



# ME2015 Project Management: Leadership and Control 6.0 credits

## Projektledning: Ledning och styrning av projekt

---

Course syllabus for ME2015 valid from Spring 17, edition 1.

### Intended learning outcomes

After passing the course, the participant should be able to:

- Describe the structure of Project Management as a field of research-based knowledge and explain basic concepts and research directions of the field
- Describe why and how Project Management can be used to enhance the competitiveness of modern industrial organizations
- Describe the main characteristics and differences of/between various types of technology-intensive projects, such as industrial delivery projects, product development projects and internal development projects.
- Formulate project goals that are user-focused, realistic, solution-neutral and evaluable
- Use tools such as WBS/PBS, OBS, Gantt and PERT/CPM for detailed time planning of a project, and also be able to choose what tools that should/should not be used
- Describe basic stage-gate models such as PROPS or PPS and their usage in industrial and technology-intensive settings
- Describe basic methodologies for agile project management such as SCRUM and their usage in industrial and technology-intensive settings
- Describe a theoretical risk management process and use simplified tools such as Minirisk
- Describe a project budgeting process and explain the use of Earned Value Management
- Explain the relation between projects and permanent organizations in industrial and technology-intensive settings, and describe what different solutions that exist in order to alleviate the problems inherent in that relation
- Explain the relation between projects and their external environments and apply a stakeholder management process to a specific project
- Describe the main tasks and responsibilities of project managers in industrial and technology-intensive settings
- Describe what advantages and disadvantages project-based work implies for individual project workers, and explain how these can be handled in an effective and constructive manner
- Formulate and analyse practical problems in industrial operations by means of project management models and theories, and use these models and theories to provide recommendations on how the management of a project can be prepared, implemented and improved.

### Course main content

The project is an increasingly prevalent work form in all societal sectors, intended for and used for handling tasks that are not effectively delivered through extant permanent organisational structures, in both ongoing operations and in research and development work. In practice, most students in engineering and science will after just a few years from graduation be involved in advanced project-based work. Many of the main employers for engineering graduates have become project-based organisations over time, which means that also daily operations are organised by projects.

The emergence of projects as a central industrial work form also corresponds to a gradual 'professionalisation' of the roles of project managers. Those who are entrusted the responsibility for large industrial projects often have project management as their occupation, and they have, in addition to their basic academic training, also significant insights in

project research, i.e. the theoretical base of project-based work. Project management contains a series of models that can be used for effective initiation, organising, leadership and team building of/in projects. These models must, however, be used with judgement and reflection, and contemporary project research – where KTH Industrial Economics and Management has an international reputation – also emphasises the importance of leadership, ethics and sustainable work organisations in the development of industrial project work practices.

The course is focused on planning and control activities in contract-based projects and change projects in technology-intensive organizations. The established research-based project management discipline is compared to the practicalities of project-based industrial operations and research-intensive environments through a series of cases. Environmental and contextual aspects of project management are emphasised, as is the role of project sponsors in the project process

## **Disposition**

The course is based on lectures, guest lectures, seminars and project work.

## **Eligibility**

ME1003 Basic course in Industrial management, or similar, and documented proficiency in Swedish B or equivalent.

## **Literature**

Will be announce.

Basic textbooks and 10 research articles that represent both classical and recent research in project management field .

## **Examination**

- SEM1 - Seminar, 3.0 credits, grade scale: P, F
- TEN1 - Examination, 3.0 credits, grade scale: A, B, C, D, E, FX, F

## **Requirements for final grade**

Passed examination, participation in seminars, group project report and individual reflection paper.