GEOMORPHOLOGY

TEACHING SCHEDULE

University degree course	**Geological Sciences degree**
Teaching Name:	**Geomorphology**
Number of Credits:	**8 (eight)**
Semester:	**Second**
Teacher Title:	**Prof. Filippo Russo**
PhD students / research assigners who carry out didactic activities to support the course:	
Reception hours:	**Monday, Tuesday, 11 – 13 a.m., after appointment**
Address:	**Benevento, Via Port'Arsa, 11.**

PRESENTATION OF THE COURSE

The course introduces the study of the genesis and evolution of earth relief and its modeling by different agents and morphogenetic processes. It also provides a modern, up-to-date scientific reading key on morphologic dynamics for proper protection, enhancement, and management of the Landscape. The course represents for the student the only tool in the geological sciences to know and understand the evolving characteristics and dynamics of natural landscapes.

THE FORMATIVE OBJECTIVES

The course aims to learn morpho-evolutionary dynamics that characterize the earthly relief expressed by its various landscapes. It allows to know and understand the morphogenetic actions and how the various morphogenetic processes work. In practice, by recognizing and analyzing the forms of relief, the student will be able to understand morphogenetic actions and processes that are operative or have been operative in past. Recognition of the morphological characteristics of the landscape will be acquired through the interpretation of the topographic elements in cartography and direct observation on the field, this will put the student capable of comprehending the morphologic dynamics of the relief alone and organizing them in a succession of temporally and spatially defined events. The theoretical and practical knowledge gained with the course will be more than sufficient to put the student in the condition of communicating, with appropriate terminology, the morpho-evolutionary history of the relief and establishing with sufficient reliability and critical judgment the goodness of the geomorphological reconstruction hypothesized.

REQUIRED PRACTICES

To fully understand the geomorphological dynamics of the course, the student will necessarily have previous knowledge acquired in the geological field and especially in the geographic-physical and cartographic fields.

FREQUENCY OF LESSONS

Although not mandatory according to the University Teaching Regulations, the frequency at the Geomorphology course is strongly recommended. The reason for this statement lies in the fact that many examples of morphotypes and landscape models that cannot be obtained otherwise will be shown to the student during the course. In addition, the analysis and description of the geomorphological characteristics of the relief or the succession of the morpho-evolutionary events illustrated during the course, even in the field, is much affected by the empirical experience of the teacher and is not replaceable with other practices.

CONTENTS OF THE COURSE

Theory and evolution models of the relief. Geomorphic systems, morphogenetic agents and processes. Rock weathering and Pedogenesis. The role of water in the morphogenesis of the terrestrial relief. The karst geomorphology. Morphogenesis in glacial and periglacial environment. The development of the hydrographic grid. Morphogenesis and morphodynamic fluvial. Descriptions of volcanic, wind and coastal morphology. The gravitational morphogenesis and mass movements. Climate and Tectonic role in Morphogenesis. Relationships between orography and hydrography. Shape, genesis and evolution of the slopes and natural slopes. Morphotypes of quaternary landscapes of southern Italy. Geomorphological mapping and geo-mapping elements.

DIDACTIC METHODS

The course, 72 hours (8 CFUs), will be held in the second semester and will be conducted with traditional didactic methods. The frontal lessons will be organized so that the theoretical and descriptive aspects of the various geomorphological phenomena and the recognitive and practical aspects of the student can be accessed through the display of papers, slides and concrete examples, both in the lab and in the field. The course will have its own thread that theoretical models gradually and gradually will lead the student to the analysis of the concrete forms of the landscape. Guided tours and educational excursions will make the student able to confront the geomorphological complexities of the real landscape.

