



# MARINE AND COASTAL SYSTEMS MASTER PROGRAMME (MaCS - SIMCO)

The Marine and Coastal Systems master programme (MaCS - SIMCO) integrates knowledge using an interdisciplinary approach. It focuses on the study of processes operating within the coastal and marine systems, subject to complex physical, geological, chemical, biological and social forcings.

### KEY FACTS

Title: Master in Marine and Coastal Systems  
Award: Master of Science, MSc  
Study mode: Full time  
Duration: 2 years  
Credits: 120 ECTS  
Language of tuition: English  
Accreditation: fully accredited in accordance to the Bologna Process  
Start date: September 2016  
Fees: 1000 euros/year for EU citizens; 3500 euros/year for citizens from other countries + 175 euros/year for registration and school insurance.

### LEARNING OUTCOMES, SKILLS AND COMPETENCES

- Capacity to assess of Human and natural forcings on coastal and marine systems based on:
  - Strong foundation in the Marine Sciences, including biology, chemistry, physics, and geological aspects of marine/coastal systems.*
  - Ability to integrate knowledge and skills from all areas of study to address interdisciplinary problems and climate change challenges.*
- Critical and analytical thinking skills:
  - Define procedures, operations and techniques for problem solving*
  - Evaluate environmental risks*
  - Evaluate the trophic state of waters*
- Demonstrate ability and proficiency in quantitative skills:
  - Model coastal and marine systems*
  - Process oceanographic data*
  - Model waves, tides and currents*
  - Elaborate and analyze submarine mapping*
  - Elaborate programs of environmental monitoring*
- Ability to communicate effectively in both oral and written form to convey scientific knowledge and results to peers, and public domain
- Ability to independently design and execute research work oriented on quantitative data
- Develop the capacity of working in a team





## CAREERS AND EMPLOYMENT

- technical and scientific employment;
- advising/mediating functions in the processes of participatory management;
- consultancy at/for companies (environmental restoration, ocean energy, management, dredging, oil, spatial planning, marine resources);
- lead functions in the implementation of new legal national (and European) instruments on the territorial/ economic marine and coastal field.



## WHO CAN ATTEND

1st degree (BSc) on Marine Sciences, Biology and Life Sciences, Earth Sciences, Environmental Sciences, Physics, Chemistry, Engineering and Physical Geography.



## RESEARCH FACILITIES

Provided by the University of Algarve research centers:  
CIMA, Center for Environmental and Marine Research  
<http://www.cima.ualg.pt/>  
CCMAR, Center of Marine Sciences  
<http://www.ccmr.ualg.pt/>  
CINTAL, Center of Technological Research  
<http://www.cintal.ualg.pt/>



## APPLICATION PERIOD

1st phase - until 15/03/2016;  
results due by 23/03/2016  
2nd phase - until 15/07/2016;  
results due by 20/07/2016  
3rd phase - until 02/09/2016;  
results due by 09/09/2016

**Online Application Form:** <http://fct.ualg.pt/rc/pt/content/formulario-para-candidatura-mestrado-post-graduation-application-form>

**See more at:** <http://fct.ualg.pt/home/pt/content/candidaturas-6#sthash.9vt72Rij.dpuf>

**Vacancies:** 20 students



## TEACHING METHODS

Taught modules, core and optional  
Research training modules  
Field work and field visits (more than 50h) and use of field equipment  
Laboratory work (more than 200h) and use of extensive laboratory facilities and equipment  
Science communication in seminars  
Scientific diving (optional)



## CONTACTS

### MSc Commission members:

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### Director:

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### FCT Masters:

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### Webpages:

<http://www.macsmaster.com>  
<http://www.ualg.pt/home/pt/curso/1740>

## PROGRAM

### 1<sup>ST</sup> SEMESTER

- *Large Scale Ocean Processes*
- *Geology and Geophysics of Ocean Basins*
- *Marine Morphodynamics*
- *Marine Trophic Dynamics*
- *Anthropic Disturbances of Marine Systems*
- *Socioeconomic Challenges in Coastal Zones – Seminars*

### 2<sup>ND</sup> SEMESTER

- *Coastal Oceanography*
- *Remote sensing and marine cartography*
- *Modelling of Marine Systems*
- *Oceanographic Data Analysis*
- *Monitoring of Marine Systems*
- *Seminar in Economics of Marine Resources/Scientific Diving (Optional)*

### 3<sup>RD</sup> SEMESTER

- *Eutrophication and Harmful Algal Blooms*
- *Isotopic Tracers of Marine Processes*
- *Coastal and Marine Hazards*
- *Records and Measures of Environmental Changes*
- *Basin Analysis*
- *Dissertation Plan – Seminar*

### 4<sup>TH</sup> SEMESTER

- *Dissertation*