UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali
ACADEMIC YEAR	2016/2017
MASTER'S DEGREE (MSC)	FORESTRY AND AGRO-ENVIRONMENTAL SCIENCE AND TECHNOLOGY
SUBJECT	EROSION AND SOIL CONSERVATION - WORKSHOP
TYPE OF EDUCATIONAL ACTIVITY	F
AMBIT	21386-Altre conoscenze utili per l'inserimento nel mondo del lavoro
CODE	18457
SCIENTIFIC SECTOR(S)	
HEAD PROFESSOR(S)	BAGARELLO VINCENZO Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	3
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	30
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Pass/Fail
TEACHER OFFICE HOURS	**BAGARELLO VINCENZO** Monday 11:00 13:00 studio docente - edificio 4 Dipartimento SAAF - identificativo Ed.4.A.-E.P1-48 Wednesday 11:00 13:00 studio docente - edificio 4 Dipartimento SAAF - identificativo Ed.4.A.-E.P1-48

DOCENTE: Prof. VINCENZO BAGARELLO

PREREQUISITES	knowledge of the phenomenology of the soil water erosion process; models for plot soil loss prediction; general view on soil conservation
LEARNING OUTCOMES	Knowledge and understanding Acquisition of high professional skills in the field of mitigation of soil erosion processes. Applying knowledge and understanding Ability to design soil conservation measures also using, if necesary, experimental methodologies. Making judgments Ability to understand the information contained in soil erosion investigations. Ability to critically analyze the planned soil conservation measures. To be able to take planning decisions with awareness. Communication Ability to explain the results of the studies even to non-expert people. Ability to support the need of studying soil erosion processes and planning soil conservation measures, also highlighting their implications for the environment. Lifelong learning skills Updating ability through consultation of scientific publications in the fields of hydrology, soil science and soil erosion. Ability to use the knowledge acquired during the course for attending advanced courses, such as second level masters or specialized course in the fields of hydrology, and soil water erosion.
ASSESSMENT METHODS	At the end of the course, a discussion on the methodologies to develop a soil conservation plan will be made, in order to evaluate the skills acquired by the student
EDUCATIONAL OBJECTIVES	The course aims to allow the student to (i) interpret and mathematically simulate the soil erosion phenomena occurring at the watershed scale, and (ii) plan and realize soil conservation measures, even to control silting of reservoirs and restoring fire-affected areas.
TEACHING METHODS	lectures, practical activities in the lecture hall
SUGGESTED BIBLIOGRAPHY	Bagarello V., Ferro V. (2006). Erosione e conservazione del suolo. McGraw-Hill, Milano, 539 pp., ISBN 88-386-6311-4 Appunti delle lezioni.

SYLLABUS

Hrs	Frontal teaching
1	Objectives and organization of the course
2	Mention to the soil water erosion processes at both the plot and the watershed scale: Sediment yield and sediment delivery ratio of the watershed.
2	Mention to the Universal Soil Loss Equation (USLE)
6	Empirical methods for estimating soil loss and sediment yield at the watershed scale. Modified universal equation (MUSLE). Estimating the sediment delivery ratio. Distributed models for estimating sediment yield. The SEDD model.
2	Fire impacts on soil erosion. Mathematical simulation of soil erosion phenomena in fire-affected areas. Silting of reservoirs.
2	Designing soil conservation measures.

Hrs	Practice
15	Development of a soil conservation project for a particular case