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COURSE: PRACTICE ON HYDRAULIC STRUCTURES DESIGN

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TEACHER: Prof. GIUSEPPE OLIVETO

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website:

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Language: Italian/English

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ECTS: 9

n. of hours: 81

Academic year: 2015/2016

Campus: Potenza, Italy

Semester: II

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#### TOPICS

The course is concerned with the design of real: Hydraulic structures in rivers or maritime structures, Water distribution piping systems, Open channel networks. Other activities include seminars and technical visits to major hydraulic structures and/or plants.

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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

**(1)** EPANET 2, United States Environmental Agency, Cincinnati, OH, USA; **(2)** SWMM, Storm Water Management Model, United States Environmental Agency, Cincinnati, OH, USA; **(3)** HEC-HMS Hydrologic Modeling System, US Army Corps of Engineers, Hydrologic Engineering Center, Davis, CA, USA; **(4)** HEC-RAS River Analysis System, US Army Corps of Engineers, Hydrologic Engineering Center, Davis, CA, USA; **(5)** CCHE2D, National Center for Computational Hydroscience and Engineering, School of Engineering, The University of Mississippi, MS, USA; **(6)** V.T. Chow, Open-Channel Hydraulics, McGraw-Hill, Singapore; **(7)** P. Novak et al., Hydraulic Structures, Taylor & Francis, Abingdon, UK; **(8)** W.H. Hager, Wastewater Hydraulics, Springer-Verlag, Berlin, Germany; **(9)** W.H. Graf, Fluvial Hydraulics: Flow and Transport Processes in Channels of Simple Geometry, John Willey and Sons, England.

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#### ON-LINE EDUCATIONAL MATERIAL

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

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#### LEARNING OUTCOMES

The overall objective of this course is to familiarize students with advanced criteria, methods, and models for design of hydraulic structures and plants.

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#### REQUIREMENTS

Course prerequisites include: Fluid Mechanics, Hydraulic Structures I, and Hydraulic Structures II.

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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 structure of the course is in three facets, and each consists of detailed design of hydraulic structures or systems by applying 1D and/or 2D numerical models. **Part A** deals with design of hydraulic structures in rivers (or maritime structures), **Part B** deals with hydraulic modeling of real water distribution piping systems, and **Part C** deals with the hydrologic and hydraulic modeling of real open channel networks.

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#### EXAMINATION SESSIONS (FORECAST)

20.1.2016; 18.2.2016; 18.3.2016; 20.4.2016; 20.5.2016; 21.6.2016; 27.7.2016; 20.9.2016; 20.10.2016; 18.11.2016; 20.12.2016.

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Università degli Studi della Basilicata  
**Scuola di Ingegneria**

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SEMINARS BY EXTERNAL EXPERTS    YES     NO

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FURTHER INFORMATION

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