



**Politecnico
di Torino**



**MARINE
OFFSHORE
RENEWABLE
ENERGY LAB**

Application of Design Procedure for Floating structures

Master thesis proposal at the Marine Offshore Renewable Energy Lab

Department of Mechanical and Aerospace Engineering

Politecnico di Torino

👤 Recommended profile:

Mechanical engineering, Aerospace engineering

🔧 Topics involved:

Design conditions, environmental loads, floating structures

Proposal description

The master's thesis proposal aims to apply a novel design procedure to floating structures, particularly in the offshore renewable and sustainable energy sector. Given the increasing challenges posed by harsh environments, the use of innovative materials has become essential in this field. This procedure entails defining a representative case study and a characteristic installation site to evaluate the survivability of floaters under various environmental conditions. The project will focus on developing an automatic simulation framework to streamline the design process.

The proposed master's thesis project seeks to significantly contribute to the advancement of knowledge in the field of offshore structures design and evaluation. Through the application of a systematic design procedure and comprehensive analyses, valuable insights into device survivability and performance can be obtained. These insights will not only enhance our understanding of offshore structures but also pave the way for future developments in the field, driving innovation and sustainability in the offshore energy sector.

Objectives

- Evaluation of mooring-focused loads and ocean actions.
- Assessment of extreme events.
- Identification of most probable scatter events for fatigue condition assessment.

✉ Contact references:

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