UNIVERSITÀ DEGLI STUDI DI TRIESTE

Dipartimento di
Matematica, Informatica e Geoscienze

BACHELOR'S DEGREE IN

Earth Sciences for Sustainable Development

academic year
2026/2027

Ministerial Class L-34 R

STUDY PROGRAMME 2026/2027 cohort

The Bachelor Degree in Earth Sciences for Sustainable Development does not have different curriculums.

Educational activities are divided into six types (*tipologia di attività formativa* – TAF):

A – core subjects
B – advanced concepts and skills
C – complementary subjects
D – elective subjects
E – final examination and language proficiency
F – other educational activities

COMMON CURRICULUM

1st YEAR (60 ECTS)

COURSE	ECTS	DISC.	TYPE	SEMESTER
General Geology and Physical Geography	9			
• Module General Geology	(3)	GEOS-02/B	C	1
• Module Physical Geography	(6)	GEOS-03/A	A	1
Fundamentals of Mathematics for Earth Sciences	9	MATH-04/A	A	1
Fundamentals of Physics for Earth Sciences	9	PHYS-04/A	A	1 and 2
Sedimentary Geology and Paleontology	12			
• Module Sedimentary Geology	(6)	GEOS-02/B	A	2
• Module Paleontology	(6)	GEOS-02/A	A	1 and 2
Chemistry	9			
• Module General Chemistry	(6)	CHEM-03/A	A	1
• Module Organic Chemistry	(3)	CHEM-05/A	A	2
Geochemistry of Planet Earth	6	GEOS-01/C	B	2
Mineralogy	6	GEOS-01/A	A	2

2nd YEAR (60 ECTS)

COURSE	ECTS	DISC.	TYPE	SEMESTER
Petrography	6	GEOS-01/B	B	1
Structural Geology and Rock Mechanics	6	GEOS-02/C	B	1
Earth Surface Processes, Landforms and Climate Change	9			
• Module Applied Sedimentology	(3)	GEOS-02/B	C	1
• Module Geomorphology	(6)	GEOS-03/A	B	1
Geophysics	9			
• Module Institutions of Solid Earth Geophysics	(6)	GEOS-04/A	B	1
• Module Institutions of Exploration Geophysics	(3)	GEOS-04/B	C	1
Digital Geologic and Thematic Mapping	15			
• Module Principles of Geological Mapping	(6)	GEOS-02/C	B	2
• Module Geological Mapping of Substrate	(3)	GEOS-02/B	C	2
• Module Geological Mapping of Quaternary Deposits	(3)	GEOS-03/A	C	2
• Module Paleontology Applied to Geologic Mapping	(3)	GEOS-02/A	C	2
Engineering Geology and Applied Geophysics	9			
• Module Applied Geology	(6)	GEOS-03/B	B	2
• Module Applied Geophysics	(3)	GEOS-04/B	C	2
Introduction to Geologic Data Acquisition and Interpretation	6			
• Module Laboratory of Geodata Acquisition	(3)	GEOS-01/C	C	2
• Module Elements of Informatics for Geodata Analysis	(3)	INFO-01/A	C	2

3rd YEAR (60 ECTS)

COURSE	ECTS	DISC.	TYPE	SEMESTER
Georesources and Elements of Petrogenesis	6	GEOS-01/D	B	1
Hydrogeology and Management of Water Resources	6	GEOS-03/B	B	1
Geohazards and Sustainability	6	GEOS-04/A	B	1
Environmental Geochemistry and Mineralogy	6			
• Module Environmental Geochemistry	(3)	GEOS-01/C	C	1
• Module Applied Mineralogy	(3)	GEOS-01/A	C	1
Geological Surveying	15			
• Module Geological Modeling	(6)	GEOS-02/C	B	2
• Module Geophysics for Natural Resources	(3)	GEOS-04/B	C	2
• Module Prospecting for Georesources	(3)	GEOS-02/B	C	2
• Module Elements of Giacimentology	(3)	GEOS-01/B	C	2
Introduction to Data Science for Geoscience	3	INFO-01/A	F	2
Elective course	6		D	
Elective course	6		D	
Internship	3		F	
Final examination/Thesis	3		E	

PREREQUISITES

We strongly recommend that you follow the sequence of courses proposed in the semester structure of the study programme. In particular, you should note that:

- General Geology and Physical Geography should be taken before Earth Surface Processes, Landforms and Climate Change;
- The General Chemistry module within the Chemistry course should be taken before Geochemistry of Planet Earth and Mineralogy;
- Mineralogy should be taken before Petrography;
- Structural Geology and Rock Mechanics should be taken before Digital Geologic and Thematic Mapping;
- Sedimentary Geology and Paleontology should be taken before Digital Geologic and Thematic Mapping;
- Digital Geologic and Thematic Mapping should be taken before Geological Surveying;
- Fundamentals of Physics for Earth Sciences should be taken before Geophysics.

ASSESSMENT OF LEARNING OUTCOMES

The assessment of learning outcomes will be carried out through practical, written and/or oral exams. Learning outcomes will also be assessed during the internship and the final thesis. In addition to the assimilation of fundamental concepts, assessments will also verify the ability to develop an independent and critical judgement and the ability to discuss the topics covered during the course, both oral and written communication skills, the ability to write technical papers and scientific reports, and the ability to independently expand the knowledge and skills acquired.

UNIVERSITÀ DEGLI STUDI DI TRIESTE

PROSPECTIVE STUDENT SUPPORT AND PUBLIC INFORMATION OFFICES

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COMPETENT OFFICES

For further info on the degree programmes

Contact us