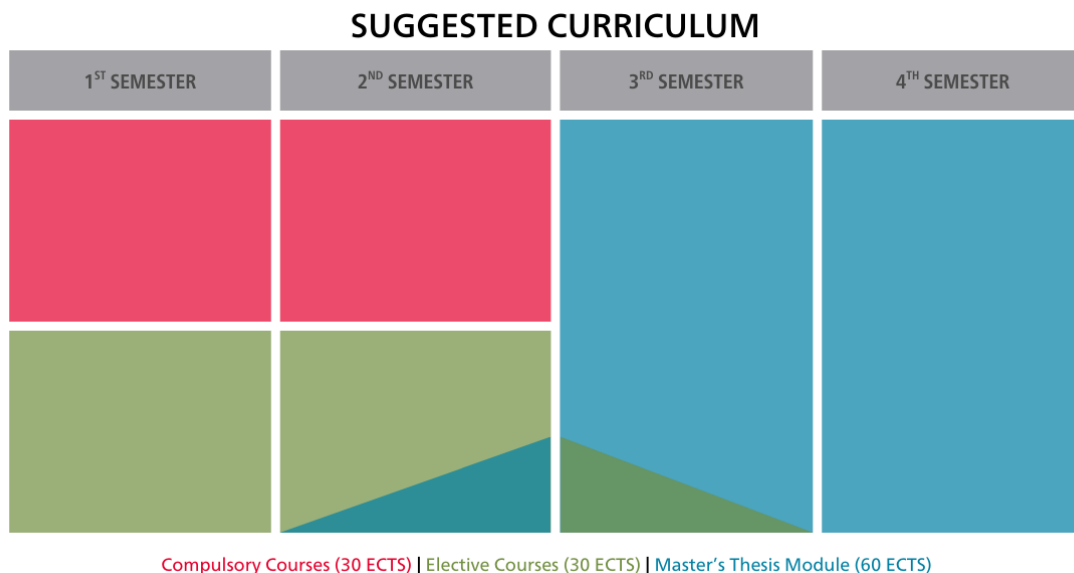


Introduction

The Master's in Space Sciences and Astronomy is a mono study program worth 120 ECTS credits. The program comprises 90 compulsory ECTS credits (with 60 ECTS reserved for the Master's Thesis module) and 30 elective ECTS credits. The program's courses are taught in English.



The common program duration is four semesters (two years) of full-time study, starting in the Autumn or Spring semester.

We suggest completing the Compulsory Courses in the first two semesters and recommend completing most of the Elective Courses within this time frame as well. Registration for the Master's Thesis typically occurs in the 3rd semester, although preparations may already begin in the 2nd semester (e.g., topic proposal). Submission of the Master's Thesis typically happens after 12 months, followed by a final exam.

Course Overview

Compulsory courses (total 30 ECTS)

Compulsory courses are taught **every year** in the indicated semester.

Course title	Semester	ECTS
Galaxies and the Distant Universe	Fall	3
Matter and Life in the Universe	Fall	3
Professional Skills for Scientists and Engineers	Fall	3
Space Missions and Measurement Methods	Fall	6
Laboratory and Observational Techniques	Spring	6
Planets and Stars	Spring	6
Telescopes and Optical Systems	Spring	3

