Subdivided Module Catalogue
for the Subject
Human-Computer Systems
with the degree "Modulstudium (Bachelor)"
( ECTS credits)

Examination regulations version: 2019
Responsible: Faculty of Human Sciences
Responsible: Institute of Human Computer Media
Course of Studies - Contents and Objectives

German contents and learning outcome available but not translated yet.

Das Studienfach Mensch-Computer-Systeme wird von der Fakultät für Humanwissenschaften der JMU als grundlagenorientierter Studiengang mit dem Abschluss „Bachelor of Science“ (B.Sc.) (Erwerb von 180 ECTS-Punkten) im Rahmen eines konsekutiven Bachelor- und Master-Studienmodells angeboten.

Das Studium der Mensch-Computer-Systeme ist interdisziplinär ausgerichtet und vermittelt neben fachspezifischen Kompetenzen auch Kompetenzen aus der Informatik und der Psychologie. Nach erfolgreichem Abschluss des Studiums verfügen die Studierenden über folgende Kompetenzen:

1. Allgemeine Kompetenzen
   - Kritische Reflexion und Einordnung von wissenschaftlichen Erkenntnissen.
   - Schriftliche und mündliche Präsentation erworbener Kenntnisse.
   - Durchführung eigener wissenschaftlicher & angewandter Projekte.
   - Verfassen wissenschaftlicher Texte nach fachlichen Standards.
   - Teamarbeit.

2. Methodische Kompetenzen
   - Analytisches Vorgehen und Abstraktionsvermögen.
   - Algorithmisches Denken und Konstruieren.
   - Verständnis und Strukturierung komplexer Zusammenhänge.
   - Analyse-, Design- und Evaluationsmethoden für Mensch-Computer-Systeme.
   - Versuchsplanung, Datenerhebung und Datenauswertung.

3. Inhaltliche Kompetenzen
   - Programmierung und programmiertechnische Verfahren.
   - Softwareentwurf und Softwareanalyse.
   - Schnittstellengestaltung interaktiver Systeme.
   - Interaktionstechniken und –paradigmen.
   - Statistische Verfahren.
   - Physiologische und psychologische Benutzereigenschaften.
   - Technische Grundlagen informatischer Systeme.
   - Grundlagen zu Usability, User Experience und Human Factors.
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:

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

15-May-2019 (2019-36)
27-Jun-2019 (2019-41)
14-Nov-2019 (2019-52)

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

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<th>Abbreviation</th>
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<th>ECTS credits</th>
<th>Method of grading</th>
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<th>Module coordinator</th>
<th>Module offered by</th>
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<tr>
<td>holder of the Chair of Computer Science IX</td>
<td>Institute of Computer Science</td>
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<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<th>Module level</th>
<th>Other prerequisites</th>
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<td>1 semester</td>
<td>undergraduate</td>
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**Contents**

This module discusses requirements, concepts and practical solutions in the area of interactive systems. A special focus is on systems concentrating on human-computer interaction. Typical examples include graphical user interfaces, web-based solutions or even systems from augmented and virtual reality. The course concentrates on systems in which users and computers form a closed input-output loop and requirements of reactivity and real-time performance are decisive.

**Intended learning outcomes**

At the end of the course, students will have a thorough knowledge of the requirements of interactivity. They will be able to identify and analyse technical capabilities and properties of today’s computer systems with respect to interactivity as well as to derive the necessary actions. Students will have learned to choose appropriate solutions and tools for various development tasks in this area. Having been equipped with a theoretical foundation, students will be able to develop alternative solutions for future systems.

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

V (2) + Ü (2)

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

Unless otherwise specified, the following methods can be chosen from for assessment in the specialisations Human-Computer Systems: a) written examination (approx. 90 minutes), b) presentation (approx. 20 minutes) and handout (approx. 5 pages), c) presentation of project results (approx. 30 minutes), d) presentation (approx. 45 minutes), e) oral examination of one candidate each (approx. 30 minutes) or f) term paper (approx. 10 pages).

Language of assessment: German and/or English

**Allocation of places**

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**Additional information**

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

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**Module title**
Interactive Systems 2

**Abbreviation**
10-MCS-IS2-152-m01

**Module coordinator**
holder of the Chair of Computer Science IX

**Module offered by**
Institute of Computer Science

**ECTS**
5

**Method of grading**
numerical grade

**Only after succ. compl. of module(s)**
--

**Duration**
1 semester

**Module level**
undergraduate

**Other prerequisites**
--

### Contents
This module discusses specific requirements, concepts and solutions in the area of interactive systems in more detail. A special focus is on systems concentrating on human-computer interaction. Typical examples include graphical user interfaces, web-based solutions or even systems from augmented and virtual reality. The course concentrates on systems in which users and computers form a closed input-output loop and requirements of reactivity and real-time performance are decisive.

### Intended learning outcomes
At the end of the course, students will have an advanced knowledge of the requirements of interactivity. They will be able to identify and analyse technical capabilities and properties of today's computer systems with respect to interactivity as well as to derive the necessary actions. Students will have learned to choose appropriate solutions and tools for various development tasks in a broad range of applications. Having been equipped with a theoretical foundation, students will be able to develop alternative solutions for future systems.

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

V (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)

Unless otherwise specified, the following methods can be chosen from for assessment in the specialisations Human-Computer Systems: a) written examination (approx. 90 minutes), b) presentation (approx. 20 minutes) and handout (approx. 5 pages), c) presentation of project results (approx. 30 minutes), d) presentation (approx. 45 minutes), e) oral examination of one candidate each (approx. 30 minutes) or f) term paper (approx. 10 pages).

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

### Allocation of places
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### Additional information
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### Referred to in LPO I
( examination regulations for teaching-degree programmes)

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Module title: Interactive Systems 3
Abbreviation: 10-MCS-IS3-152-m01

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

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

Duration: 1 semester
Module level: undergraduate
Other prerequisites: --

Contents:
This module discusses practical requirements, concepts and solutions in the area of interactive systems in more detail. A special focus is on systems concentrating on human-computer interaction. Typical examples include graphical user interfaces, web-based solutions or even systems from augmented and virtual reality. The course concentrates on systems in which users and computers form a closed input-output loop and requirements of reactivity and real-time performance are decisive.

Intended learning outcomes:
At the end of the course, students will have an advanced knowledge of the requirements of interactivity. They will be able to identify and analyse technical capabilities and properties of today's computer systems with respect to interactivity as well as to derive the necessary actions. Students will have learned to choose appropriate solutions and tools for various development tasks in a broad range of applications. Practical applications will allow students to implement alternative solutions for future interactive systems, building on the theoretical foundation they have been equipped with.

Courses (type, number of weekly contact hours, language — if other than German):
R (0)

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):
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Allocation of places: --

Additional information: --

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