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COURSE: Maritime Engineering

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TEACHER: Michele Greco

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e-mail: michele.greco@unibas.it

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website:

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Language Italian

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ECTS: 6

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n. of hours:54

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Academic year: 2014-2015

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Campus:Potenza

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Semester: II

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TOPICS

Maritime climate characteristics;  
Short and long wave dynamics;  
Wave propagation;  
Sediment transport;  
Maritime infrastructures;

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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

- Appunti delle Lezioni di Idraulica Marittima, Costruzioni Marittime del Prof. Amatucci;
- Manuale di Ingegneria Portuale e Costiera – Ugo Tommasicchio ed. BIOS
- Lineamenti di Costruzioni Marittime – Giuseppe Matteotti ed. SGEEditoriale Padova

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ON-LINE EDUCATIONAL MATERIAL

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

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LEARNING OUTCOMES

Students graduating will be able to: explore and understand maritime engineering problems related to maritime climate characteristic both offshore and in shallow water, mainly addressed to assess coastal morphological dynamics as well as preliminary design of maritime and coastal infrastructures;

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REQUIREMENTS

Fluid Mechanics;

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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

- Oceanography, wind generation, maritime physical domain;
- Direct and indirect analyses for wave condition evaluation;
- First order theory for short wave and touching on second and third order theories;
- Wave propagation, refraction, diffraction, reflecting and breaking;
- Offshore and breaking zone dynamics;
- Coastal and beach dynamics;
- Longshore and transverse sediment transport;
- Maritime infrastructures for coastal protection and defence;

Marina infrastructures;

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SEMINARS BY EXTERNAL EXPERTS    YES     NO

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

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#### FURTHER INFORMATION

Opportunity to carry on thesis work on topics related to Maritime Engineering, theoretically and experimentally both physical and numerical, even connected to other courses. The main topics refer to coastal dynamics, monitoring and modelling of wave climate and propagation, coastal defence, protection and management as well as planning, assessment and management of coastal risk.

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