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Faculty of Health, Science, and Technology

## Programme Study Plan

### Risk Management in Society

<b>Programme Code:</b>	SARHS
<b>Programme Title:</b>	Risk Management in Society
<b>Credits/ECTS:</b>	120
<b>Programme Approval:</b>	The Programme Study Plan was approved by the Faculty Board for Health, Science, and Technology on 7 Feb. 2014 and is effective from the autumn semester of 2014.
<b>Language of Instruction:</b>	Swedish or English
<b>Degree Level:</b>	Master
<b>Degree Type:</b>	General
<b>Prerequisites:</b>	General admission requirements for Master level programmes (Bachelor degree of at least 180 ECTS cr) and upper secondary level Swedish 3 or B, English 6 or A.

### **General Information**

This programme rests on a citizen perspective on risk management. How can we create a safer and more secure society today and for the future generations? The aspect of the future involves sustainability with regard to the conditions of nature. In this respect, risk is associated with the threats to life, health, the environment, and societal functions. The term risk management refers to the architecture per se (principles, framework, and processes) for managing risks effectively (ISO 31000). Risk management as an academic discipline studies the theory and practice of risk management and aims to develop knowledge of different risks, as well as methodology and evidence of analysis and management.

Risk management in a broad sense is a field that traditionally rests on an intra-organisational and economic/business perspective: How can the results of operations be optimised with consideration of the risks involved? The perspective includes calculated risk-taking. In the field, professionals often talk about uncertainty rather than risk/chance. Risk, in this tradition, is defined as the impact of uncertainties on operational goals (ISO 31000). There is an overlap between this perspective and the citizen perspective. Industrial activities often create risks to society and its citizens, but society also holds risks for business and industry. Risk management in society refers to all risk management that society engages in including risks in the industrial sphere if there is reason to make restrictions (work environment, external environment, risks to residential neighbours).

The master programme prepares for professional employment as well as for research, and is designed to provide a broad understanding of risk management in society. Students acquire a solid foundation for practical risk management as this is planned, structured, and carried out on different levels in society and in various sectors. Students learn what factors affect risk management and how these factors are influenced by financial operating systems and by differences in outlook and regulations in different areas. Graduates will have many career opportunities in the public sector, the industry, and other organisations.

### **Aims and Learning Outcomes**

Chapter 1, §9, of the Higher Education Act (SFS 1992:1434, 2006:173) states that Master level studies should largely build on knowledge acquired at Bachelor level studies or the equivalent. Master level students are expected to deepen the knowledge, skills and abilities acquired at undergraduate level. Students are also expected to

- further develop their ability to integrate and implement theoretical knowledge in their work,
- develop their ability to deal with complex situations, questions and phenomena, and
- develop their ability to work professionally and independently and contribute to research and development.
- develop their ability to work professionally or in research and development with tasks that require a high degree of independence.

The Higher Education Ordinance (1993:100), Qualification Ordinance, lists the objectives of a certain degree qualification, see appendix. For a Master's degree with a specific specialisation to be awarded, students must also meet the specifications of the national requirement made by the local institution.

#### Local Objectives of the Master's Degree (120 ECTS cr) in Risk Management in Society at Karlstad University:

In addition to the national objectives for a Master's degree (120 ECTS cr), students must meet the following local requirements:

##### *Knowledge and understanding*

For a Master's degree (120 ECTS cr), students must be able to demonstrate

- deepened knowledge and understanding of the vulnerability of critical functions, people's health and their interdependency, determining factors and changes over time in relation to everyday incidents as well as major accidents and disasters,
- deepened knowledge of the conditions for protection and security efforts in society,
- demonstrate deepened knowledge of the general scholarly/scientific method,
- demonstrate deepened knowledge of the theory of science, research ethics, and methodology
- demonstrate deepened knowledge of the methods applied in the risk management field.

#### *Competence and skills*

For a Master's degree (120 ECTS cr), students must be able to demonstrate

- ability to plan, actively participate in and evaluate safety promoting measures in the community,
- ability to work intersectorally with different individuals and groups,
- ability to identify, assess and evaluate risk in the community,
- ability to identify, assess and evaluate the vulnerability of vital systems in society,
- ability to identify, assess and estimate possible further safety measures,
- ability to initiate and support processes involving mobilizing people's own resources to handle different risk situations,
- ability to critically and ethically review their own work in the field of societal risk management.
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#### *Judgement and approach*

For a Master's degree (120 ECTS cr), students must be able to demonstrate

- ability to assess ethical problems and argue for and problematise different issues relating to risks in society,
- ability to analyse and evaluate the quality and effect of safety efforts from a broad societal perspective,
- ability to evaluate research methods and results, their potentials and limitations in relation to the study of societal risk management.

#### Independent project/degree project

For a Master's degree (120 ECTS cr) students must have completed an independent project of at least 30 ECTS cr. in the main field of study.

### **Programme Structure**

The programme comprises two years full-time study. Course modules run parallel two and two at part-time pace, barring the full-time degree project. The programme is a form of distance learning. Four to five times a term student groups meet for a two-to- three-day period of instruction on campus in the form of lectures, group work and seminars.