REFERENCE TEXTBOOKS

BARTOLINI-PECCERILLO – I fattori geologici delle forme del rilievo – Pitagora
CASTIGLIONI - Geomorfologia – UTET
PANIZZA - Geomorfologia – Pitagora
CICCACCI – Le forme del rilievo. Atlante illustrato di Geomorfologia – Mondadori Università
D'OREFICE-GRACIOTTI – Rilevamento geomorfologico e Cartografia – Dario Flaccovio Editore
DRAMIS-OLLIER – Genesi ed evoluzione del rilievo terrestre. Fondamenti di Geomorfologia - Pitagora
BLOOM – Geomorphology – Prentice-Hall
HUGGET – Fundamentals of Geomorphology – Routledge
STRAHLER - Geografia Fisica - Ed. Piccin
SPARKS – Geomorphology (Geometric studies of slopes) – Longman Scientific & Technical

Reference scientific papers

BRANCACCIO L., CINQUE A. & SGROSSO I. (1978) – L'analisi morfologica dei versanti come strumento per la ricostruzione degli eventi neotettonici. Mem. Soc. Geol. It., 19, 12 pp.

BRANCACCIO L., CINQUE A. & SGROSSO I. (1979) - Forma e genesi di alcuni versanti di faglia in rocce carbonatiche: il riscontro naturale di un modello teorico. Rend. Accad. Se. Fis. e Mat. Napoli, s. IV, 46, 1 - 21.
BRANCACCIO L., CINQUE A. & SGROSSO I. (1986) - Elementi morfostrutturali ereditati nel paesaggio dell'Appennino centro-meridionale. Mem. Soc. Geol. It., 35, 869 – 874.
BRANCACCIO L., CINQUE A., RUSSO F. & SGAMBATI D. (1999) - Osservazioni geomorfologiche sulle frane del 5-6 maggio 1998 del Pizzo d'Alvano (Monti di Sarno, Campania). In: "Studi geogafici e geologici in onore di Severino Belloni" a cura di G. Orombelli, Brigati Editore, Genova, 1999, 81 – 123.

PROFIT EXAMINATION

The goal of the final profit examination, which will take place only in oral form through the interview, is the verification of an adequate level of achievement of the course's learning objectives, both in terms of knowledge and the skills learned. The oral interview is compulsory and aims to evaluate the theoretical/practical and descriptive knowledge of the student, as well as the appropriateness of the terminology used, the relevance of the answers, the ability to bring examples and make connections, the property of language and the overall expressive capacity. The oral exam is valid for all types of students.

CALENDAR EXAMS

See the link

BOOKING EXAMS

See the link

SYLLABUS

Arguments	Hours	Bibliographic references	Type of lesson
Geomorphic systems, morphogenetic agents and processes.	4	Castiglioni; Huggett.	Frontal lesson
Theory and evolution models of the relief.	4/6	Castiglioni; Huggett; Course notes prepared by the teacher; Dramis & Ollier.	Frontal lesson
Rock weathering and Pedogenesis.	4/6	Strahler; Bloom; Ciccacci.	Frontal lesson
The role of water in the morphogenesis of the terrestrial relief.	2	Course notes prepared by the teacher	Frontal lesson
Carsism.	6	Castiglioni; Ciccacci.	Frontal lesson
Morphogenesis in glacial and periglacial environment.	6	Castiglioni; Ciccacci.	Frontal lesson
The development of the hydrographic net.	2	Strhaler; Panizza; Course notes prepared by the teacher.	Frontal lesson
Morphogenesis and morphodynamic fluvial.	8	Course notes prepared by the teacher	Frontal lesson
The volcanic morphogenesis.	8	Ciccacci; Dramis & Ollier.	Field excursion
Thoughts on wind and coastal morphogenesis.	2	Ciccacci; Dramis & Ollier.	Frontal lesson
The gravitational morphogenesis and mass movements.	4/6	Brancaccio et al., 1999; Course notes prepared by the teacher	Frontal lesson, Field excursion
Climate and tectonic role in Morphogenesis.	2	Course notes prepared by the teacher; Ciccacci; Dramis & Ollier.	Frontal lesson
Relationships between orography and hydrography.	2	Bartolini & Peccerillo; Castiglioni.	Frontal lesson
Shape, genesis and evolution of the slopes and natural scarps.	8	Brancaccio et al., 1979; Sparks.	Frontal lesson, Field excursion
Morphotypes of Quaternary landscapes of southern Italy.	6	Brancaccio et al., 1978; Brancaccio et al., 1986.	Frontal lesson, Field excursion
Geomorphological mapping and geo-mapping elements.	6	D'Orefice & Graciotti.	Frontal lesson; Laboratory