



Faculty of Health, Science and Technology  
Environmental and Energy Systems

## Syllabus

### Energy Engineering Systems

**Course Code:**

EMG141

**Course Title:**

Energy Engineering Systems  
*Energitekniska system*

**Credits:**

7.5

**Degree Level:**

Undergraduate level

**Progressive Specialisation:**

First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

#### Major Field of Study:

MEI (Environmental and Energy Systems)

#### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2016-03-09, and is valid from the Autumn semester 2016 at Karlstad University.

#### Prerequisites

The courses Introduction to Energy Systems 7.5 ECTS EMG111 and Sustainable Development in Engineering 7.5 ECTS cr, or equivalent

#### Learning Outcomes

Upon completion of the course, students should be able to:

- reflect on the group work methods in projects,
- relate their own contribution to a group project in terms of group dynamic concepts,
- identify and formulate a proposal for an energy-related study of a system,
- give an account of the underlying arguments for a study and a project,
- develop relevant methods for a study and a project,
- present the results of a project in relation to the underlying arguments and methods,
- plan and complete work within given time limits,
- relate relevant information to a study, both in the text and in a list of references,
- demonstrate good oral and written skills,
- compile a report structured according to instructions,
- give constructive criticism on the work of others.

#### Content

Energy-related systems of various sizes and types are ubiquitous, for example, systems such as the body, food, properties, and transportation. Students conduct a study and a project. The individual study requires students to initiate, conduct and discuss an energy-related study of a chosen system. The project requires students to work in a group with an energy-related project, involving the problem of identifying and evaluating adequate measuring data.

**Reading List**

See separate document.

**Examination**

Assessment is based on a group project report including reflections on the group dynamics and on an independent study report, as well as on students' ability to give constructive criticism.

**Grades**

One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course.

**Quality Assurance**

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

**Course Certificate**

A course certificate will be provided upon request.

**Additional information**

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.