### **Internationalisation**

Karlstad University promotes cooperation and exchange with other universities and has agreements with many universities in Sweden and abroad as well as a support organisation for inbound and outbound students. Programme students are encouraged to study a period abroad, especially for Master-level courses and degree project.

### **Professional Contact**

Several courses include cooperation with various public agencies, especially with the Swedish Civil Contingencies Agency, Karlstad Municipality, the County Board and the Swedish Consumer Agency. Course tutors also bring knowledge and experience from their own networks and research into the teaching.

### Programme Curriculum

The main field of study, risk management, is treated in the different modules in a multidisciplinary perspective, informed by public health studies, environmental science, and psychology. Also the perspectives of political science and economics are important and contribute continuously to the courses. Problems and issues in the field are better understood if studied with different theoretical and methodological approaches. The focus is on unwanted incidents and how risks can be managed through systematic approaches. Common components are risk identification, risk analysis, risk estimation, and risk reduction, which are often described in terms of a loop of constant improvement.

The emphasis is on the societal level and primarily on the preventive and preparatory perspective. The two extremes of everyday incidents and major disasters entail partly different challenges to society, and they are treated thematically in special modules (see appendix).

A combination of disciplinary focus for students who have other Bachelor majors and a progression toward a more problematising approach to the theory and practice of risk management as preparation for research in the field takes place at Master's level.

Field-specific methodology (risk analysis and accident investigation) is embedded in the modules together with subject theoretical content. The same applies to field applications. This is made clear in exercises and assignments. General methods such as quantitative and qualitative approaches are also included.

<b>Required courses:</b>	<b>ECTS cr</b>
Introduction to risk management in society	7.5
Public safety I: Injury analysis and risk assessment	7.5
Public safety II: Injury prevention	7.5
Managing Natural Disasters 1	7.5
Managing Natural Disasters 2	7.5
Risk management theories	7.5
Qualitative method	7.5
Quantitative method	7.5
Degree project	30

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Total	90 ECTS cr
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<b>Other programme courses:</b>	
Risk perception and risk communication	7,5
Sustainable development in a safety perspective	7,5
Public safety III: safety promotion in society	7,5
Climate adjustment and risk reduction	7,5

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Total	30 ECTS cr
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Credit total = 120

Course descriptions:

#### Terms 1 and 2

*Introduction to risk management in society* 7.5

The course is an introduction to the development of the main field of study in the form of discussions of the emergence of different perspectives based on different application and disciplinary areas. The aim is to provide insights into the scope and complexity of the field. The importance of societal specialisation and sectoralisation is treated. Central laws are

analysed. The two main themes on the risk management of everyday incidents and major disasters are introduced. The form of distance education and available support are introduced.

*Risk perception and risk communication*

7,5

The aim of the course is to provide knowledge of human perceptions of and reactions to different types of risks and the effects of different types of influence. The focus is on the basic theories of risk perception. Also treated is communicating risks from a receiver perspective with an emphasis on ethical considerations. An important course objective is that student develop understanding of the causes of different reactions and behavioural patterns at the individual and group levels, and that they develop abilities to analyse possible effects of different means of communication.

*Public safety I: Injury analysis and risk assessment*

7.5

The aim of the course is to provide knowledge of analysis and understanding of the problems relating to injury risks of different kinds in society. In effect, the course also introduces quantitative and qualitative risk analysis. Different risk scenarios in society and developmental trends in statistical terms, and current development trends and determining factors explaining differences in time and space.

*Public safety II: Injury prevention*

7.5

The aim of the course is to provide knowledge of the basic principles of injury prevention in society. It also deals with the current societal prevention of injury in areas such as, traffic, work, fire, and to children and old people in society. General theories and models of systematic risk management are discussed.

*Managing Natural Disasters 1*

7.5

A natural disaster means a severe disruption of societal functions and possibly that there are not enough resources to manage the situation which can cause extensive human, environmental and economic losses. Disasters can be caused by human beings, by technical failures or by the consequences of extreme natural phenomena. Two courses deal with the areas natural disasters and societal vulnerability. The first course presents science-based frameworks (such as the PAR model) for how to describe vulnerability to natural disasters for the purpose of studying risk scenarios in a national and international perspective. The link between threat and risk reducing efforts is studied in different perspectives ranging from underlying factors of political systems and economic welfare to uncertain conditions at the local level. The case study as a research method is introduced and applied to actual events.

*Managing Natural Disasters 2*

7.5

The second module deals with how societies in different parts of the world manage the different threats and risks of natural disasters today. Students study examples of methods used to minimise damages, improve the management capacity, and to increase individual safety and the safety of important societal functions. Community precaution and prevention before/during/after an event are studied along with possibilities and limitations of warning systems and prognosis.

*Sustainable development in a safety perspective*

7,5

The course deals with sustainable development in a risk management perspective. Risk management issues in society are problematised from an economic, ecological and social dimension in an international perspective, especially the third world where individual and national welfare is closely connected to risk and safety aspects.

