



FLOW

flexible learning for offshore wind

Motivation

Norway has an ambitious and admirable plan for large scale development of its offshore wind capacity. With vast sea areas of high wind energy resources, well qualified workforce with expertise in offshore technologies and strong support from the Government and industrial communities, Norway has an ideal environment for extensive development of offshore wind power. In view of these, the country aims to develop 30 GW of its offshore wind power capacity by 2040. The energy generated from these wind farms would be almost equivalent to the current National electricity consumption. These large-scale developments in the offshore wind power sector can make Norway "the green battery of Europe" who could export clean and renewable electricity to other countries in the region.

Skilled human capacity, well trained in various sectors of offshore wind power, is essential for the successful planning, development, and management of these large-scale offshore wind energy projects. For example, in a recent study, it is estimated that Norway may need 52,000 new professionals in the offshore wind sector by 2050. An efficient way to develop this required human capacity is to empower the existing workforce in the offshore industries with the skillsets required for offshore wind energy projects through focused and well-structured educational programmes. Young professionals who would like to build up their career within the offshore wind industry can also benefit from such programmes. In this context, a study programme for the "Flexible Learning for Offshore Wind (FLOW)" is being implemented.

Programme Features

FLOW is a 30 ECTS study programme offered by the University of Agder in collaboration with Equinor, GCE NODE and Windport. The programme is funded by the Directorate for Higher Education and Skills (HK-dir).

FLOW is designed and developed for professionals who would like to re-orient their career towards offshore wind sector as well as fresh graduates who would like to build up their career within the offshore wind industry.

The programme has four major modules of 7.5 ECTS each, comprehensively covering different aspects of offshore wind energy technology. Each main module is further divided into three sub-modules of 2.5 ECTS. The programme is designed with flexibility in learning and the modules and sub-modules can be taken independently or in combinations.

Admission Requirements

The study is offered at bachelor's level at the universities/ colleges. Candidates with the necessary qualifications to be admitted to a bachelor's degree in science or technology at UiA are therefore eligible to participate in the programme. For more details, please scan the QR-code:



Course Modules

Modules will be offered mainly through online classes which will be supplemented by limited physical learning sessions. Hands-on trainings and project based evaluation are emphasized. The programme will be designed with flexible schedules to cater the needs of working professionals. The courses will be designed and implemented in close collaboration with the industries. Details of the modules are given below:

Module 1- Wind energy fundamentals (7.5)

Sub-module 1: Wind energy basics (2.5)

Sub-module 2: Wind resource analysis (2.5)

Sub-module 3: Wind turbine systems (2.5)

Module 2- Offshore wind structures (7.5)

Sub module 1: Design practices and environmental loads (2.5)

Sub module 2: Foundations and substructures (2.5)

Sub module 3: Numerical modeling and simulation (2.5)

Module 3- Planning, design, and development of offshore wind projects (7.5)

Sub module 1: Socio-environmental and legal aspects (2.5)

Sub module 2: Wind farm design and micro-siting (2.5)

Sub module 3: Installation methods and logistics (2.5)

Module 4- Operation and management of offshore wind farms (7.5)

Sub module 1: Data analytics and digitization (2.5)

Sub module 2 : Condition monitoring and maintenance (2.5)

Sub module 3: Energy storage, transportation and grid integration (2.5)

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