Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject
Space Science and Technology as a Master’s with 1 major
with the degree "Master of Science" (120 ECTS credits)

Responsible: Faculty of Mathematics and Computer Science
Responsible: Institute of Computer Science

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

Information on assessment procedures:
- 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 a 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)):


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.

Every module will be described using the following form:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th><strong>Module title</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS</td>
<td>Duration (in semesters)</td>
</tr>
<tr>
<td>Courses</td>
<td>To be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y</td>
</tr>
<tr>
<td>Method of assessment</td>
<td></td>
</tr>
<tr>
<td>Only after successful completion of</td>
<td>if applicable</td>
</tr>
<tr>
<td>Other prerequisites</td>
<td>if applicable</td>
</tr>
<tr>
<td>Participants and allocation of places</td>
<td>if applicable</td>
</tr>
<tr>
<td>Additional information</td>
<td>if applicable</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>if applicable (examination regulations for teaching-degree programmes)</td>
</tr>
</tbody>
</table>
## Compulsory Courses (60 ECTS credits)

### Space Science (30.5 ECTS credits)

**Space Physics (Introduction)**
- **ECTS**: 8
- **Duration**: 1 semester
- **Method of grading**: numerical grade
- **Modul level**: graduate
- **Courses**: V (4) + Ü (2)
- **Method of assessment**: written examination (approx. 60 to 120 minutes)

**Optics- and Radar-based Observations**
- **ECTS**: 7.50
- **Duration**: 1 semester
- **Method of grading**: numerical grade
- **Modul level**: graduate
- **Courses**: V (0) + P (0) + T (0)
- **Method of assessment**: written examination (approx. 60 to 120 minutes)

**Image Processing and Remote Sensing (Space Physics)**
- **ECTS**: 7.50
- **Duration**: 1 semester
- **Method of grading**: numerical grade
- **Modul level**: graduate
- **Courses**: V (0) + P (0) + T (0)
- **Method of assessment**: written examination (approx. 60 to 120 minutes)

**Spacecraft Environment Interactions**
- **ECTS**: 7.50
- **Duration**: 1 semester
- **Method of grading**: numerical grade
- **Modul level**: graduate
- **Courses**: V (0) + P (0)
- **Method of assessment**: written examination (approx. 60 to 120 minutes)

### Space Technology (29.5 ECTS credits)

**CanSat / FloatSat Design Workshop**
- **ECTS**: 9
- **Duration**: 1 semester
- **Method of grading**: numerical grade
- **Modul level**: graduate
- **Courses**: R (6)
- **Method of assessment**: project and oral presentation delivered by one candidate each, weighted 4:1

**Spacecraft System Design**
- **ECTS**: 8
- **Duration**: 1 semester
- **Method of grading**: numerical grade
- **Modul level**: graduate
- **Courses**: V (4) + Ü (2)
- **Method of assessment**: written examination (approx. 60 to 120 minutes)
  - creditable for bonus

**Additional Information**
Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits):
- ES, LR
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Focuses Available for Students of Master’s Programme Informatik (Computer Science, 120 ECTS Credits):</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-I=SD-152-m01</td>
<td>Space Dynamics</td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
<td>IT, IS, ES, LR, GE</td>
</tr>
<tr>
<td>10-I=EIS-152-m01</td>
<td>Electronics in Space</td>
<td>7.5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
<td></td>
</tr>
<tr>
<td>10-I=TDP-152-m01</td>
<td>Team Design Project</td>
<td>9</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
<td></td>
</tr>
<tr>
<td>10-I=AA-152-m01</td>
<td>Advanced Automation</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
<td></td>
</tr>
<tr>
<td>10-I=RO1-152-m01</td>
<td>Robotics 1</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
<td></td>
</tr>
<tr>
<td>10-I=RO2-152-m01</td>
<td>Robotics 2</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
<td></td>
</tr>
</tbody>
</table>
### Aerospace Seminar

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
</tr>
</tbody>
</table>

**Courses**
- S (2)

**Method of assessment**
- Seminar paper (approx. 20 pages)

### Advanced Topics in Aerospace and Informatics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
</tr>
</tbody>
</table>

**Courses**
- V (2) + Ü (2)

**Method of assessment**
- Written examination (60 to 120 minutes)
- Language of assessment: English
- Creditable for bonus

### Thesis (30 ECTS credits)

#### Master's Thesis Space Science and Technology

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>graduate</td>
</tr>
</tbody>
</table>

**Courses**
- No courses assigned to module

**Method of assessment**
- Written thesis (50 to 100 pages)

#### Oral Examination Space Science and Technology

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>graduate</td>
</tr>
</tbody>
</table>

**Courses**
- K (0)

**Method of assessment**
- Final colloquium (approx. 60 minutes)
  - comprising: talk on thesis (45 minutes) and subsequent defence of thesis (15 minutes); defence usually public

**Modules successfully completed**
- 10-I=ThesisSST