*Risk management theories*

7.5

Central concept and theories in risk management are explored through research literature providing an overview of knowledge. The aim of the course is that students develop understanding of how the discipline as a whole can be described and demarcated. Literature searches are conducted and students practise writing knowledge surveys.

### Terms 3 and 4

#### *Public safety III: safety promotion in society*

7,5

The understanding of safety promotion is deepened. The starting-point is that personal safety is an integrated part of other societal areas. Efforts to prevent injuries and organise safety precautions must address life style issues as well as policy and decision making processes. The course discusses how injury prevention can be promoted in a broader societal perspective. An important goal is that students develop skills in planning safety promotion in society.

#### *Climate adjustment and risk reduction*

7,5

Students study how extreme weather (e.g. storm, heavy rainfalls, tropical cyclones) in a changed climate poses new challenges at global, regional and local levels. The challenge of integrating the two areas climate adjustment and risk reduction and related concepts are studied conceptually and methodologically and as case studies/practical examples.

#### *Qualitative method*

7,5

The course deals with the research process and its stages with a focus on the qualitative approach. Different qualitative methods and their applications are treated. The importance of gender studies to the development of qualitative method is discussed. Quality and validity in qualitative research, writing science articles and frame stories and research ethics are included.

#### *Quantitative method*

7,5

The theory, methods and tools of the categorisation of observations (data) and the analysis of correlations, patterns, explanation and significance are treated. Data and methodology are examined and assessed depending on the required degree of support, reliability and relevance that the students' research questions give rise to.

#### *Degree project 30 ECTS cr*

The project is carried out in term 4. The project is individually planned, carried out and presented in the written form, and firmly related to risk management theory. Students must have taken the quantitative and qualitative methods courses before they start on the degree project.

### **Degree title**

Master's Degree in Social Science, 120 ECTS cr. Major: Risk Management

### **Transfer of credits**

Students have the right to transfer credits from other universities in Sweden or abroad. The recognition of previous education as credit for part of a course is subject to approval by the examiner. The recognition of previous education as credit for an entire course is subject to approval by the Office for Student Services.

### **Additional information**

Local regulations for the Bachelor's and Master's level at Karlstad University stipulate the rights and obligations of staff and students.

Appendix 1: Overview of courses

Appendix 2: The national objectives of Master level education

## Appendix 1

### Riskhantering i samhället, 120 hp - översiktsschema

År 1

v.35	v.45	v.4	v.14	v.23
Introduktion Riskhantering i samhället, 7,5 hp	Hantering av Naturkatastrofer 1, 7,5 hp	Hantering av Naturkatastrofer 2, 7,5 hp	Hållbar utveckling ur ett säkerhetsperspektiv, 7,5 hp	
Riskperception och riskkommunikation, 7,5 hp	Personsäkerhet 1: skadeanalys och riskbedömning, 7,5 hp	Personsäkerhet 2; skade-förebyggande arbete, 7,5 hp	Teoribildning inom riskhantering, 7,5 hp	

År 2

Klimatanpassning och riskreducering, 7,5 hp	Kvalitativ vetenskaplig metod, 7,5 hp	Examensarbete inom riskhantering, 30 hp
Personsäkerhet 3; Säkerhetspromotion i samhället, 7,5 hp	Kvantitativ vetenskaplig metod, 7,5 hp	

*The colours signal courses with a thematic focus on risk scenarios and the risk management of major disasters (Färgerna visar kurser med tematiskt fokus inom riskbilder och riskhantering för antingen stora katastrofer (top light-green box) or everyday incidents (bottom blue/darker box) .*

## **Appendix 2**

### **National Objectives of education at Master level – Master's Degree**

**(Higher Education Ordinance, SFS 1993:100, Qualification Ordinance)**

#### *Knowledge and understanding*

For a Degree of Master (120 ECTS cr) students must demonstrate

- knowledge and understanding of the main subject area, including broad knowledge as well as a considerable in-depth understanding of selected areas, together with further insight into current research and development, and
- further understanding of relevant research methods in the field.

#### *Competence and skills*

To earn a Master's degree (120 ECTS cr), students should be able to demonstrate

- ability to critically and systematically integrate knowledge and to analyse, assess and deal with complex phenomena, problems and situations, even with limited information,
- ability to work independently in identifying and formulating problems, and the ability to plan and carry out and evaluate qualified tasks using adequate methods within a given deadline, thus contributing to knowledge development,
- skills in communicating with various groups in a dialogue when presenting and discussing information, argument and conclusions both orally and in writing, nationally and internationally and
- the skills required to take active part in research and development or to work in other areas of the chosen field.

#### *Attitude and assessment abilities*

To earn a Master's degree (120 ECTS cr), students should be able to demonstrate

- the ability to make appropriate judgements in the main field of study with respect to relevant scientific, societal and ethical aspects, and an awareness of ethical issues in research and development,
- insight into the potential and limitations of scientific research, the role of science in society, and our responsibility for its use,
- the ability to identify their own need for further knowledge and take responsibility for their own knowledge upgrading.