

3.1.k Course Module on 1st Semester: Structural Mechanics and Dynamics

Title:

ME1-8 Structural Mechanics and Dynamics / Strukturel mekanik og dynamik

Prerequisites:

A BSc degree in Energy Engineering or similar.

Objective:

Students who complete the module should:

Knowledge:

- Understand fundamental properties of structural systems with emphasis on their impact on the dynamic response
- Know basic analytical solutions for dynamic response of single-degree-of-freedom systems
- Have an understanding of Eigen frequencies and Eigen modes of a multi-degree-of-freedom system
- Have an understanding of the solution procedure in Finite Element Analysis of linear elastic dynamic problems
- Have a basic knowledge of experimental work related to dynamic testing of structures

Skills:

- Use correct terminology for structural dynamic analysis
- Are able to use a finite element model for static and dynamic analysis of a two-dimensional truss or frame structure
- Are able to determine the Eigen frequencies of a system by modelling and measurement

Competence

- Are able to compare and evaluate results obtained from different analysis methods

Type of instruction:

Lectures etc. supplemented with project work, workshops, presentations, seminars, lab tests

Examination format:

Individual oral or written exam. Examination format is decided by start of semester.

Evaluation criteria:

As stated in the Framework Provisions.