

term paper (15 to 20 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Presenting Digital Objects 1** | | | 04-DH-H-1-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | (not) successfully completed | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Fundamentals of human-computer interaction (HCI), visualisation of information structures, presentation of texts using digital media.

**Intended learning outcomes**

Students are able to develop and technically implement visualisation concepts for digital objects and, in particular, for texts.

**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) written examination (approx. 60 minutes) or b) presentation (approx. 15 minutes) and term paper (approx. 5 pages) or c) exercises (4 out of 6, approx. 2 pages each)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Presenting Digital Objects 2** | | | 04-DH-H-2-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Fundamentals of human-computer interaction (HCI), visualisation of information structures, presentation of texts using digital media.

**Intended learning outcomes**

Students are able to develop and technically implement visualisation concepts for digital objects and, in particular, for texts.

**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)

term paper (15 to 20 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Practice of Digital Objects 1** | | | 04-DH-I-1-162-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 | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Application of complex software libraries, advanced programming techniques.

**Intended learning outcomes**

Students are able to use complex software libraries and to independently develop problem solutions.

**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) written examination (approx. 60 minutes) or b) presentation (approx. 15 minutes) and term paper (approx. 5 pages) or c) exercises (4 out of 6, approx. 2 pages each)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Practice of Digital Objects 2** | | | 04-DH-I-2-162-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 | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Application of complex software libraries, advanced programming techniques.

**Intended learning outcomes**

Students are able to use complex software libraries and to independently develop problem solutions.

**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)

term paper (15 to 20 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Processing and Analyzing of Digital Objects 1** | | | 04-DH-J-1-162-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 | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Work on exemplary research questions using methods of the digital humanities, analysis of digital objects.

**Intended learning outcomes**

Students are able to answer research questions using computer-based methods and to analyse digital objects.

**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)

term paper (15 to 20 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Processing and Analyzing of Digital Objects 2** | | | 04-DH-J-2-162-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 | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | (not) successfully completed | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Work on exemplary research questions using methods of the digital humanities, analysis of digital objects.

**Intended learning outcomes**

Students are able to answer research questions using computer-based methods and to analyse digital objects.

**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) written examination (approx. 60 minutes) or b) presentation (approx. 15 minutes) and term paper (approx. 5 pages) or c) exercises (4 out of 6, approx. 2 pages each)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Managing Digital Objects 1** | | | 04-DH-K-1-162-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 | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | (not) successfully completed | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Project management, virtual research environments, scientific content management systems, digital library and digital information systems.

**Intended learning outcomes**

Students are familiar with selected state-of-the-art virtual research environments and research data repositories. They are also familiar with the fundamental principles of professional project management and are able to model typical workflows using these means.

**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) written examination (approx. 60 minutes) or b) presentation (approx. 15 minutes) and term paper (approx. 5 pages) or c) exercises (4 out of 6, approx. 2 pages each)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Managing Digital Objects 2** | | | 04-DH-K-2-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Project management, virtual research environments, scientific content management systems, digital library and digital information systems.

**Intended learning outcomes**

Students are familiar with selected state-of-the-art virtual research environments and research data repositories. They are also familiar with the fundamental principles of professional project management and are able to model typical workflows using these means.

**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)

term paper (15 to 20 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Modelling Digital Objects 1** | | | 04-DH-L-1-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Advanced concepts of data modelling, evaluation of complex digital objects.

**Intended learning outcomes**

Students are able to model digital objects semantically and assess them from the perspective of a humanities discipline.

**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) written examination (approx. 60 minutes) or b) presentation (approx. 15 minutes) and term paper (approx. 5 pages) or c) exercises (4 out of 6, approx. 2 pages each)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Modelling Digital Objects 2** | | | 04-DH-L-2-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Advanced concepts of data modelling, evaluation of complex digital objects.

**Intended learning outcomes**

Students are able to model digital objects semantically and assess them from the perspective of a humanities discipline.

**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)

term paper (15 to 20 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Project in Digital Humanities** | | | 04-DH-M-162-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 |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 10 | (not) successfully completed | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Practical application of the knowledge and skills developed in the Bachelor's programme Digital Humanities to a defined research project.

**Intended learning outcomes**

Students are able to define a research problem, develop integratable methods to solve the problem and implement these methods in appropriate steps.

