



COURSE: Hydrologic and Hydraulic Risk

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website:

Language: Italian/English

ECTS: 6

n. of hours: 54

Academic year: 2014/2015

Campus: Potenza

Semester: II

TOPICS

The course includes lectures and tutorials on the following topics: legislation on defense, hazard exposure and natural risk, hydrology and hydraulic modeling, risk analysis and mitigation.

TEACHING METHODS (please tick one or more options)

Theoretical lessons

Tutorials in classroom

Tutorials in laboratory

Project works

Technical visits

Other activities (please specify) _____

TEXTBOOKS

V. Ferro, La sistemazione dei bacini idrografici; McGraw-Hill, V.T. Chow Open Channel Hydraulics, McGraw-Hill, Singapore; L. Giosa e A. Sole, La modellazione monodimensionale nello studio delle aree inondabili. Linee guida all'uso del modello HEC-RAS, Errecci Edizioni.

ON-LINE EDUCATIONAL MATERIAL

web address: _____

LEARNING OUTCOMES

The course aims to provide engineers with the knowledge and tools to understand, study and mitigate hydrological and hydraulic risks.

REQUIREMENTS

The course includes the following prerequisites: fluid mechanics, hydrological models.

EVALUATION METHODS (please tick one or more options)

Intermediate verifications

Written examination

Discussion of a project work

Practical test

Oral examination

Other methods (please specify) _____

DETAILED CONTENT

The course opens with a first part dedicated to hydrology and hydraulics with a focus on the free surface flow and to hydrological and hydraulic risks. The second part deals with the use of HEC – RAS, the free software to hydraulic simulation of US Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC - CEIWR). Finally, applications and a project are provided.

SEMINARS BY EXTERNAL EXPERTS YES NO

FURTHER INFORMATION