Offered elective courses

Course title	Semester	ECTS	Periodicity
NEW elective courses (introduced with this master's programme)			
Seminar in Space Sciences and Astronomy	Spring and fall	2	Every semester
Specialist Course: Introduction to Global Navigation Satellite Systems	Fall '26	4	Every 2 years
Specialist Course: Astronomical data analysis for exoplanets	Fall '26	4	Every 2 years
Specialist Course: Celestial Mechanics	Spring '27	4	Every 2 years
Specialist Course: Brown Dwarfs	Spring '27	4	Every 2 years
Specialist Course: Earth observation using space geodetic techniques	Fall '27	4	Every 2 years
Specialist Course: Machine Learning for Space Sciences	Fall '27	4	Yearly
Specialist Course: Optical/resolved Remote sensing techniques	Spring '28	4	Every 2 years
Already existing elective courses at the University of Bern			
Research colloquium in theoretical philosophy: philosophy of science	Spring and fall	4	Every semester
Measurements Techniques in Physics	Fall	4	Yearly
Modelling Techniques in Physics	Fall	4	Yearly
Introduction to Precision Optics	Fall	5	Yearly
Modelling and Simulation	Fall	5	Yearly
Specialist Course - Climate and Environmental Physics	Fall	4	Yearly
Optics in Extreme Environments	Spring	3	Yearly
Seminar: Philosophical Issues in Modeling Climate Change	Spring	2	Yearly

History of the Earth	Spring	2	Yearly
Advanced Course - Radiative Transfer	Fall '26	4	Every 2 years
Specialist Course - Introduction to Climate Modelling	Fall '26	4	Every 2 years
Specialist Course - Introduction to Cometary Physics	Spring '27	4	Every 2 years
Advanced Course - Advanced statistical methods for physicists	Spring '27	4	Every 2 years
Specialist Course - Introduction to Atmospheric Circulation and Modes of Variability	Spring '27	4	Every 2 years
Specialist Course - Glaciology and Ice Cores	Spring '27	4	Every 2 years
Specialist Course - Microwave Remote Sensing	Spring '27	4	Every 2 years
Specialist Course - Ocean Physics and Biogeochemistry	Fall '27	4	Every 2 years
Advanced Course - Fluid Dynamics	Fall '27	4	Every 2 years
Specialist Course - Exoplanets and Origins of Life	Fall '27	4	Every 2 years
Specialist Course - Gravity Field Determination from Satellite Tracking Data	Spring '28	4	Every 2 years
Specialist Course - Atmospheric Physics	Spring '28	4	Every 2 years
Specialist Course - Mass Spectrometry and Ion Optics	Spring '28	4	Every 2 years
Specialist Course - Isotope Biogeochemistry	Spring '28	4	Every 2 years
Advanced Course - Cosmology	Spring '28	4	Every 2 years
Space Law – International and National Dimensions (WTI)	Summer '26	3	Block course (1 week) yearly

Students willing to take courses not listed here are encouraged to discuss their interests with the Director of Studies of the Master's Program¹.

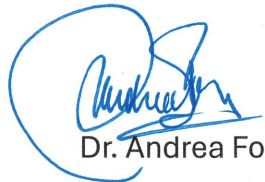
¹ Art. 5, Studienplan Weltraumwissenschaften und Astronomie: Leistungseinheiten aus anderen Masterstudienprogrammen der Universität Bern und anderer universitärer Hochschulen im Umfang von bis zu 10 ECTS-Punkten können auf Antrag an die Studienleitung mit den entsprechenden ECTS-Punkten an das Master-Studienprogramm Weltraumwissenschaften und Astronomie angerechnet werden. Die Zuordnung zu den Modulen liegt in der Kompetenz der Studienleitung

Bern, 19. Mai 2026

Center for Space and Habitability (CSH)

Die Studienleiterin Weltraumwissenschaften
und Astronomie

The Director of Studies Space Sciences and
Astronomy



Dr. Andrea Fortier

Vom Studienausschuss genehmigt:

Approved by the study committee:

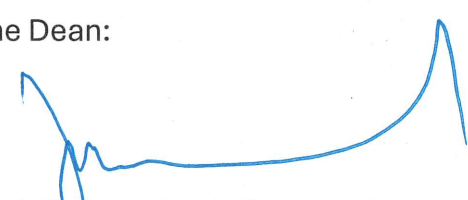
Bern, 26. Mai 2026

Im Namen der Phil.-nat. Fakultät

In the name of the Faculty of Science

Der Dekan:

The Dean:



Prof. Dr. Jean-Louis Reymond