

# EXPERT IN MARITIME AND PORT STRUCTURES



Coastal protection and development

Increase in maritime traffic flows

Training course accredited by the "Conférence des Grandes Ecoles" (French association of graduate schools) since 2011

# Be ready to meet the geostrategic challenges of tomorrow's maritime spaces

Faced with an increase in maritime traffic, climate change (coastal flooding, adaptation of structures, etc.) and the depletion of fossil fuels, the maritime engineering sector has voiced a real need for highly-qualified staff.

## OUR OBJECTIVES

### POSITION YOU AS A KEY EXPERT ON AN INTERNATIONAL SCALE IN:

- Managing port activities, from maritime traffic to maintenance works on port installations
- Participating in the design of the various maritime structures (breakwaters, quays, port terminals, offshore terminals, etc.)
- Participating in protecting and developing the coastline
- Developing wind farm and marine renewable energy projects
- Creating port complexes that meet cross-disciplinary requirements, while managing environmental impacts



## YOUR PROFESSIONAL PROSPECTS

### BUSINESS LINES RELATED TO PROJECT OWNERS:

- Integrated assistant to the Owner during the design, construction and maintenance phases.
- Manager of the various port tasks (dredging works, maritime traffic, maintenance, environmental aspects in port development, etc.)
- Coastal management and development supervisor

### BUSINESS LINES RELATED TO ENGINEERING OR DESIGN & CONSTRUCTION SUPERVISION:

- Project manager, study manager, design engineer, costing study manager
- Consulting engineer in charge of expert appraisals and preliminary studies (opportunity studies, feasibility studies, etc.) in France and internationally, in the context of projects concerning the design and/or maintenance of port, maritime and energy complexes
- Project manager in charge of developing offshore wind farms or other marine renewable energy (MRE) projects, for their design and their development alike.

### IN-HOUSE ENGINEER:

- Senior and highly qualified engineer coordinating the different phases, from design through to implementation of major port, maritime and energy projects
- Technical manager responsible for maintenance of maritime and energy port complexes
- Senior engineer specialising in geotechnical aspects (soil mechanics)
- Senior engineer specialising in sizing complex coastal structures
- Operating manager of offshore wind farms or other MRE facilities



**Geoffroy Caude** – International President of PIANC

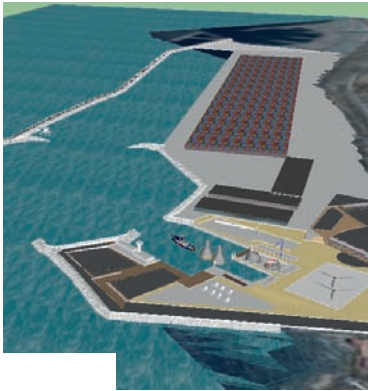
« Thanks to its regional ties, the excellence of its teaching staff and its extensive involvement in international networks, ESITC Caen is one of the few educational establishments in France providing training on maritime and port works. This initiative by ESITC Caen fully deserved to be backed and encouraged by PIANC, the World Association for Waterborne Transport Infrastructure. Incidentally, several classes in the master's course are given by members of this international association. »



**Jan Vandenbroeck** – Managing Director of SDI (Deme group), Member of the board of directors of CEDA

« Maritime projects are undergoing profound changes, with new issues arising related to the ever-increasing use of the oceans as a source of wealth. All this in the context of climate change, which entails a rise in the level of the oceans. Hence, maritime works have a role to play in coastal protection. Furthermore, the sea provides solutions for energy diversification: a shift towards marine energy is taking place. Maritime solutions must therefore be implemented to meet these new challenges. »

# SYLLABUS (FULLY TAUGHT IN ENGLISH)



## PORTS ACTIVITIES AND REQUIREMENTS

Port and Terminal Management, Maritime Regulations and Standards, Layout & Dredging, Site Selection, Sediment Transport, Dispersion of Pollutants...

## PORTS AND COASTAL STRUCTURE

Ports and Coastal Defence Structure Design, Impact Theories on Coastal Structures, Shore Management, Ports Exchange Structure Design, Berthing and Mooring Structures Design, Pile Driving, Ship Mooring Devices and Analysis...

