



Subdivided Module Catalogue for the Module studies (Bachelor) Aerospace Computer Science

Examination regulations version: 2021
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

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)

22-Jan-2020 (2020-13)

06-May-2020 (2020-39)

22-Jul-2020 (2020-57)

17-Dec-2020 (2020-110)

10-Mar-2021 (2021-17)

09-Jun-2021 (2021-58)

22-Dec-2021 (2021-85)

05-Jul-2022 (2022-52)

31-Jan-2023 (2022-86)

15-Jun-2023 (2023-58)

13-Dec-2023 (2023-107)

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		Method of grading	page
Summer Term 2021				
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7
Winter Term 2021				
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7
Summer Term 2022				
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7
Winter Term 2022				
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7
Summer Term 2023				
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7
Winter Term 2023				
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7
Summer Term 2024				
10-I-LRLA-172-m01	Aerospace Laboratory	6	NUM	6
10-I-HMR-152-m01	Practical Measurement and Control System Engineering	8	B/NB	5
10-I-PLR-172-m01	Practical work Space Technology	4	B/NB	7

Module title		Abbreviation
Practical Measurement and Control System Engineering		10-I-HMR-152-m01
Module coordinator		Module offered by
holder of the Chair of Computer Science VI		Institute of Computer Science
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Practical experiments of control aspects (hardware and software), for example implementation of linear and non-linear controllers in robotics or aerospace information technology.		
Intended learning outcomes		
Students understand closed loop systems and are able to implement and set controllers.		
Courses (type, number of weekly contact hours, language — if other than German)		
P (6)		
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 with presentation (approx. 15 minutes) and written elaboration (approx. 12 to 15 pages)		
Allocation of places		
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Additional information		
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Workload		
240 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module title		Abbreviation
Aerospace Laboratory		10-I-LRLA-172-m01
Module coordinator		Module offered by
holder of the Chair of Computer Science VIII		Institute of Computer Science
ECTS	Method of grading	Only after succ. compl. of module(s)
6	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Structure and control of satellites and airplanes, control and (very little) regulation of physical/mechanical systems, sensors and actuators, energy, structure (construction) of a satellite model/simulator, construction of a ground segment for different components and systems of air and space flight, structure of simplified subsystems of air and space flight. Life cycle of a complex development consisting of software, hardware, electronics and mechanics. Selection of suitable components.		
Intended learning outcomes		
The students will be able to construct and integrate prototypical subsystems consisting of software, hardware, electronics and mechanics by themselves as well as to operate, test and document these. The whole life cycle of a development will be tested: capture of requirements, rudimentary design, detailed design, modelling, implementation (software, hardware, mechanics), test design, inspection, maintenance, transfer to the successor model.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (2) + P (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)		
Completion of approx. 6 practical exercises (approx. 4 hours each)		
Allocation of places		
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Additional information		
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Workload		
180 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module title		Abbreviation
Practical work Space Technology		10-I-PLR-172-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)
4	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Completion of a practical task.		
Intended learning outcomes		
The practical allows participants to work on a problem in space information technology in teams.		
Courses (type, number of weekly contact hours, language — if other than German)		
P (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)		
report (5 to 10 pages) and presentation (approx. 15 minutes) on practical work		
Allocation of places		
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Additional information		
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Workload		
120 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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