Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: Hydrological Modeling

TEACHER: Vito Telesca

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Language: Italian and English

ECTS: 9	n. of hours: 81	Academic year: 2015-2016	Campus: Potenza	Semester: second

TOPICS

Climate change. Water cycle and energy balance at local, regional and global scales. Hydrological losses dynamics and evaluation. Hydrological models (theory and applications)

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

On-line course notes (cloud)

ON-LINE EDUCATIONAL MATERIAL

web address: require the cloud link to the teacher

LEARNING OUTCOMES

The course aims to enable students to understand hydrological dynamics and to apply hydrological modeling at local, regional and global scales

REQUIREMENTS

No requirements

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

Introduction to the use of Matlab software.
Hydrological models and climate change:

- global climate models
- climate regional models
- statistical downscaling.

Water cycle and energy balance at local, regional and global scales.
Hydrological losses modeling, evaporation and evapotranspiration, infiltration and porous media flows.
Air-soil-vegetation interactions.
The hydrological models to simulate the precipitation-runoff processes:

- theory and development
- applications of the case studies.

EXAMINATION SESSIONS (PLAN)

14/01/2016 – 18/02/2016 – 17/03/2016 – 14/04/2016 – 12/05/2016 – 16/06/2016 – 14/07/2016 – 15/09/2016 – 13/10/2016 – 10/11/2016 – 15/12/2016

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SEMINARS BY EXTERNAL EXPERTS	YES ☑ NO □
FURTHER INFORMATION	