Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Aerospace Computer Science as a Bachelor's with 1 major

with the degree "Bachelor of Science" (180 ECTS credits)

Responsible: Institute of Computer Science

Examination regulations version: 2011

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:

ASPO2009

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

09-Nov-2011 (2011-123)

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:

Abbreviation	**Module title**							
	ECTS		Duration	(in semesters)	Method of grading		Module level	
	Courses	To be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y						
	Method of assessment							
	Only after successful completion of	if applicable						
	Other prerequisites	if applicable						
	Participants and allocation of places	if applicable						
	Additional information	if applicable						
	Referred to in LPO I	if applicable (examination regulations for teaching-degree programmes)						

Thesis (12 ECTS credits)								
10-I-LRI-BA-092-m01	**Bachelor Thesis Space- and Aerospace Computer Science**							
	ECTS	12	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		C (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written thesis Language of assessment: German or English					
Compulsory Courses (129 ECTS credits)								
Aerospace (34 ECTS credits)								
10-I-ELR-092-m01	**Introduction to Aerospace Systems**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 2 module components. Information on courses will be listed separately for each module component. • 10-I-ELR-1-092: V + Ü (no information on SWS (weekly contact hours) and course language available) • 10-I-ELR-2-092: V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. **Assessment in module component 10-I-ELR-1-092:** Introduction to Aerospace Systems 1 Introduction to Aerospace Systems 1 • 3 ECTS, Method of grading: numerical grade • written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) • Other prerequisites: Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course). **Assessment in module component 10-I-ELR-2-092:** Introduction to Aerospace Systems 2 Introduction to Aerospace Systems 2 • 3 ECTS, Method of grading: numerical grade • written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) • Other prerequisites: Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
10-I-LRBE-092-m01	**Operations of Aerospace Systems**							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					

10-I-LRDN-092-m01	**Dynamics of aerospace systems**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes)					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
10-I-BDV-092-m01	**On board data processing**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
10-I-LMT-111-m01	**Measurement Technique**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes)					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
Computer Science (56 ECTS credits)								
10-I-ADS-LRI-092-m01	**Algorithms and Data Structures for students of Space- and Aerospace Computer Science**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					

10-I-PP-102-m01	**Practical Course in Programming**							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	Additional Information		Additional information on module duration: 1 to 2 semesters.					
	Referred to in LPO I		§ 49 (1) 1. c) Informatik Praktische Softwareentwicklung § 69 (1) 1. d) Informatik Praktische Softwareentwicklung					
10-I-MEC-112-m01	**Introduction to Core Avionics**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
10-I-AR-102-m01	**Automation and Control Technology**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3. Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					

10-I-IÜ-102-m01	**Information Transmission**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	Referred to in LPO I		§ 69 (1) 1. c) Informatik Technische Informatik					
10-I-HMR-092-m01	**Practical Sensor and Control Systems Engineering**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		oral examination in groups of 2 candidates (approx. 30 minutes) or in groups of 3 candidates (approx. 40 minutes)					

Mathematics (20 ECTS credits)								
10-M-LRI12-092-m01	**Mathematics 1 and 2 for students of Space- and Aerospace Computer Science**							
	ECTS	20	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 2 module components. Information on courses will be listed separately for each module component. • 10-M-LRI12-1-092: V + Ü (no information on SWS (weekly contact hours) and course language available) • 10-M-LRI12-2-092: V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. **Assessment in module component 10-M-LRI12-1-092:** Mathematics 1 for students of Space- and Aerospace Computer Science Mathematics 1 for students of Space- and Aerospace Computer Science • 10 ECTS, Method of grading: (not) successfully completed • written examination (approx. 90 to 120 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) • Language of assessment: German, English if agreed upon with the examiner • Other prerequisites: Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e. g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew and have to register anew, too. **Assessment in module component 10-M-LRI12-2-092:** Mathematics 2 for students of Space- and Aerospace Computer Science Mathematics 2 for students of Space- and Aerospace Computer Science • 10 ECTS, Method of grading: numerical grade • written examination (approx. 90 to 120 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) • Language of assessment: German, English if agreed upon with the examiner • Other prerequisites: Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e. g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew and have to register anew, too.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					

Basics of Physics (19 ECTS credits)								
11-ENNF1-062-m01	**Introduction to Physics Part 1 for students of Physics Related Minor Subjects**							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 20 places. Places will be allocated by lot.					
11-ENNF2-062-m01	**Introduction to Physics Part 2 for students of Physics Related Minor Subjects**							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 20 places. Places will be allocated by lot.					
11-P-PA-092-m01	**Practical Course A**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Auswertung von Messungen und Fehlerrechnung (Measurements and Data Analysis): V (1 weekly contact hour) + Ü (1 weekly contact hour), once a year (winter semester) Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity, BAM): P (2 weekly contact hours)					
	Method of assessment		This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 120 minutes) 2. Lab course: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). Successful completion of approx. 50% of practice work is a prerequisite for admission to assessment component 1 . To pass assessment component 2, students must pass both elements a) and b). Students will be offered one opportunity to retake element a) and/or element b). Students must register for assessment components 1 and 2 online (details to be announced). Students must attend Auswertung von Messungen und Fehlerrechnung (Measurements and Data Analysis) before attending Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity). To pass this module, students must pass both assessment component 1 and assessment component 2.					
	Referred to in LPO I		§ 53 (1) 1. a) Physik Mechanik, Wärmelehre, Elektrizitätslehre, Optik, der speziellen Relativitätstheorie § 53 (1) 1. c) Physik physikalische Grundpraktika § 77 (1) 1. d) Physik "physikalische Praktika"					

