Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: Hydrological Modeling				
TEACHER: Vito Telesca				
e-mail: vito.telesca@unibas.it		website: http://ingegneria.unibas.it/site/home.html		
Language: italian				
ECTS: 9	n. of hours: 81	Academic year: 2014-2015	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

ON-LINE EDUCATIONAL MATERIAL
web address: require the dropbox 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.

SEMINARS BY EXTERNAL EXPERTS YES ☑ NO ☐

FURTHER INFORMATION