



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze della Terra e del Mare		
ACADEMIC YEAR	2020/2021		
BACHELOR'S DEGREE (BSC)	GEOLOGY		
INTEGRATED COURSE	GEOLOGICAL SURVEY - INTEGRATED COURSE		
CODE	06278		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	GEO/03		
HEAD PROFESSOR(S)	PEPE FABRIZIO	Professore Associato	Univ. di PALERMO
OTHER PROFESSOR(S)	PEPE FABRIZIO	Professore Associato	Univ. di PALERMO
CREDITS	9		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	3		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	PEPE FABRIZIO Tuesday 12:00 14:00 Via Archirafi, 22 - Il Piano. Studio docente		

DOCENTE: Prof. FABRIZIO PEPE

PREREQUISITES	Knowledge of the course contents of Geology I. Knowledge base on stratigraphy and tectonics.
LEARNING OUTCOMES	<p>knowledge and understanding Being able to read and interpret a geological map. Understanding the geological survey's criteria for recognizing the outcropping geological units in an area of study. Knowledge of techniques for cartographic representation of the geological units. Ability to understand the underground arrangement of the geological units. Understanding the stratigraphy and tectonics history of the study area.</p> <p>Applying knowledge and understanding Capacity of drawing a geological profile and understanding the relationship between the structures and the geological units. Being able to reconstruct the stratigraphy and tectonics history of the study area. Capacity of detecting critical geological conditions linked to human settlement of the territory or exploitation of natural resources. Being able to produce a geological report with the correct descriptive and iconographic elements.</p> <p>Making judgements Being able to recognize the tectono-stratigraphic characteristics of the study area in order to define its stratigraphy and tectonics history.</p> <p>Communication skills Being able to explain basic knowledge of geological mapping in a clear and exhaustive manner, using scientific terminology.</p> <p>Learning skills Acquiring knowledge of the geological survey's criteria, techniques for cartographic representation of the geological units and criteria for producing a geological report. Being able to understand and interpret a geological map. Acquiring knowledge reading scientific papers and taking part in seminars on geological disciplines.</p>
ASSESSMENT METHODS	Tests on laboratory activities (geological sections, line drawings, logs), oral test on theoretical arguments and results achieved during the geological field. The final evaluation, which is expressed in thirtieths, is based on the results of the tests (10/30) coupled with oral discussions on topics covered during the course (10/30) and the geological field (10/30). Evaluation is based on the achievement of the objectives (basic knowledge of the topics and linkage between them, autonomy of judgment, correct use of technical-scientific language), with an elementary grade (18/30) to excellent (30 cum laude).
TEACHING METHODS	Lessons in class. Laboratory activity.

**MODULE
GEOLOGICAL SURVEYING FIELD**

Prof. FABRIZIO PEPE

SUGGESTED BIBLIOGRAPHY

Corrado Venturini, 2012 - Realizzare e leggere carte e sezioni geologiche. Flaccovio Dario Editore, Palermo.
Cremonini G. 1994 - Rilevamento geologico. Pitagora Editore, Bologna.

AMBIT	10707-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	27
COURSE ACTIVITY (Hrs)	48

EDUCATIONAL OBJECTIVES OF THE MODULE

Capacity of a) construction of a geological map, including stratigraphic columns, geological sections and various diagrams; b) capacity to reconstruct in three dimensions the tectono-stratigraphic setting and d) the kinematic evolution of an area; c) draw up of a summary report in which it summarized the geological evolution of the area detected.

SYLLABUS

Hrs	Workshops
24	Recording stratigraphic and structural data in the field.
24	Mapping of geological surfaces and realization of a geological map and a summary report.

**MODULE
GEOLOGICAL SURVEY**

Prof. FABRIZIO PEPE

SUGGESTED BIBLIOGRAPHY

Angela L. Coe, Tom W. Argles, David A. Rothery, Robert A. Spicer, Wiley-Blackwell, 2010 - Geological field techniques. Blackwell Publishing Ltd
Corrado Venturini, 2012 - Realizzare e leggere carte e sezioni geologiche. Flaccovio Dario Editore, Palermo.

AMBIT	50188-Ambito geologico-paleontologico
INDIVIDUAL STUDY (Hrs)	94
COURSE ACTIVITY (Hrs)	56

EDUCATIONAL OBJECTIVES OF THE MODULE

knowledge and understanding
Being able to read and interpret a geological map. Understanding the geological survey's criteria for recognizing the outcropping geological units in an area of study. Knowledge of techniques for cartographic representation of the geological units. Ability to understand the underground arrangement of the geological units. Understanding the stratigraphy and tectonics history of the study area.

Applying knowledge and understanding
Capacity of drawing a geological profile and understanding the relationship between the structures and the geological units. Being able to reconstruct the stratigraphy and tectonics history of the study area. Capacity of detecting critical geological conditions linked to human settlement of the territory or exploitation of natural resources. Being able to produce a geological report with the correct descriptive and iconographic elements.

Making judgements
Being able to recognize the tectono-stratigraphic characteristics of the study area in order to define its stratigraphy and tectonics history.

Communication skills
Being able to explain basic knowledge of geological mapping in a clear and exhaustive manner, using scientific terminology.

Learning skills
Acquiring knowledge of the geological survey's criteria, techniques for cartographic representation of the geological units and criteria for producing a geological report. Being able to understand and interpret a geological map. Acquiring knowledge reading scientific papers and taking part in seminars on geological disciplines.

SYLLABUS

Hrs	Frontal teaching
3	Objectives and importance of geological survey - Outcropping - Tools for geological survey and their use.
3	Geological bodies and distinctions
3	Planning the geological survey. Observation and data collection
3	Stratimetry notions. Mapping geological surfaces.
3	Interpolation and extrapolation of geological surfaces.
3	Stratigraphic sections
3	Relationships between outcrops and correlations
3	Tectonics (compression, extension and strike-slip systems)
8	Geological Sections.
Hrs	Practice
6	Reading and Interpreting Geological Maps. Tools for geological survey and their use. Realization of geological profiles.
6	Interpolation and extrapolation exercises of planar, bent and irregular surfaces. Stratimetry: unit thickness measurement methods on the ground; Determining the thickness of a unit according to its intersection with the topography; Determination of the depth of a geological surface.
6	Realization of line-drawing. Using GIS software for geological survey.
6	Daily excursions where sedimentary successions will be investigated.