



T-814-PROD MANAGING RESEARCH AND DEVELOPMENT – METHODS AND MODELS

8 ECTS

Year of study:	First or second year MSc.
Semester:	Fall.
Level of course:	5. Second cycle, intermediate.
Type of course:	Elective.
Prerequisites:	No prerequisites.
Schedule:	Runs for 12 weeks - 6 teaching hours a week (3 hours lectures and 3 hours project work).
Supervisor:	Páll Kr. Pálsson.
Lecturer:	Páll Kr. Pálsson.

Learning outcome: At the end of the course the students shall have reliable knowledge of the methods used creating innovation basis and **be capable to develop and construct a system for managing innovation in companies.**

Knowledge:

- Understand the presumption for success and the reasons for mistakes in innovation within companies.
- Understand how companies can develop, maintain and increase their skill for innovation and the value of innovation and initiative thinking for the existence of companies.
- Knowing companies methodology for developing products and innovation and pioneer thinking and the development of new products (goods and service).

Skills:

- Be familiar with companies methodology for developing products and innovation and being able to use it.
- Posses good knowledge of the main items of the innovator science and adaptation and integration of the knowledge of individual employees in order to create strong teams.
- Be able to evaluate the reasons for success and evade mistakes in innovation within companies.

Competence:

- Can by themselves take on a systematical construction and the processes connected to innovation in companies and possess the understanding, skill and knowledge to manage the development and running of such systems within companies.
- Be able to introduce and interpret the conclusions and proposals on the above mentioned fields and be able to express themselves on those issues.

Content: We cover the engineering approach to innovation and entrepreneurship in lectures and a practical program in which students work in an active company.

Due to increasing freedom in trade and internationalization the competition between companies is boosting. At the same time consumers demand new solutions, and the technology develops, resulting in older solutions becoming obsolete. Such conditions require constant innovation in companies' management and an understanding of the nature of innovation and entrepreneurship. Innovation is not only necessary in technological companies, but in all companies that intend to live and prosper.

All course descriptions may be subject to change. Updated information on the course schedule, reading material, teaching and learning activities, and assessment methods will be introduced in the learning management system Canvas at the beginning of the semester.



The course will cover innovation and the ability companies have for innovation in light of market, science, engineering, planning and financial presumptions. We deal with the terms innovation and entrepreneurship and their significance for modern management and put in context with success. We will also cover the value of knowledge, intellectual property rights and patent rights. Then we cover the internationalization and its impact on the innovation process.

Special emphasis will be put on systematic development of the processes connected to innovation and worked on a project in a real company in this field.

The aim is that the students acquire an understanding of the cause of success and mistake in innovation within a company and how companies can increase their ability for innovation and the importance of innovation and initiative thinking for the existence of companies.

Students will, at the end of the course, have acquired a steadfast knowledge of the method applied within product-development and innovation in companies and be able to apply them on their own in the future.

Reading material: *Integrated Product Development*, (IPD). Authors: Andreasen, M. Myrp & Lars Hein. *Handbók athafnamannsins; Stefna, stjórnun og starfsmenn* (marked HASS). Author: Páll Kr. Pálsson. *Handbók athafnamannsins; Gerð rekstrar og viðskiptaáætlana* (marked HARV) Author Páll Kr. Pálsson. Various other reading material, also links to websites and articles connected to the study material.

Teaching and learning activities: Lectures and project work.

Assessment methods: Reports (4), each 18% total 72%. Verbal exam 28%.

Language of instruction: English.

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