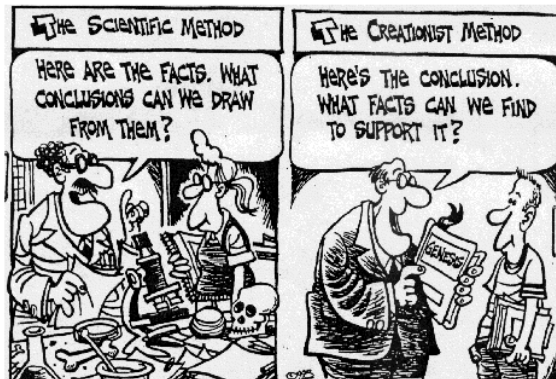


Course syllabus for

PM3: Research Methodology in Product Realisation

Syllabus adopted 2020-09-11 by Professor Bengt-Göran Rosén, Produktion2030 Head of Education



Credits	7.5 hec
Grading scale	Satisfactory/not satisfactory
Education cycle	Third-cycle
Examiner	Prof. Kristina Säfstén, Jönköping University
Eligibility	A Master's degree in production engineering or equivalent
Aim	The course aims to give students a comprehensive knowledge of various kind of research methods, and in-depth knowledge of the methods that are relevant for the individual student.
Intended learning outcomes	<p>After completion of the course the course participant should:</p> <p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> • have knowledge about and be able to discuss different research approaches and their suitability • demonstrate knowledge of scientific methods in general (relevant for research in product realisation) and of methods relevant in the own field of research in particular • have knowledge about and be able to discuss different techniques for data collection and data analysis <p><i>Skills and abilities</i></p>

- demonstrate an ability to identify and formulate issues and to plan with appropriate methods a research task

Judgement and approach

- demonstrate an ability to judge the appropriateness of research methods and techniques for data collection in different situations
- demonstrate insight into the possibilities and limitations of science

Course content

The course address the importance to scientifically and systematically collect, treat, analyse and present different kinds of data required for research and inquiry projects.

Course organisation

Four physical/online meetings á 1-2 days, and tasks to be prepared before course start and between meetings.

1. Introduction & examination of course book.
2. Assignment 1: Plan and conduct a seminar on selected research method. The students are responsible for a seminar where a selected research method is addressed in depth. The preparation is carried out in small groups, formed based on research interest/research questions. The assignment is examined based on the oral seminar. A detailed description of the assignment is handed out separately.
3. Assignment 2: Analysis of thesis with focus on the method section. The students should in group select a doctoral thesis using "their" research method (the selected method for Assignment 1). With clear support from literature: create a foundation for the analysis (a "checklist" on how to evaluate a thesis/research). Focus of the analysis should be the method-section, in relation to problem formulation, result, discussion and conclusion. The assignment is examined based on the written checklist and the written and oral presentation of the analysis. A detailed description of the assignment is handed out separately.
4. Assignment 3: Method chapter in licentiate/doctoral thesis. Throughout the course, the students shall individually work on a draft method section of the licentiate/doctoral thesis. This assignment is carried out with the support of from the supervisors and presented at a concluding seminar. The assignment is examined based on the written text, opposition, and oral

presentation. A detailed description of the assignment is handed out separately.

Examination

A successful completion of this course will be judged on the following:

- approved oral seminar based on the course book
- approved oral and written assignments

Literature

Karlsson, C. (2016) Research Methods for Operations Management, Routledge, Taylor & Francis, Inc.

Säfsten, K. & Gustavsson, M. (2020) Research Methodology for Engineers and other problem-solvers, Studentlitteratur, Lund.

Additional reading will be added.