DIPARTIMENTO DI SCIENZE

COURSE: **Geomorphology**			
ACADEMIC YEAR: **2016-2017**			
TYPE OF EDUCATIONAL ACTIVITY:			
TEACHER: **Professor Marcello Schiattarella**			
e-mail: marcello.schiattarella@unibas.it		website:	
phone: +39-0971-202290		mobile (optional):	
Language: **Italian**			
ECTS: (lessons e tutorials/practice) **9**	n. of hours: (lessons e tutorials/practice) **80**	Campus: **Potenza** Dept./School: **Dipartimento di Scienze** Program:	Semester: (date) **March 9 to June 6**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

- *Acquisition of cognitive tools for the recognition of current and relict landforms and related genetic processes.*

PRE-REQUIREMENTS

Passing Exam of Physical Geography

SYLLABUS

1. Geomorphology and Earth Sciences.

1.1 Genesis and evolution of the landforms: basic concepts.

1.2 Branches of Physical Geography and Geomorphology.

1.3 Relationships between Geology and Geomorphology.

2. Weathering and pedogenesis.

2.1 The weathering factors.

2.2 Detrital covers, colluvium, and eluvium.

2.3 Weathered horizons, regolite, and soils.

2.4 Soil development and stratigraphy.

2.5 Palaeosols: geological meaning and dating techniques.

3. Slope denudation.

3.1 Linear, areal, and punctiform erosion.

3.2 Soil creep, solifluction e gelifluction.

3.3 Landslides and their classification.

3.4 Slope deposits.

3.5 Predictive methods of the rocky slope evolution.

3.6 Badlands.

4. Structural landforms.

4.1 Introduction to structural geomorphology.

4.2 Relationships between morphology and geological structures.

4.3 Selective erosion processes.

4.4 Structural surfaces and relief.

4.5 Unadjusted drainage.

4.6 Fold belt and relief types.

4.7 Fault scarps and slopes.

4.8 Land surfaces.

5. Volcanic morphology.

5.1 Mechanisms of emplacement of volcanic products

5.2 Basic volcanic landforms.

5.3 Rocktype-related volcanic edifice classification.

6. Fluvial morphology.

6.1 River bed and valley morphology.

6.2 Longitudinal equilibrium profile.

6.3 Morphometry and fluvial patterns.

6.4 Fluvial capture.

6.5 Alluvial deposits.

6.6 Fluvial terraces.

7. Glacial morphology.

7.1 Glacier types and glacial landforms.

7.2 Alimentation and ablation.

7.3 Glacial erosion and transport.

7.4 Fluvial-glacial and morenic deposits.

7.5 Pleistocene glaciations.

8. Karst morphology.

8.1 General features.

8.2 Surface landforms.

8.3 Cave systems.

8.4 Tectonic-karst landforms.

9. Coastal morphology.

9.1 Coastal morphogenetic processes

9.2 Low-sloping coasts.

9.3 High coasts and cliffs.

9.4 Marine terraces.

TEACHING METHODS

Lectures – Lab. Activities – Field trip

EVALUATION METHODS

Final oral exam

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- HUGGETT R.J. (2003) – FUNDAMENTALS OF GEOMORPHOLOGY. ROUTLEDGE.
- SUMMERFIELD M.A. (1991) - GLOBAL GEOMORPHOLOGY. LONGMAN SCIENTIFIC & TECHNICAL.

INTERACTION WITH STUDENTS

Students are usually received by Professor Schiattarella on Wednesday, or in other days of the week, if arranged during the course.

EXAMINATION SESSIONS (FORECAST)[1]

March 23
May 18
June 22

[1]Subject to possible changes: check the web site of the Teacher or the Department/School for updates.

July 18
October 10
November 9
January 18 (2018)

SEMINARS BY EXTERNAL EXPERTS YES **X** NO

FURTHER INFORMATION

It is advisable to consult a high-quality geographical atlas and IGMI topographic maps (1: 25,000 scale). It is recommended the study of papers and notes distributed during the course. The participation to the field trip and the practice about the geomorphological interpretation of the topographic maps are both necessary for a complete preparation.