



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Riskhanteringsprocessen **Risk Management Processes**

VBRN50, 15 credits, A (Second Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED BI/RH

Date of Decision: 2023-04-20

General Information

Compulsory for: RH4-rh

Language of instruction: The course will be given in Swedish

Aim

The overriding aim of the course is that, after completing the course, the students will have an understanding of how risk analysis, risk assessment, and risk reduction / control are dependent on each other, how these activities can be performed by various organizations, and how they can be communicated internally and externally. The course is also aimed at providing the students with a knowledge base concerning the different methods and techniques applied in the risk management process for various types of risk, as well as developing their ability to critically examine those methods in the context of practical application. Finally, the course is also aimed at providing the students with an ability to apply methods for risk analysis, risk evaluation and risk reduction/control with the goal of, as effectively as possible, achieving a balance between risk levels, costs/resources and other interests.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- be able to describe the most commonly used strategies to manage risk, e.g. risk reduction, risk transfer, and present the basic principles of these
- be able to describe the most commonly used methods available to support decision-making regarding risks and the problems that are experienced in this type of decision. In addition, the students should be able to critically review the application of these

methods in the context of the risk management process.

- be able to describe the development of the field, "Supply Chain Risk Management (SCRM)". In addition, the students will be able to ponder and reflect on the practical application of SCRM within private enterprise and in public operational situations.
- be able to describe tools and models for use in risk management within large enterprises. In addition, the students will be able to ponder and reflect on risk management within business and public operations against the background of earlier knowledge within the field.
- be able to describe how risk management is carried out at various levels in public administrations and what crisis- and disaster management involves. In addition, the students shall be able to ponder and reflect on the practical application of risk management, as well as crisis and disaster management within public organisations.

Competences and skills

For a passing grade the student must

- be able to analyse and evaluate risk and crisis communication processes between various actors, both private and public organizations as well as the public.
- be able to defend his/her opinions regarding various issues relating to the risk management process in private and public enterprises.
- be able to apply methods for risk control and decision-making, based on e.g. risk analyses, with the purpose of achieving a balance between risk and other interests.
- be able to search for and apply information concerning the risk management process published in scientific journals and manuals.
- be able to cooperate in group work and show ability for teamwork.

Judgement and approach

For a passing grade the student must

- demonstrate a capacity to make assessments of the applicability of various risk analysis methods for various types of problems.
- demonstrate insight into the possibilities and limitations of risk analysis and its role in private and public risk management.
- be able to review and evaluate obtained information.

Contents

- Introduction to the risk management process - this part of the course introduced how risk analysis, risk evaluation and risk reduction/control is related to each other. Different ways of managing risk will also be introduced (such as risk reduction, risk transfer, etc.).
- Risk perception and decision-making - this part of the course examines factors that affect people's and organisation's perception of risk and decision-making concerning risk. It also examines different methods that can be applied for risk acceptance and risk control (e.g. rights-based criteria and cost-benefit assessment).
- Risk and crisis communication - this part of the course focuses on the role of risk and crisis communication for risk management as well as methods/factors for successful communication
- Risk management in organizations - this part of the course focuses on supply chain risk management and strategic risk management.

- Economy and risk management - this part of the course focuses on cost/benefit-analysis.
- Applications of modern risk management in a complex society - this part of the course focus on the application of risk management in the areas: large companies, official organisations and critical societal functions. Aspects such as strategies and challenges for risk management as well as legal aspects are addressed.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: The examination consists of a written presentation of a Project, carried out in a group, based on a theme that is relevant to the course.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0117. **Name:** Individual Assignments.

Credits: 10. **Grading scale:** TH. **Assessment:** The examination consists of a number of assignments, on themes that are relevant for the course.

Code: 0217. **Name:** Project Assignment.

Credits: 5. **Grading scale:** UG. **Assessment:** The examination consists of a written presentation of a project work which is performed in groups on a theme that is relevant for the course. **Contents:** Focus is on application of methods and integration of the different parts of the risk management process.

Admission

Assumed prior knowledge: MAMN45 People, Technology, Organization and Risk Management (alternatively MAM090 People, Technology, Organization and Risk Management,) and MAMN35 Risk Analysis Methods for Health and Environment (alternatively VBR180 Risk Analysis Methods).

The number of participants is limited to: No

The course overlaps following course/s: EXTN60, VBR171

Reading list

- O'Donnell, E.: Enterprise risk management: A systems-thinking framework for the event identification phase. 2005. International Journal of Accounting Information Systems, Vol. 6, No. 3, 2005, pp. 177-195.
- Kahneman, D., & Klein, G. : Conditions for intuitive expertise: a failure to disagree. 2009. Am Psychol, 64(6), 515-526.
- Johansen, I. L., & Rausand, M. : Risk metrics: Interpretation and choice. 2012. Paper presented at the IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), Hong Kong.
- Fischhoff, B: Judgment and decision making. 2010. Wiley Interdiscip Rev Cogn Sci, 1(5), 724-735. doi:10.1002/wcs.65.
- Slovic, P. : Understanding Perceived Risk: 1978–2015. 2015. Environment: Science and Policy for Sustainable Development, 58(1), 25-29. doi:10.1080/00139157.2016.1112169.
- Coombs, T. : Crises Response in Ongoing Crises Communication. London: Sage, 2014. Pg. 129-138.
- Falkheimer J., Heide, M. & Larson L. : Konsten att hantera en kris i Kriskommunikation. Malmö: Liber, 2009. Pg. 83-97.

- Frandsen F. & Johansen, W. : Crisis Management (I) General Perspectives: From Anticipation to Resilience Perspectives in Organizational Crisis Communication. London: Sage, 2017. Pg. 52-62.
- Frandsen, F & Johansen W. : Crisis communication and the rhetorical arena - a multivocal approach. 2007. Conference Papers -- International Communication Association. 2007 Annual Meeting.
- Hallahan, K. : Inactive publics: The forgotten publics in public relations. 2001. Public Relations Review, 26(4), 499-515.
- The Institute of Internal Auditors : The Three Lines of Defense in Effective Risk Management and Control. 2013.
- Saleh, J. H., Marais, K. B., Bakolas, E., & Cowlagi, R. V. : Highlights from the literature on accident causation and system safety: Review of major ideas, recent contributions, and challenges. 2010. Reliability Engineering & System Safety, 95(11), 1105-1116.
- Dekker, S., & Pruchnicki, S. : Drifting into failure: theorising the dynamics of disaster incubation. 2013. Theoretical Issues in Ergonomics Science, 15(6), 534-544.
- Grabowski, M., & Roberts, K. H. : Reliability seeking virtual organizations: Challenges for high reliability organizations and resilience engineering. 2016. Safety Science.
- Rasmussen, J. : Risk management in a dynamic society: a modelling problem. 1997. Safety Science, 27(2/3), 183-213.
- van Asselt, M. B. A., & Renn, O. : Risk governance. 2011. Journal of Risk Research, 14(4), 431-449.
- EUROCONTROL: A White Paper on Resilience Engineering for ATM. 2009. European Organisation for the Safety of Air Navigation (EUROCONTROL).

Contact and other information

Course coordinator: Universitetslektor Henrik Tehler, henrik.tehler@risk.lth.se

Course administrator: Linnéa Ekman, linnea.ekman@ebd.lth.se

Further information: Active participation in group work is mandatory. Each group member must be able to present and answer for the contents of the joint report. A student who does not meet the demands of active participation, or disregard their obligations, can be replaced to another group or failed by the examiner.