

### 3 APPLICATIONS OF COASTAL ENGINEERING, COASTAL AND HARBOUR WORKS

Teachers: Samaras A. Assoc.Professor  
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The course covers the following topics:

1. Specific issues of wind wave prediction/prediction and wave mechanics.
2. Specific issues of maritime traffic and level variations.
3. Specific issues of coastal stereotransfer and morphodynamic coastlines.
4. Specific issues relating to the planning of coastal and port projects I (advanced cargo calculation techniques, possible planning).
5. Specific issues relating to the planning of coastal and port projects II (technical and economic calculation of projects, vulnerability and reactance concepts).
6. Specific design issues for different types of ports I (commercial ports).
7. Specific design issues for different types of ports II (fishing ports).
8. Specific design issues for different types of ports III (comfort ports).
9. Coastal Zone Management and River Basin Systems - Coast (WACS).
10. Project design in the light of climate change (natural stress scenarios, technical-economic analysis, redesign and upgrading of projects).
11. Development of I-industrial studies (legislation, standards).
12. Preparation of Coastal Studies II (contents, Convoys PCE).
13. Personalized Work Semester: Presentation, Assignment, Elaboration with interactive teaching (solving queries and class corrections).

Once the course is completed, participants will be able to:

- Understand specific issues of wind wave forecasting/prediction, wave mechanics, marine traffic and level variations, coastal stereotransfer and coastal morphodynamics.
- They understand specific planning issues for coastal and port projects.
- They understand specific design issues for different types of ports.
- Understand coastal zone management practices and Basin-Coast Systems (WACS).
- They understand project design practices in the light of climate change.
- They understand the methodology of carrying out industrial studies (legislation, specifications, contents, UNHCR sessions).
- They combine and apply the knowledge they acquired for the design and study of port and coastal projects, examining them from a technical and economic point of view.

Teaching Mode: 3 hours suggestion-exercises / week