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Universidad
del País Vasco

Euskal Herriko
Unibertsitatea



With the support of the
Erasmus+ Programme
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Erasmus Mundus Master

MASTER IN RENEWABLE ENERGY IN THE MARINE ENVIRONMENT REM PLUS

University of the Basque Country / Central School of Nantes /
National University of Ireland-Cork /
Norwegian University of Science and Technology

www.ehu.eus

INTRODUCTION & OBJECTIVES

Renewable energy plays a more and more important role. At a social level, renewable energy contributes to a more sustainable energy system, by providing a more independent power system and contributing to the reduction of global warming and climate change.

Offshore renewable energy has a vast potential, but they represent a major technological challenge. The harsh conditions offshore demand advanced specific knowledge in various scientific and technological fields, and specifically trained professionals are demanded by this industry.

The aim of the REM PLUS master is to form specialists with the required skills to accomplish this technological challenge. The Master provides the student with skills in assessment, analysis, simulation,

development and exploitation of all available energy in the marine environment and in project development of safe, efficient and reliable marine energy generation plants, including operation and maintenance design and study of the integration of the plants in the electric system.

The Master program is fully presented in English and classes are presented by professors of University of the Basque Country, University College Cork (Cork, Ireland), École Centrale de Nantes (France) and NTNU (Norway), and professionals from the supporting companies and institutes.

The master also offers the possibility to develop the Master's thesis in one of the supporting entities and it offers a number of scholarships.

ENTRY PROFILE

Applicants must have a bachelor's degree or equivalent in different specific areas of Engineering, Naval Architecture, Nautical and Maritime Transport, Applied Mathematics or Physics. Additional prerequisites about linguistic competence, qualifications and personal skills are required. To find out more, turn to:

www.master-remplus.eu/admission/

CAREER OPPORTUNITIES

The completion of the master will prepare the student for a leadership role in various renewable energy and marine sectors. Students will be able to carry out high-level technical jobs in engineering companies, equipment manufacturers and other marine industries. Marine and renewable energy companies and institutions increasingly demand specifically trained professionals with an advanced specific knowledge in various scientific and technological fields. This programme trains the student to face the technological challenges that harsh conditions offshore require.

Likewise, students will also be able to pursue research positions in Universities, Research and Development in technological poles, and other institutes. Moreover, this programme has a network of associated centers formed by several world-renowned research institutions and companies entailing a great career opportunity for students. Not only they have a direct participation in the master teaching and hosting students for their master thesis but they also recognize that the learning outcomes of the REM PLUS programme are suitable for positions in their institutions/companies.

ABOUT THE COURSE

Teaching place:

The program involves studying one semester each at 3 of the 4 European partner universities depending on the selected module, and a last 4th semester to develop the final Thesis:

- University of the Basque Country (Bilbao, Spain)
- University College Cork (Cork, Ireland)
- Norwegian University of Science and Technology (Trondheim, Norway)
- École Centrale de Nantes (Nantes, France)

Teaching type: On-site.

Teaching language: English.

Approximate fees: Programme Country student (28 EU Member States, Iceland, Liechtenstein, Macedonia, Norway or Turkey) 9000 €, Partner Country student (any other country) 17500 €. Scholarships available.

Schedule, calendar: From September to July in the morning.

TEACHING LOAD

<u>Compulsory subject courses</u> 34.5 Credits ECTS	<u>Optional subject courses</u> 55.5 Credits ECTS	<u>Master Thesis</u> 30 Credits ECTS	<u>Total</u> 120 Credits ECTS
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TRAINING SYLLABUS

The programme contains 2 specializations within the area of marine energy:

Specialization (A):

“Renewable Offshore Energy Systems Engineering”: the units studied include concepts on marine environment, conversion technologies, design and deployment of particular devices and sustainable management of offshore parks.

Specialization (B):

“Power Electronics and Control for Offshore Renewable Energy Systems”: the units studied include concepts on marine environment, conversion technologies, connection and integration into the electricity grid.

Both ways provide students with environmental, economic and legal aspects of marine renewable energy. They prepare students both for further research, and for work within government and energy engineering research/consultancy companies.

CONTACT

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PARTNERS WITH A COOPERATION AGREEMENT

Tecnalía

Bcam

IH Cantabria

IDOM

Sener

Ihobe

Innosea

RundeMiljosenter

EDF

Principle

SINTEF

Bureau Veritas

Astilleros de Murueta

Saitec

Engiariaren Euskal Erakundea

Foro Marítimo Vasco

Bimpep

Cámara de Gipuzkoa

Basque Energy Cluster

Nautilus

Vicinay Marine

Iberdrola

Siemens Gamesa

Ingeteam

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DNV-GL

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GLUAL Hydraulics

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CPMR/CRPM

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