



Faculty of Health, Science and Technology
Environmental and Energy Systems

Syllabus

Research and Development Project

Course Code:

EMAE15

Course Title:

Research and Development Project
Forsknings- och utvecklingsprojekt

Credits:

15

Degree Level:

Master's level

**Progressive
Specialisation:**

Second cycle, has second-cycle course/s as entry requirements (A1F)

Major Field of Study:

MEI (Environmental and Energy Systems)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2025-02-21, and is valid from the Autumn semester 2025 at Karlstad University.

Prerequisites

80 ECTS credits in the main field of study Environmental and Energy Systems, with at least 10 ECTS credits at the second cycle level, or equivalent

Learning Outcomes

The aim of the course is for students to acquire in-depth knowledge of environmental and energy systems and an understanding of research and/or development engineering as a profession. Students are given the opportunity to practice working independently in areas entirely or partly new to them.

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

- plan, carry out, and document systematic literature searches,
- use AI tools to make searching for literature and compiling information more effective,
- actively contribute to a research project in the main field,

- clearly describe, review, and discuss research literature and the knowledge and arguments that underpin conclusions presented in it, orally and in writing,
- independently formulate research and development questions and indicate how these should be dealt with, and
- present results within given time limits.

Content

The course comprises the following components:

- A seminar series in which students, under supervision, perform literature searches and review and summarise science articles in the main field. Articles are mainly in English and linked to ongoing departmental research.
- Time management
- Oral and written presentations
- Peer review of the work of other students

Reading List

See separate document.

Examination

Assessment is based on written and oral reports and performance as the peer reviewer of another student's work. Active participation in seminars is mandatory.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) 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.