

SYLLABUS

STUDY YEAR 2024/2025

Master Programme in Spacecraft Design

**Enrollment semester Autumn
2024**

DATE

2023-10-12

REFERENCE NO.

LTU-4268-2023

DECISION MAKER

Dean of the Faculty of Science and Technology

Programme content and structure

For the master degree in Spacecraft Design (120 Hp) the following courses are required: compulsory courses (90 Hp) and master thesis - space technology (30 Hp). Practice during study time is recommended but is not compulsory.

For admission to the degree project course entry requirements specified in the Course Syllabus must be completed. Information regarding the application- and admission process is given and ensured by the responsible department.

Swedish for beginners is offered to overseas students. The course is not included in the degree, and is read in addition to the obligatory courses.

Credits

120 credits

Degree

- Degree of Master of Science (120 credits) - Major; Space Technology with specialisation Spacecraft Design

Entry requirements

Successful completion of an Academic degree with a minimum of 180 higher education credits in the areas of space technology, aerospace, aeronautics, mechatronics, space physics, physics, electronics, mechanics or equivalent. Courses at university level in electronics or mechanics, as well as at least 22.5 credits in mathematics at university level are required. The mathematics skills must include linear algebra, multivariable calculus and ordinary differential equations.

Good knowledge in English, equivalent to English 6

Selection

The selection procedure is based on academic qualifications, quality and quantity aspects

Selection group

Academic: 100%

Compulsory courses

Compulsory courses 120 credits

Course code	Course	Cr	Level	Comment
E7003R	Electronics in Space	7.5	Master's level	
P7003R	Master Thesis - Space Technology	30	Master's level	
P7012R	Spacecraft Design Project	7.5	Master's level	
P7013R	Project course: Spacecraft and Instrumentation 1	7.5	Master's level	
P7015R	Project course: Spacecraft and Instrumentation 2	7.5	Master's level	
R7018R	Spacecraft on board datahandling	7.5	Master's level	
R7019R	Spacecraft Subsystems	7.5	Master's level	
R7021R	Space Communication	7.5	Master's level	
R7023R	Propulsion with space applications	7.5	Master's level	
R7025R	Orbit and Attitude Dynamics	7.5	Master's level	
R7026R	Spacecraft Control	7.5	Master's level	
R7029R	Space System Engineering	7.5	Master's level	
R7030R	Spacecraft Guidance, Navigation and Control	7.5	Master's level	

Course offered outside the obligatory courses - not compulsory - For non Scandinavian students

Course code	Course	Cr	Level	Comment
S0046P	Swedish for International Students 1	3	Bachelor's level	Selectable

Study schedule

Year of study 1 Enrollment semester Autumn 2024, Is offered in 2024/2025

Study-period	Course code	Course	Cr	Comment
1	R7018R	Spacecraft on board datahandling	7.5	
1	R7025R	Orbit and Attitude Dynamics	7.5	
1	S0046P	Swedish for International Students 1	3	Selectable
2	R7021R	Space Communication	7.5	
2	R7026R	Spacecraft Control	7.5	
3	R7023R	Propulsion with space applications	7.5	
3-4	P7013R	Project course: Spacecraft and Instrumentation 1	7.5	
3-4	R7019R	Spacecraft Subsystems	7.5	
4	E7003R	Electronics in Space	7.5	

Year of study 2 Enrollment semester Autumn 2024, Is offered in 2025/2026, planned study schedule

Study-period	Course code	Course	Cr	Comment
1	R7029R	Space System Engineering	7.5	
1-2	P7012R	Spacecraft Design Project	7.5	
1-2	P7015R	Project course: Spacecraft and Instrumentation 2	7.5	
2	R7030R	Spacecraft Guidance, Navigation and Control	7.5	
3-4	P7003R	Master Thesis - Space Technology	30	Entry requirements