



Faculty of Technology and Science

PROGRAMME STUDY PLAN

Programme Code	TGHEM
Programme Approval	The Programme Study Plan was approved by the Faculty Board of Technology and Science on 29 March 2007 and is valid from the autumn semester of 2007 at Karlstad University.
Programme Title	Study Programme in Environment and Energy Engineering
Credits	180 ECTS
Language of Instruction	Swedish
Degree Level	Bachelor
Degree Type	General degree Professional degree
Prerequisites	2013 General admission requirements plus upper secondary school level Mathematics D, Physics B and Chemistry A. Standard eligibility E3 or equivalent. 2014 General admission requirements plus upper secondary school level Mathematics 3c, Physics 2 and Chemistry 1. Standard eligibility A8 or equivalent.

General Information

The programme aims at preparing students for engineering tasks in the field of environment and energy. Examples of future areas of work are operating and developing energy and treatment systems in the process industry, in district heating plants, properties and treatment plants.

Aims

Upon completion of the programme students should, beyond the general requirements for a Bachelor's degree specified in the *Higher Education Ordinance, SFS 2006:1053*, be able to:

- describe some of the most common energy and purification systems at the levels of system and component,
- independently formulate the energy and mass balances for such systems,
- analyse how a change at the component level in these systems affect function and energy effectiveness,
- perform structural calculations for parts of these systems,
- independently analyse and assess the effects on the environment of energy and treatment systems from a life cycle perspective.

Programme Structure

The first year comprises basic and introductory programme courses. In the second year the focus is on courses aiming at knowledge of energy and purification systems as well as theoretical and analytical knowledge of the modelling of these systems in stationary condition. The third-year courses provide opportunities to develop and optimising the systems. A degree project, preferably in conjunction with community or industrial partners, concludes the study programme.

Programme Curriculum

Environment and energy engineering, including heat and fluid mechanics, thermodynamics, industrial energy technology, environment analysis and purification techniques, totalling 130 ECTS cr., mechanics 6 ECTS cr., mathematics 15 ECTS cr. systems analysis and automatic control 7.5 ECTS cr., and presentation skills 7.5 ECTS cr.

Degree Title

Degree of Bachelor of Science in Environment and Energy Engineering

Credit Transfer

According to the *Higher Education Ordinance* (Ch 6, § 12-14), students may transfer credits from previously completed university courses subject to approval. Transfer of credits for a course module, or university studies generally, is subject to the approval by the course examiner. Transfer of credits for a full course is subject to the approval by the Rector

Additional Information

Students who enrolled in the programme before 1 July 2007 will complete their studies in accordance with the requirements of the earlier curriculum. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

Moving Up

In order to move up to the next level automatically, students on the programme must have completed 75% of the credits in the previous year subsequent to the re-sit period at the start of the next year. Students are not allowed to start working on their Degree projects until they have completed 75% of the previous programme credits.

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