Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: Environmental Geology			
ACADEMIC YEAR: 2019/2020			
TYPE OF EDUCATIONAL ACTIVITY: Characterizing			
TEACHER: Filomena Canora			
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phone: +39 0971 205075		mobile (optional): +39 347 3777788	
Language: Italian			
ECTS: 6 CFU ECTS 4 CFU lessons ECTS 2 CFU tutorials	n. of hours: 54 n. of hours 32 lessons n. of hours 22 tutorials	Campus: Potenza School of Engineering	Semester: I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Knowledge: Earth surface processes and dynamics. Natural hazards. Land instability phenomena. Hydrogeological Risk. Slope Instability and dynamics of landslides. Landslide hazard and risk. Aquifer pollution vulnerability and risk. Karst hazard and risk. Land degradation. Sensitivity to desertification. Coastal vulnerability and erosion risk.

Skills: Development and understanding of the ability to recognize classify and analyze the peculiar problems of environmental nature and, in particular, the hydrogeological risk and others processes related to the phenomena of territory instability. Acquisition of specific skills in order to interact with similar professional figures that operate with different skills in a variety of phases related to the environmental interventions connected to the territory and the design of the works; to the environmental phenomena connected to the territory management and planning and the definition of mitigation actions.

PRE-REQUIREMENTS

No requirement

SYLLABUS

Earth surface processes and dynamics; natural and hydrogeological hazards. Natural and anthropogenic: systems, processes phenomena, system dynamics and system identification; complexity and uncertainties. Protection of the territory from hydrogeological risk. Slope Instability and dynamics of landslides. Landslide Hazard, Vulnerability, Exposure and Risk Assessment. Measurements and monitoring finalized to the prediction, prevention and mitigation of landslide risk. Aquifer Hydrodynamics. Groundwater Pollution. Intrinsic and specific vulnerability of groundwater and risk pollution. Processes in Karst Systems. Natural and anthropogenic caves instability. The sinkholes. Karst hazard and risk assessment. Soil erosion and Susceptibility to desertification. Coastal Dynamics: erosion, coastal vulnerability and sensitivity. Coastlines Instability. Environmental Thematic and Risk Cartography.

TEACHING METHODS

Theoretical lessons and Classroom tutorials.

EVALUATION METHODS

Oral examination. It will be evaluated the ability to link and compare different aspects covered during the course.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Lecture Notes and Teaching handouts.

Pipkin B.W., Trent D.D., Hazlett R., GEOLOGIA AMBIENTALE, Piccin, 2005.

Glade T., Anderson G.M., Crozier J.M. LANDSLIDE HAZARD AND RISK, Wiley, 2005

Goudie A., THE HUMAN IMPACT ON THE NATURAL ENVIRONMENT, Blackwell Publishing, Oxford, 2005.

Civita M., IDROGEOLOGIA APPLICATA E AMBIENTALE. Casa Editrice Ambrosiana, 2005.

Fetter C.W. APPLIED HYDROGEOLOGY (4th Edition). Pearson, 2000.

INTERACTION WITH STUDENTS

At the beginning of the course, the teacher describes the objectives, program and evaluation methods, provides students educational material. She collects a list of students who intend to enroll in the course, together with name and email.

Office hours: Wednesday 11.00 to 13.00 hours; Friday 11.00 to 13.00 at the Campus of Macchia Romana, School of Engineering, third floor, st. n. 36 – Via dell'Ateneo Lucano, 10 - Potenza.

In addition to weekly reception, the teacher is available at all times for a contact with the students, through e-mail or by telephone.

EXAMINATION SESSIONS (FORECAST)[1]

6/2/20; 20/2/20; 6/3/20; 20/3/20; 3/4/20; 17/4/20; 6/5/20; 25/6/20; 16/7/20; 3/9/20; 24/9/20; 09/10/20; 23/10/20; 13/11/20; 27/11/20; 11/12/20

SEMINARS BY EXTERNAL EXPERTS YES

FURTHER INFORMATION

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