

Second Amendment to the Study and Examination Regulations for the International Continuing Education Master's Degree Program in Space Engineering at Faculty V - Mechanical Engineering and Transport Systems at Technische Universität Berlin of

26 March 2025

The Faculty Council of Faculty V Transport and Machine Systems at the Technical University of Berlin has, on March 26, 2025, in accordance with § 18 para. 1 no. 1 of the Basic Regulations of the Technical University of Berlin, § 71 para. 1 no. 1 of the Berlin Higher Education Act (Berliner Hochschulgesetz – BerlHG) as amended on July 26, 2011 (GVBl. p. 378), last amended by Article 1 of the Act of July 10, 2024 (GVBl. p. 461), adopted the following amendment to the Study and Examination Regulations of the Master's Program in Space Engineering dated November 6, 2019 (TU AMBl. 19/2020 dated September 30, 2020).

Article I

1. After § 5 (5), the following paragraph is added:

(5a) In the elective area, an internship completed during the course of study in a business enterprise or research institution can be completed to the extent of 6 ECTS credits. Further details are regulated by the internship guidelines.

2. In § 8, (1) and (2) are revised as follows:

(1) The overall grade is formed according to the principles in § 68 (7) AllgStuPO. For the formation of the overall grade, module grades including the master's thesis with a total of 102 ECTS credits are taken into account; ungraded modules and modules with the worst grades of a total of a maximum of 15% of the total study performance (maximum 18 ECTS credits) are not taken into account.

Of the unconsidered modules, at least 6 ECTS credits must come from areas A or B or C, and the sum of at least 6 ECTS credits must come from area D and the elective area.

(2) In the case of modules with the same grade and the same number of ECTS credits, the grades of the most recently taken module examinations are not taken into account. To achieve the specified scope, only complete modules are always taken into account, i.e., the scope is then undershot if the number of ECTS credits intended for non-consideration is exceeded with the next module.

3. In the elective area Space Technology, the title of the module "Radiation Workshop" is replaced by the title "Radiation Effects on Space Electronics". In the elective area "Interdisciplinary", the modules "German for Engineers B1.1" and "German for Engineers B1.2" are deleted. In addition, the module list is revised in the attached form.

Article II - Entry into force

This amendment comes into force on the day after its publication in the Official Gazette of the TU Berlin. Modules already completed and modules with ongoing examination procedures will be credited or completed according to the regulations of the Study and Examination Regulations dated November 6, 2019.

Annexes

Module list

Anlage: Module list¹

Module	Course	CP	Compulsory/Compulsory elective module	Examination	Graded	Weighting in overall grade ²
A Space Technology		min. 27				
Fundamentals of Space Technology	Fundamentals of Space Technology 1	9	Compulsory module	Portfolio assessment	Yes	1
	Fundamentals of Space Technology 2					
Satellite Technology	Satellite Technology	6	Compulsory module	Written examination	Yes	1
Space Electronics	Space Electronics 1	6	Compulsory module	Portfolio assessment	Yes	1
	Space Electronics 2					
Radiation Effects on Space Electronics	Radiation Effects on Space Electronics	3	Compulsory elective module	Written examination	Yes	1
Spacecraft Dynamics and Control	Spacecraft Dynamics and Control 1	9	Compulsory elective module	Written examination	Yes	1
	Spacecraft Dynamics and Control 2					
Spacecraft Propulsion Systems	Spacecraft Propulsion Systems	6	Compulsory elective module	Oral examination	Yes	1
Space Sensors and Instruments	Space Sensors and Instruments	6	Compulsory elective module	Portfolio assessment	Yes	1
B Space System Design		min. 15				
Space System Design Project	Space System Design Project	9	Compulsory module	Portfolio assessment	Yes	1
Space Technology Project	Space Technology Project	9	Compulsory elective module	Portfolio assessment	Yes	1
Planetary Exploration and Space Robotics 1	Planetary Exploration and Space Robotics 1	6	Compulsory elective module	Portfolio assessment	Yes	1
Planetary Exploration and Space Robotics 2	Planetary Exploration and Space Robotics 2	6	Compulsory elective module	Portfolio assessment	Yes	1
Space Engineering Focus Project	Space Engineering Focus Project	6	Compulsory elective module	Portfolio assessment	Yes	1
C Space Operations		min. 12				
Space Mission Planning and Operations	Space Mission Planning and Operations	6	Compulsory module	Portfolio assessment	Yes	1
Human Spaceflight	Technical Aspects of Human Spaceflight	6	Compulsory elective module	Portfolio assessment	Yes	1
	Space Psychology					

¹ The module descriptions are published in the Official Gazette of the TU Berlin at the beginning of the winter semester in October and at the beginning of the summer semester in April. The version published there applies. (See Section 45 (7) of the General Study and Examination Regulations (AllgStuPO)).

² A weighting of 1 means that the grade is weighted according to the number of credits (Section 68 (7) AllgStuPO); "-" means the grade is not weighted. See Section 8 for further regulations about calculating the overall grade.

Space Flight Mechanics	Space Flight Mechanics	6	Compulsory elective module	Written examination	Yes	1
Introduction to Satellite Geodesy	Introduction to Satellite Geodesy	6	Compulsory elective module	Portfolio assessment	Yes	1
D Interdisciplinary		min. 6				
Project Management	Project Management	6	Compulsory elective module	Portfolio assessment	Yes	1
Innovation Management and Entrepreneurship	Innovation Management and Entrepreneurship	6	Compulsory elective module	Portfolio assessment	Yes	1
Soft Skills	Soft Skills	3	Compulsory elective module	Portfolio assessment	Yes	1
German for Engineers A1.1	German for Engineers A1.1	3	Compulsory elective module	Written examination	No	-
German for Engineers A1.2	German for Engineers A1.2	3	Compulsory elective module	Written examination	No	-
German for Engineers A2.1	German for Engineers A2.1	3	Compulsory elective module	Written examination	No	-
German for Engineers A2.2	German for Engineers A2.2	3	Compulsory elective module	Written examination	No	-
Wahlfächer		max. 18				
Elective		max. 18	Elective	See module description		1
Voluntary Internship		6	Elective	See internship regulations		1
Total (Modules)		90				
Master's thesis		30				
Total		120				

The **compulsory component** is worth 36 credits and is structured as follows:

A - Space Technology	21 CP
B - Space System Design	9 CP
C - Space Management and Operation	6 CP

The **compulsory elective component** is worth at least 36 credits and is structured as follows:

A - Space Technology	at least 6 CP
B - Space System Design	at least 6 CP
C - Space Management and Operation	at least 6 CP
D - Interdisciplinary	at least 6 CP