



Faculty of Health, Science and Technology

Programme Study Plan

Environment and Safety

Programme Code	SGMIS
Credits	180
Programme Title	Environment and Safety
Programme Approval	The programme study plan was approved by the Faculty Board of Health, Science and Technology on 13 June 2014, and is revised by the Faculty Board of Health, Science and Technology on 23 February 2017 (HNT 2017/91) and is valid from the autumn semester of 2017.
Language of Instruction	Swedish and English
Degree Level	Bachelor
Degree Type	General
Prerequisites	General admission requirements plus upper secondary school level Civics A/1b/1a1 1a2, Mathematics B/2a/2b/2c and Science B/2 (field-specific eligibility A14). Science B/2 can be replaced by Physics A/1, Chemistry A/1 and Biology A/1. Optional courses may have other requirements.

General information

The Environment and Safety Programme leads to a Bachelor degree in Environmental Science or Risk Management. The programme centres on the protection of people, the environment and society with an emphasis on sustainable development. Graduates are qualified to work with issues related to the environment, systematic safety assurance and sustainable development in various investigative, analytical, surveying and planning capacities in the private and public sectors, or for further studies at Master level. Examples of professional titles are environmental coordinator, risk coordinator, climate adjustment coordinator, environmental strategist, environmental consultant, energy and climate adviser and operation developer.

Environment and Safety is a multidisciplinary study programme. Students acquire broad and versatile knowledge providing a broad base for analysing environmental problems and risks with a focus on health and to produce strategies to manage problems and risks and contribute to sustainable development. Studies in science as well as social sciences and the humanities are included. Professional contacts are maintained throughout the programme through study visits, guest lectures and practical placement periods in the last semester. Great emphasis is put on skills in communicating with the public as well as decision-makers and experts in various areas.

Aims and Learning outcomes

According to the *Higher Education Act* (SFS 1992:1434, Ch. 1 section 8) undergraduate education should develop the student's ability:

- to make independent and critical judgements,
- to identify, formulate and solve problems independently, and
- to deal with changes at work.

In addition to the knowledge and skills required within the specific field of study, the students should develop the ability:

- to gather and interpret research information and data,
- to follow the developments in the field, and
- to communicate field-related information to non-specialists.

The *Higher Education Ordinance, Annex 2* (SFS 1993:100) specifies the requirements for a certain qualification. These requirements apply to Environment and Safety and are listed below (with area specifications for the programme added in square brackets):

Knowledge and understanding

For a Degree of Bachelor the student shall

- A. demonstrate knowledge and understanding in the main field of study [*environmental science and risk management respectively*], including knowledge of the disciplinary foundation of the field, knowledge of applicable methodologies in the field, specialised study in some aspect of the field as well as awareness of current research issues.

Competence and skills

For a Degree of Bachelor the student shall

- B. demonstrate the ability to search for, gather, evaluate and critically interpret the relevant information for a formulated problem and also discuss phenomena, issues and situations critically
- C. demonstrate the ability to identify, formulate and solve problems independently and to complete tasks within predetermined time frames
- D. demonstrate the ability to present and discuss information, problems and solutions in speech and writing and in dialogue with different audiences, and
- E. demonstrate the skills required to work independently in the main field of study, namely [*with issues related to the environment, systematic safety assurance and sustainable development in various investigative, analytical, surveying and planning capacities in the private and public sectors*].

Judgement and approach

For a Degree of Bachelor the student shall

- F. demonstrate the ability to make assessments in the main field of study [*environmental science and risk management respectively*], informed by relevant disciplinary, social and ethical issues
- G. demonstrate insight into the role of knowledge in society and the responsibility of the individual for how it is used, and
- H. demonstrate the ability to identify the need for further knowledge and on-going learning.

Programme-specific (local) goals

The local goals below are additions to the national goals. Upon completion of the programme, students shall

- I. demonstrate knowledge in the areas integrating environmental science, risk management and sustainable development, including knowledge of the scientific basis of the integrated areas,
- J. demonstrate understanding of the importance of multidisciplinary and cross-sectoral¹ approaches in the area, and
- K. demonstrate ability to review and assess professional practice in the area in terms of methods, legislation, other directives and public agency efforts.

¹ Cross sectoral approaches span and coordinate several sectors (e.g. construction, traffic, water and sewer, health care).

Programme structure

The table below gives an overview of the programme. Upon completion students are awarded a Bachelor's Degree with a Major in either environmental science or risk management depending on their choice of courses in years 2 and 3.

Year	Course of study
1	<p>Introduction to environment and safety, 15 ECTS cr (required)</p> <p>The basis of risk and environmental issues, 15 ECTS cr (required)</p> <p>Strategies for environment and risk safety, 15 ECTS cr (required)</p> <p>Environmental Risk Management, 15 ECTS cr (required)</p>
2	<p>Optional courses, 15-30 ECTS cr (recommended courses listed on programme homepage)</p> <p>Optional courses, 15-30 ECTS cr (recommended courses listed on programme homepage)</p> <p>Local and regional adaptation to climate change, 15 ECTS cr (required for a major in risk management)</p> <p>Environment, risk and sustainable development, 15 ECTS cr (required for a major in environmental science)</p>
3	<p>Tools of environmental and risk management, 15 ECTS cr</p> <p>Theory and methods in environmental science or risk management, 15 ECTS cr (required for both majors)</p> <p>Bachelor thesis in environmental science or risk management, 15 ECTS cr (required for both majors)</p> <p>Practical placement, 7.5 ECTS cr</p> <p>Communication related to Environment and Risk Management, 7.5 ECTS cr</p>

Programme curriculum

Knowledge in areas of science, social science and the humanities are integrated in courses, even if the emphasis may vary. Theoretical knowledge is deepened and specialised progressively, while the more practical components take place toward the

end to equip the students for adopting a critical approach to applied knowledge and to facilitate their transition to professional work.

In the first year, all students take the same courses and environmental science and risk management are thematically integrated. The course centres on the most important environmental problems and the risks, locally, nationally and globally, the problem components and processes, and their consequences for human beings, society and the environment. Students also study different societal responses in the form of organising, legislation and other types of means of control. Concepts and theories common to the two fields are included.

In the second year, there is a specialisation course in risk management and environmental science. In addition, students have the opportunity to profile their qualifications. They may specialise further in one Major by choosing broadening or deepening courses, or by choosing courses to strengthen both fields, or by choosing broadening courses in other fields. In this year, students may also choose to complete an independent project 7.5 ECTS cr and be awarded a Higher Education Diploma.

In the third year, students focus on theories and methods in the field of their chosen Major. There are also applied courses preparing students for future professional practice. These courses provide the opportunity for the students to test, analyse and reflect on their future professional practice and role. Students arrange their practical placement themselves with the support of the programme coordinator. The university does not guarantee a placement.

Degree Title

Bachelor of Social Science. Major: Environmental Science or Risk Management.

Transfer of credits

Students may transfer credits from previously completed university courses in Sweden or abroad, subject to approval according to current regulations.

Additional Information

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