Compulsory Electives (19 ECTS credits)								
10-I-GT-102-m01	**Algorithmic Graph Theory**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
10-I-WBS-102-m01	**Knowledge-based Systems**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes) if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
10-I-DM-102-m01	**Data Mining**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
10-I-OOP-102-m01	**Object-oriented Programming**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					

10-I-KT-102-m01	**Theory of Complexity**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
10-I-RAK-102-m01	**Computer Architecture**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	Referred to in LPO I		§ 69 (1) 1. c) Informatik Technische Informatik					
10-I-ST-102-m01	**Software Technology**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	Referred to in LPO I		§ 49 (1) 1. b) Datenbanksysteme und Softwaretechnologie § 69 (1) 1. b) Datenbanksysteme und Softwaretechnologie					
10-I-RK-102-m01	**Computer Networks and Communication Systems**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3. Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					

10-I-HWP-102-m01	**Practical Course in Hardware**							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		completion of project assignments, presentation (type and expenditure of time to be specified by the lecturer at the beginning of the course)					
10-I=RO-102-m01	**Robotics**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3. Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Where applicable, prerequisites as specified by the lecturer at the beginning of the course (e. g. completion of exercises).					
10-M-ODE-082-m01	**Ordinary Differential Equations**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
10-M-NM1-082-m01	**Numerical Mathematics 1**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	Referred to in LPO I		§ 73 (1) 5. Mathematik Angewandte Mathematik					

10-M-NM2-082-m01	**Numerical Mathematics 2**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	Referred to in LPO I		§ 73 (1) 5. Mathematik Angewandte Mathematik					
10-M=ARTH-102-m01	**Introduction to Control Theory**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 to 120 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters. Language of assessment: German or English					
	other prerequisites		Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e. g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					

10-M-NLD-072-m01	**Non-Linear Dynamics**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	Referred to in LPO I		§ 73 (1) 1. Mathematik Analysis					
10-I-STE-092-m01	**Control Engineering**							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Assessment offered: once a year					
	other prerequisites		Academic requirements to be met in exercises. Type and scope to be announced by the lecturer at the beginning of the course.					
10-I-ASY-092-m01	**Autonomous Systems**							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Assessment offered: once a year					
	other prerequisites		Academic requirements to be met in exercises. Type and scope to be announced by the lecturer at the beginning of the course.					
10-I-SRM-092-m01	**Seminar Space Modelling**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		talk (approx. 30 to 45 minutes) and written elaboration (approx. 5 to 10 pages)					

11-A4-072-m01	**Astrophysics**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.					
11-P-PB-LR-092-m01	**Practical Course Part B (Aircraft and Spacecraft Informatics)**							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Klassische Physik (Classical Physics, KLP): P (2 weekly contact hours) Elektrizitätslehre und Schaltungen (Electricity and Circuits, ELS): P (2 weekly contact hours) Wellenoptik (Physical Optics, WOP): P (2 weekly contact hours) Atom- und Kernphysik (Atomic and Nuclear Physics, AKP): P (2 weekly contact hours) Computer und Messtechnik (Computers and Measurement Technology, CMT): P (2 weekly contact hours)					
	Method of assessment		This module has the following assessment components 1. Lab course in part 1: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). 2. Lab course in part 2: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). Students must register for assessment components 1 and 2 online (registration deadline to be announced). Students will be offered one opportunity to retake element a) and/or element b). To pass an assessment component, they must pass both elements a) and b). To pass this module, students must successfully complete two out of the five courses. Students must attend KLP or ELS courses prior to attending WOP, AKP or CMT courses. To pass this module, students must pass both assessment component 1 and assessment component 2.					
	Modules successfully completed		11-P-PA					
	Referred to in LPO I		§ 53 (1) 1. a) Physik Mechanik, Wärmelehre, Elektrizitätslehre, Optik, der speziellen Relativitätstheorie § 53 (1) 1. b) Physik Aufbau der Materie § 53 (1) 1. c) Physik physikalische Grundpraktika § 77 (1) 1. b) Physik "Fortgeschrittene Experimentalphysik" § 77 (1) 1. d) Physik "physikalische Praktika"					

11-AWP-092-m01	**Atmosphere and Space Physics**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R + V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) written examination (approx. 90 minutes) or b) oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate) or c) project report (approx. 8 pages, time to complete: 1 to 4 weeks) or d) presentation/seminar presentation (approx. 30 minutes) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009. Language of assessment: German or English					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
Subject-specific Key Skills								
10-I-BS-102-m01	**Operating Systems**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	Referred to in LPO I		§ 69 (1) 1. c) Informatik Technische Informatik					
10-I-DB-102-m01	**Databases**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 50 to 60 minutes) if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).					
	Referred to in LPO I		§ 49 (1) 1. b) Datenbanksysteme und Softwaretechnologie § 69 (1) 1. b) Datenbanksysteme und Softwaretechnologie					

10-I-LRLA-092-m01	**Aerospace Laboratory**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		practical exercises (time to complete: approx. 6 weeks) and documentation (approx. 10 pages)					
10-I-LRS-092-m01	**Seminar for students of Space- and Aerospace Computer Science**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		talk (approx. 30 to 45 minutes) and written elaboration (approx. 5 to 10 pages)					
10-I-LREX-092-m01	**Excursion Space- and Aerospace**							
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		E (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		field trip log (approx. 2 pages)					