			DateReference28. Sep. 2021	
Contact Nils Ottar Antonsen	phone 55587575	email <u>noa@hvl.no</u>	your date	your reference

Western Norway University of Applied Sciences

## Request for assignments for bachelor projects for students in general mechanical engineering, energy technology, marine engineering, industrial engineering and subsea/ocean technology

Western Norway University of Applied Sciences (Høgskolen på Vestlandet, HVL), Faculty of Engineering and Natural Sciences (FIN), in Bergen/Norway educates students in bachelor degrees in general mechanical engineering, energy technology, marine engineering, industrial engineering and subsea/ocean technology at the Department of Mechanical and Marine Engineering (IMM). The studies are 3-year-long, and are based on study qualifications from upper secondary school with specialization in mathematics and physics.

In the final semester of the program, the students have a major project which comprises 20 credit points. This corresponds to 540 hours per student in the period between early January and the end of May. In practice, the work effort is usually greater, as the assignments engage students strongly. The students submit a main report and conduct an oral presentation as part of the exam in the bachelor course. In addition, the main project is presented at EXPO during June, where all bachelor projects at the Faculty of Engineering and Natural Sciences are presented on a single-day event that is open to all.

We would like to invite you to make suggestions for suitable bachelor project assignments.

The students usually have an employee at HVL as an internal supervisor, but the company is also expected to assist with academic guidance. The final assessment of the projects is carried out by an internal supervisor and an external sensor, which may be from the company, if the person meets HVL's requirements for censors for bachelor assignments.

There is usually great interest among companies for such a cheap and often highly competent workforce. Many companies also look at such work as a non-compulsory trial period for recruitment. In many cases it has also been found that the students can carry out very valuable and useful projects at a good academic level.

Any direct costs relating to the project such as material and component expenses, travel expenses for the students, copy of project report, etc. are expected to be covered by the company.

Normally, HVL will have full rights to the finished product / intellectual property, possibly shared with the principal and the students. Confidentiality can be agreed upon as needed.

Based on the department's expertise and equipment at the workshops and in laboratories, projects are relevant in the following areas:

- Construction and strength calculation
- 3D modelling and 3D printing

- Material testing
- Flow simulation and hydraulics
- Multi-phase systems and petroleum flow assurance
- Test of models of marine vessels and installations in Marinlab (50 m tow and wave tank)
- Response and Anchor Analysis with SESAM
- Operation and maintenance of thermal machines and their components in our Motorlab
- Energy efficiency of processes and buildings
- Waste heat recovery and energy from waste
- Assessment and use of renewable energy
- Hydrogen technology
- LEAN management and logistics
- Industrial and international marketing
- Industrial processes
- Evaluation and implementation of industry standards
- Operation and maintenance of offshore and subsea installations
- Subsea operations

If your company has an assignment that might be considered as a main project within the mentioned areas, please send us a brief description of the task by mail or email - or contact by us phone, preferably before Friday, 15<sup>th</sup> October 2021.

Allotment of assignments to the students will take place in late November or early December.

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Best regards

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