

ACADEMIC YEAR: 2016-2017

COURSE: Hydraulics and Forestry Soil Conservation

TYPE OF EDUCATIONAL ACTIVITY: Affine

TEACHER: Alessandro COMEGNA

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mobile:

Language: Italian

ECTS: 9

- 6 frontal lectures;
- 3 practice.

n. of hours:

-48 hours lectures.
-48 hours practice.

Campus: Potenza

School: SAFE

Program: LT Forest and
Environmental Sciences

Semester: I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Through basic notions in hydraulics and hydrology, the course aims to provide the necessary skills to implement intervention techniques with a view to managing seasonal streams and consolidate hillsides. Particular attention is paid to enhancing knowledge of fluid dynamics, water transport in streambeds and control of incipient sediment transport, both on bare or forested slopes and in natural channels. The necessary skills are also provided for making a sound choice of appropriate interventions of watercourse restoration, as well as the tools required for appropriate design of hydraulic and forestry management works.

PREREQUIREMENTS

- Mathematics and Physics

SYLLABUS

Lessons

Introduction, Hydrostatics, Pressure Measurement, Hydrodynamics, Water flow in pipes, Flow in open channels, Erosion, Classifying land capability, Preventing and controlling gullies, Cover crops, Soil bioengineering, Principles and scope of torrent control and streambed stabilization.

Practices

Design and calculation of dams

TEACHING METHODS

The course is divided into three teaching units: the first part is composed by lectures on hydraulics, the second is about forestry soil and water conservation and the third teaching unit includes the necessary tools required for appropriate design of hydraulic and forestry management works.

EVALUATION METHODS

Oral examination at the end of the course. Three questions will be drawn, and will be discussed the year-project carried out.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Benini G. Sistemazioni Idraulico forestali UTET. Torino.
- Nebbia G. Dispense di Idraulica. Liguori Editore.
- Ferro V. La Sistemazione dei Bacini Idrografici. McGraw-Hill. Milano.

INTERACTIONS WITH STUDENTS:

-In the office at planned days/hours (usually on Wednesday)
-E-mail and telephone.



**SCUOLA DI SCIENZE
AGRARIE, FORESTALI,
ALIMENTARI
ED AMBIENTALI**

EXAMINATION SESSIONS (Forecast)

Usually the third Wednesday of every month (except August)

EVALUATION BOARD

Alessandro Comegna

Antonio Coppola

SEMINARS BY EXTERNAL EXPERTS YES
