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COURSE: River hydraulics and training works

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TEACHERS: Annamaria De Vincenzo and Vincenzo Masi

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Language: italiano

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ECTS: 12

n. of hours:118

Academic year: 2014-2015

Campus:Potenza

Semester: Annual

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#### TOPICS

Principles of river hydraulics

Classification of rivers

Morphological equilibrium and modeling discharges

River bed modeling laws of gravel bed and meandering rivers

River barrage impact

River training works

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#### TEACHING METHODS (please tick one or more options)

Theoretical lessons

Tutorials in classroom

Tutorials in laboratory

Project works

Technical visits

Other activities (please specify) \_\_\_\_\_

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#### TEXTBOOKS

Armanini A., 1999. *Principi di idraulica fluviale*, Editoriale Bios

Course notes

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#### ON-LINE EDUCATIONAL MATERIAL

web address: \_\_\_\_\_

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#### LEARNING OUTCOMES

The course aims to enable students to understand fluvial dynamics and to design interventions on watercourses according to the laws of river beds modeling.

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#### REQUIREMENTS

Passed exam: Hydraulics

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#### 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) \_\_\_\_\_

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#### DETAILED CONTENT

The roughness in natural fixed beds

The sediment transport

Incipient motion condition

The resistance to flow in mobile bed

Bed sediment transport

Classification of fluvial reaches evolution

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Energy analysis of evolution processes in a river, degradation or aggradation of a river toward the morphological equilibrium condition

Modeling laws of gravel beds (law of Meyer-Peter and Müller)

Modeling laws of meandering rivers (laws of Lacey and Hermanek)

Designing criteria of longitudinal and transversal river training works

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SEMINARS BY EXTERNAL EXPERTS    YES     NO

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FURTHER INFORMATION

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