

COURSE: Pedology (AGR/14)

ACADEMIC YEAR:2019/2020

TYPE OF EDUCATIONAL ACTIVITY: Student's choice

TEACHER: Maurizio Lazzari

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mobile (optional):

Language: Italian

ECTS: 6 (lessons e  
tutorials/practice)

n. of hours: 56 (40+16)  
(lessons e  
tutorials/practice)

Campus: Potenza  
Dept./School: School of  
agriculture, forestry, food and  
environmental sciences  
Program:

Semester: II

#### EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The aim of the course is to provide the basic knowledge necessary for the understanding of the "soil system", on the processes of formation and evolution of soils and on field survey method, classification and thematic mapping adopted in pedology. The soil is the result of the actions and interactions of natural and anthropic factors on the rocks of the earth's surface, and as such constitutes an important indicator of the current environmental conditions as well as of the historical and geological past. The course will introduce and describe the basic principles of Stratigraphy and Sedimentology aimed at analyzing facies useful for the definition of depositional and morfoevolutionary processes and environments, preliminary to the start of pedogenetic processes in different geographical contexts.

A particular focus will be on the study and recognition of the soils of Basilicata (also with field exercises), on the analysis of soil and soil stratigraphy in applied and complex contexts, such as the urban environment (urban soils) and archaeological excavations (relationship between pedogenetic processes and methods of study of paleo-environments in relation to historical settlements), to the main factors that determine soil erosion, as well as to the criteria for the preparation of a soil map and to its application.

#### PRE-REQUIREMENTS

Frequency of the preparatory course: Agricultural Chemistry and elements of biochemistry (AGR0079)

#### SYLLABUS

##### CFU - 1

*Basic principles of Stratigraphy, Depositional processes and sedimentary environments, Sedimentary facies, profiles and stratigraphic sections*

##### CFU - 2

*Landscape forms, with particular reference to the contexts of Basilicata and southern Italy, erosive processes, associated morphologies and incidence on pedogenetic processes and soil productivity*

##### CFU - 3

*Buried soils and paleo-soil, paleoclimatic and paleo-environments markers*

##### CFU - 4

*Soil survey and soil maps: identification of the soil and landscape units, planning of the pedological field survey, reading and description of the profiles, inspection drills. Application examples in landscape and large area planning.*

##### CFU - 5

*Urban Soils - Soils and Pedological Regions: examples in Basilicata and Southern Italy*

##### CFU - 6 (field practice)

*An outing in the field for the recognition and description of Lucan soils and exercise in the classroom for the creation of pedological maps on sample areas.*

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#### TEACHING METHODS

Theoretical lessons, Classroom tutorials, Laboratory tutorials, Project works, field survey

The course includes 40 hours of classroom lectures on theoretical and practical aspects and 16 hours of field and laboratory / design exercises. The field lessons include educational outings for the direct verification of the types of Lucan soils and their characteristics, as well as for making soil maps on sample areas.

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#### EVALUATION METHODS

Oral examination, Practical test

At the end of the course, according to a predefined exam schedule, an assessment of the student's learning and abilities will be held, through an oral interview, in which a short written essay with a pre-agreed topic with the teacher will also be discussed. This written paper aims to verify how the student has acquired the ability to translate the knowledge acquired during the course into an applied form and the ability to synthesize and transmit it in written form.

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#### TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Dazzi C. (2013) - Fondamenti di Pedologia. Le Pensur. ISBN : 978-88-95315-20-1

Casalichio G. (2006) - Geopedologia: con elementi di geoarcheologia. Pitagora

Giordano A. (1999) – Pedologia, UTET

Retallack G.J. (2001) Soils of the past. Blackwell Science

Regione Basilicata – I suoli della Basilicata <http://www.basilicata.net.it/suoli/credits.htm>

Dispense e slides predisposte dal docente

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#### INTERACTION WITH STUDENTS

At the beginning of the course, after describing objectives, program and verification methods, the teacher collects the list of students with name, surname, registration number and email. The Teacher will make the teaching material available to the students (shared folders, website, etc).

Office hours: Thursdays and Fridays from 9 to 12 at a University office that will be communicated or at its CNR office in Tito Scalo (PZ). In addition to the weekly reception timetable, the teacher is available at all times for a contact with the students, through his own e-mail [m.lazzari@ibam.cnr.it](mailto:m.lazzari@ibam.cnr.it)

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#### EXAMINATION SESSIONS (FORECAST)<sup>1</sup>

to be defined

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SEMINARS BY EXTERNAL EXPERTS    YES     NO

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#### FURTHER INFORMATION

Available to assign dissertations on a series of topics proposed to the student.

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<sup>1</sup> Subject to possible changes: check the web site of the Teacher or the Department/School for updates.