



# UNIVERSITÀ DEGLI STUDI DI PALERMO

**Department: Earth and sea sciences**

**A.Y. 2021/2022**

**DEGREE COURSE IN GEORISK AND GEORESOURCES**

**- GEORISKS -**

## Characteristics



Class of Master's Degree  
(MSc) on Geology (LM-74)



2 YEARS



PALERMO



FREE ACCESS



2229

## Educational objectives

The 2nd cycle degree course in Geology aims at providing students with an adequate command of general scientific methods and contents, as well as with the acquisition of specific professional skills. Educational activities include:

- courses and/or modules divided into lectures, exercises, field practice. Each of these activities is awarded with an adequate number of credits;
- seminars, group work, technical visits and internships in public or private external facilities: institutions, laboratories, companies, offices, construction sites;
- Stays at other Italian and foreign universities, under international agreements too.

The first part of the 2nd cycle Degree Course in Georisk and Georesources is common to all enrolled students, while the second part provides for two curricula: Georisk and Georesources. Consistently with the educational objectives of the course, such an educational programme aims at training and developing manifold competences and skills for the profession and/or for doctoral education in the same scientific area.

The course aims in particular at providing specific knowledge in the analysis, interpretation and three-dimensional modelling of the geological setting of the region and of the adjacent marine areas; it also provides for advanced training in the study and definition of forecasting models of geological phenomena capable of detecting danger/risk conditions (eruptions, landslides and hydrogeological instability, earthquakes), and also for the acquisition of basic skills for the analysis and modelling of Geo-environmental systems and processes, for the assessment and management of geo-resources and for the assessment and prevention of deterioration of cultural heritage.

## Professional opportunities

Profile:

Senior geologist

Functions:

Geologists can assist architects and engineers in the implementation of projects for the construction of public and private buildings, roads, bridges, tunnels etc. The geologist trained by this Degree Course is specifically addressed to the assessment of the geo-hydrological, seismic and volcanic risk and is an important figure for the collaboration with other technical planners (Architects and Engineers). Their functions are also used in the preparation of town planning regulations and in the design of new landfills and/or waste disposal plants.

Skills:

The required skills of graduates in the Geological Science and Technology class have changed hand in hand with the changed socio-economic structure both in Italy and in international contexts at large. The progressive transfer of interest from occupational activities and perspectives aimed at a total and sometimes indiscriminate use of the territory is known, in which the figure of the professional geologist acted as a support for example to that of the engineers, to activities aimed mainly at a more reasoned use of land resources. Activities were thus developed to find renewable energy resources (e.g. geothermal energy), enhancement of cultural and environmental heritage and above all the assessment of geological risks, in continental and marine environments.

Professional opportunities:

Geologists can work as freelance professionals, after passing the national professional qualification exam, also working in private engineering and geotechnical offices and laboratories. They may also find employment in public bodies with technical branches for the planning for the protection and safeguard of the landscape heritage as well as in bodies for the protection of Cultural Heritage. They can also find professional opportunities in public institutions for seismic, volcanic and hydrogeological surveillance. They may work as geologists at hydrocarbon research companies, as well as in companies for

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the extraction (quarries or mines) of material useful in civil engineering.

In addition, geologists may find employment in public and/or private companies dealing with landfill monitoring, as well as for the remediation of contaminated sites.

### Final examination features

The final examination (27-33 credits) consists of the discussion of an original work (degree dissertation) of experimental or theoretical nature, prepared under the guidance of a supervisor and presented as a written dissertation. The dissertation topics should be related to issues related to class specific disciplines and their application. The final examination may include laboratory, field and/or internship activities. The board of the Degree Course specifies the criteria for the attribution of the final mark, which must take into account the consistency between expected educational objectives and outcomes, with reference also to the whole educational path.

Subjects 1 ° year	CFU	Sem.	Val.	SSD	TAF
19213 - APPLIED GEOMORPHOLOGY AND GEO-HYDROLOGICAL RISK <i>Rotigliano(PO)</i>	6	1	V	GEO/04	B
19212 - MARINE GEOLOGY AND COASTAL RISK <i>Sulli(PO)</i>	6	1	V	GEO/02	B
18134 - TECHNICAL GEOLOGY AND GEOTECHNICS - INTEGRATED COURSE	9	1	V		
- GEOTECHNICS WITH LABORATORY <i>Cafiso(PC)</i>	3	1		ICAR/07	C
- TECHNICAL GEOLOGY <i>Cappadonia(PA)</i>	6	1		GEO/05	B
20691 - ENGLISH LANGUAGE SKILLS - EQUIVALENT TO LEVEL B2	6	1	G		F
17201 - APPLIED GEOCHEMISTRY <i>Varrica(PA)</i>	6	2	V	GEO/08	B
03598 - APPLIED GEOPHYSICS <i>Martorana(PA)</i>	6	2	V	GEO/11	B
20605 - STRUCTURAL GEOLOGY WITH FIELD ACTIVITY <i>Gasparo Morticelli(RD)</i>	6	2	V	GEO/03	B
Free subjects (suggested)	6				D

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Subjects 2 ° year	CFU	Sem.	Val.	SSD	TAF
20609 - GEOPHYSICS FOR SEISMIC MICROZONATION <i>Capizzi(RD)</i>	6	1	V	GEO/11	C
09452 - MORPHOTECTONICS <i>Di Maggio(PA)</i>	6	1	V	GEO/04	B
10270 - VOLCANIC RISK <i>Aiuppa(PO)</i>	6	1	V	GEO/08	B
13351 - ADVANCED SKILLS RELATED TO THE LABOUR MARKET	2	1	G		F
19807 - SEMINARS HELD BY THE REGIONAL BOARD OF GEOLOGISTS	1	1	G		F
05917 - FINAL EXAMINATION	30	2	G		E
18182 - INTERNSHIP AND PRACTICE	6	2	G		S
Optional subjects	6				C
Free subjects II	6				D

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## OPTIONAL SUBJECTS

Optional subjects	CFU	Sem.	Val.	SSD	TAF
20607 - APPLIED SEISMOLOGY <i>D'Alessandro(PC)</i>	6	2	V	GEO/10	C
10702 - CARSOLOGY AND SPELEOLOGY <i>Madonia(PA)</i>	6	1	V	GEO/04	C
19214 - HYDRAULIC RISK AND WATER BASIN MANAGEMENT <i>Ferro(PO)</i>	6	1	V	AGR/08	C
20610 - NUCLEAR GEOCHEMISTRY AND ENVIRONMENTAL RISK <i>Censi(PA)</i>	6	2	V	GEO/08	C
19834 - VOLCANIC ACTIVITY SURVEILLANCE <i>Calabrese(PA)</i>	6	2	V	GEO/08	C
16481 - VOLCANIC PETROLOGY <i>Rotolo(PO)</i>	6	1	V	GEO/07	C
Free subjects (suggested)	CFU	Sem.	Val.	SSD	TAF
12451 - GEOSCIENCES TEACHING METHODOLOGY <i>Madonia(PA)</i>	6	2	V	GEO/04	D

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