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

R (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)

project (25 to 30 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Workload**

300 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Master Thesis Digital Humanities** | | | 04-MA-DH-162-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 | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 30 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Preparation of an academically sound Master's thesis within a given time frame. In their thesis, students will work on a research question in the digital humanities in a practical and application-oriented way. Depending on the topic of the thesis, students will be required to incorporate and discuss relevant theories, interdisciplinary relations as well as current research methods and to conduct a literature search.

**Intended learning outcomes**

Students develop the ability to independently explore a specific problem in the digital humanities within a given time frame. They formulate the research question, investigate it and then interpret, present and discuss their findings in an appropriate and application oriented way.

**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)

Master's thesis (approx. 60 pages)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

Time to complete: 6 months.

**Workload**

900 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Digital Humanities (2016)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Usability and Software Ergonomics** | | | 06-MCS-Usab-152-m01 |
| **Module coordinator** | | **Module offered by** | |
| holder of the Chair of Psychological Ergonomics | | Institute of Human Computer Media | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 10 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | undergraduate | -- | |

**Contents**

This module is about teaching and applying analytical and empirical evaluation methods for usability and user experience of interactive products. The methods are introduced in the lecture part of the course. Selected methods are tested by the students on examples in the exercise part of the course. Furthermore, the students evaluate two interactive products independently in small groups. The task consists of planning, conducting, evaluating and presenting the results of a usability study and includes a critical comparison of methods.

**Intended learning outcomes**

After participating in the module courses, students will be able to apply analytical and empirical methods for evaluating interactive products, present them in writing and critically evaluate them. They will be able to plan, conduct and evaluate evaluation studies. From the analysis of the results, they develop suggestions for the revision of interactive products. Through project work in small groups, their general problem-solving ability, communicative competence, cooperation skills and self-competence to develop their own willingness to perform.

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

V (2) + Ü (4)

**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)

project report (approx. 12 pages)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

3 places. The indicated number of places will be allocated to students of the subject Digital Humanities (Master of Arts with 120 ECTS credits). Places will be allocated primarily according to the number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot.

**Additional information**

--

**Workload**

300 h

**Teaching cycle**

--

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

--

**Module appears in**

Bachelor' degree (1 major) Human-Computer Systems (2015)
Bachelor' degree (1 major) Human-Computer Systems (2016)
Master's degree (1 major) Digital Humanities (2016)
Bachelor' degree (1 major) Human-Computer Systems (2018)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Databases** | | | 10-I=DB-161-m01 |
| **Module coordinator** | | **Module offered by** | |
| Dean of Studies Informatik (Computer Science) | | Institute of Computer Science | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Relational algebra and complex SQL statements; database planning and normal forms, XML data modelling; transaction management.

**Intended learning outcomes**

The students possess knowledge about data modelling and queries in SQL, transactions as well as about easy data modelling in XML.

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

V (2) + Ü (2)

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

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Separate written examination for Master's students.
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

--

**Additional information**

Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE, IS, HCI, GE.

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Computer Science (2016)
Master's degree (1 major) Physics (2016)
Master's degree (1 major) Digital Humanities (2016)
Master's degree (1 major) Computer Science (2017)
Master's degree (1 major) Computer Science (2018)
Master's degree (1 major) Physics (2020)
Master's degree (1 major) Physics International (2020)
Master's degree (1 major) Quantum Engineering (2020)
Master's degree (1 major) Quantum Engineering (2024)
Master's degree (1 major) Physics International (2024)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Data Mining** | | | 10-I=DM-161-m01 |
| **Module coordinator** | | **Module offered by** | |
| Dean of Studies Informatik (Computer Science) | | Institute of Computer Science | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Foundations in the following areas: definition of data mining and knowledge discovery in databases, process model, relationship to data warehouse and OLAP data preprocessing, data visualisation, unsupervised learning methods (cluster- and association methods), supervised learning (e. g. Bayes classification, KNN, decision trees, SVM), learning methods for special data types, further learning paradigms.

**Intended learning outcomes**

The students possess a theoretical and practical knowledge of typical methods and algorithms in the area of data mining and machine learning. They are able to solve practical knowledge discovery problems with the help of the knowledge acquired in this course and by using the KDD process. They have acquired experience in the use or implementation of data mining algorithms.