## RENEWABLE MARINE ENERGY INTEGRATION

Transport and Anchorage, Technical Support for Maritime Structure, Offshore Wind and Marine Turbine Project, Offshore Wind Turbine Design, Flood Risk, Environmental Impacts of Marine Structures, Renewable Marine Energy Design, trenching for and backfilling of supply cables...

## PROJECT MANAGEMENT

Project Management, Port Project Scheduling, International Workshop...

## SPECIFIC SCIENCE AND TECHNOLOGY

Wave Analysis, Numerical Wave Flume, Wave Propagation, Structure Analysis, Experimental Modelling...

## GEOTECHNICS

Marine soil, soil liquefaction, GIS, groundwater...

## ORGANISATION OF TEACHING

Length of training course: 500 hours  
Professional role-play projects



Professional thesis in industry



**Miren Barinaga** – Design engineer,  
Soletanche Bachy

« The OMP Master's programme allowed me to complete my civil engineering degree from the University of Cantabria (Spain) and to specialise in a field of engineering. My 6-month internship in the maritime works department of the Ingerop group was a real plus. This training course was a real springboard for the start of my career. »



**Benoît Ripoll** – Offshore structure engineer,  
EDF Energies Nouvelles

« Following my general engineering degree at ENSAM Paris Tech, I chose this specialised Master's degree to gain genuine technical skills in the maritime field. The diverse range of topics proposed and the numerous instructors helped me acquire extensive knowledge of river, port and offshore civil works, as well as a precise vision of logistics, energy and environmental issues in relation to the maritime sector. »

# ADVANTAGES OF THE TRAINING COURSE



## • USE OF PROFESSIONAL DIGITAL TOOLS

Software suites used by major maritime and port groups and experts (in fields related to waves, structures, ships, geotechnical aspects, etc.)

## • REAL LIFE SITUATIONS

In the context of a project supervised by professionals, students must prepare an Engineering Procurement Construction Installation proposal for a competitive bidding process. This life-size project is conducted in an international context over three months.

## • INTERNATIONAL WORKSHOPS

Over a one-month period, the students participate in an international workshop (in English) supervised by professionals.

## • PRACTICAL WORK WITH A WAVE FLUME

## PARTNERS

### ENGINEERING FIRMS

ACCOAST	INGEROP
ANTEA	INOUCO
ARCADIS	KERAN / SCE
ARTELIA	PRINCIPIA
BMT ARGOSS	SAFEGE
BRL INGENIERIE	SOLUGEO
CATHIE ASSOCIATES	TECHNIP
EGIS	TERRASOL SETEC
G OCTOPUS	

### CONSTRUCTION COMPANIES

BALINEAU	SDI / DEME
BOUYGUES TP	SOLETANCHE BACHY
DTP	SODRANORD
EIFFAGE TP	SPAC
KELLER FONDATION	TECHNIP
MENARD	VINCI construction
SAIPEM	

### PROJECT OWNERS

### AND OTHER CONCESSION HOLDERS

CEREMA  
ENERTRAG  
UPF, PNA  
WPD

Certified by Pôle  
Mer Bretagne  
Atlantique



## PRACTICAL INFORMATION

### LANGUAGES USED FOR TEACHING

Languages used: fully taught in English

### THIS MASTER'S DEGREE IS RESERVED FOR THE FOLLOWING STUDENTS:

- Students having completed five years of higher education: holders of a public works, fluid or solid mechanics or general engineering degree, or a doctoral degree: technical and scientific Master's degrees, specialising in the field of civil engineering, coastal and maritime engineering.
- Holders of a diploma from Ecole des Officiers du Commissariat de la Marine (French Navy Officers School)
- Students having completed four years of higher education or the 1<sup>st</sup> year of a Master's degree followed by at least 3 years of professional experience.
- The criteria for recruiting foreign students and interns are the same as for French students and interns, whether they are on a continuing education course or looking to take a post-diploma course following their initial education.
- Comprehension of French and English is mandatory.

### FEES

€8,400 for individuals

€11,400 for companies

Fees applicable at the time of printing, subject to change

Civil engineering higher education school of general interest (French EESPIG Label)  
Governed by a not-for-profit association.