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

V (2) + Ü (2)

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

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Separate written examination for Master's students.
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

--

**Additional information**

Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT, IS, HCI, GE.

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Computer Science (2016)
Master's degree (1 major) Digital Humanities (2016)
Master's degree (1 major) Computer Science (2017)
Master's degree (1 major) Computer Science (2018)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Introduction into Human-Computer Interaction** | | | 10-I=HCI-161-m01 |
| **Module coordinator** | | **Module offered by** | |
| holder of the Chair of Computer Science IX | | Institute of Computer Science | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Human-Computer Interaction is concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them. This course gives an introduction into the principle biological, physiological, and psychological constraints as defined by the human user and relates these constraints to the conceptual and technical solutions of today's computer systems and existing as well as prospective interaction metaphors between humans and computers.
The course covers topics about human perception and cognition, memory and attention, the design of interactive systems, prominent evaluation methods, the principles of computer systems, typical input processing techniques, interface technology, and examples of typical interaction metaphors, from text-based input to graphical desktops to multimodal interfaces. Accompanying lab-work will introduce students to typical tasks involved in this field, i.e., prominent evaluation methods and prototyping of interfaces.

**Intended learning outcomes**

After the course, the students will have a broad understanding of the underlying principles of human users and computer systems. They will understand the constraints and capabilities of current user interfaces and they will learn about the necessary steps applied in user-centered design and development approaches.

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

V (3) + Ü (1)

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

presentation of project results (approx. 30 minutes)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

--

**Additional information**

Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI.

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Computer Science (2016)
Master's degree (1 major) Digital Humanities (2016)
Master's degree (1 major) Computer Science (2017)
Master's degree (1 major) Computer Science (2018)
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Information Retrieval** | | | 10-I=IR-161-m01 |
| **Module coordinator** | | **Module offered by** | |
| Dean of Studies Informatik (Computer Science) | | Institute of Computer Science | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

IR models (e. g. Boolean and vector space model, evaluation), processing of text (tokenising, text properties), data structures (e. g. inverted index), query elements (e. g. query operations, relevance feedback, query languages and paradigms, structured queries), search engine (e. g. architecture, crawling, interfaces, link analysis), methods to support IR (e. g. recommendation systems, text clustering and classification, information extraction).

**Intended learning outcomes**

The students possess theoretical and practical knowledge in the area of information retrieval and have acquired the technical know-how to create a search engine.

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

V (2) + Ü (2)

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

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

**Allocation of places**

--

**Additional information**

Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,IS,HCI,GE

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Computer Science (2016)
Master's degree (1 major) Mathematics (2016)
Master's degree (1 major) Computational Mathematics (2016)
Master's degree (1 major) Digital Humanities (2016)
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
Master's degree (1 major) Computer Science (2017)
Master's degree (1 major) Computer Science (2018)
Master's degree (1 major) Computational Mathematics (2019)

Master's degree (1 major) Mathematics (2019)
Master's degree (1 major) Information Systems (2019)
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

| Module title | | | Abbreviation |
|---|---|---|---|
| **Seminar 1 - Current Topics in Computer Science** | | | 10-I=SEM3-161-m01 |
| **Module coordinator** | | **Module offered by** | |
| Dean of Studies Informatik (Computer Science) | | Institute of Computer Science | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Independent review of a current topic in computer science based on literature and, where applicable, software with written and oral presentation.

**Intended learning outcomes**

The students are able to independently review a current topic in computer science, to summarise the main aspects in written form and to orally present these in an appropriate way.

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

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)

term paper (10 to 15 pages) and presentation (30 to 45 minutes) with subsequent discussion on a topic from the field of computer science
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT, SE, IT, IS, ES, LR, HCI.

**Workload**

150 h

**Teaching cycle**

--

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

--

**Module appears in**

Master's degree (1 major) Computer Science (2016)
Master's degree (1 major) Mathematics (2016)
Master's degree (1 major) Computational Mathematics (2016)
Master's degree (1 major) Digital Humanities (2016)
Master's degree (1 major) Computer Science (2017)
Master's degree (1 major) Computer Science (2018)
Master's degree (1 major) Computational Mathematics (2019)
Master's degree (1 major) Mathematics (2019)
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)