



## Syllabus for



# P13 - Engineering Product Development (EPD): Sustainability in Engineering Product Development (SEPD)

<b>Credits</b>	5.0
<b>Examiner</b>	Glenn Johansson, Sofia Ritzén, Sophie Hallstedt
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<b>Target group</b>	Professionals and PhD candidates who want to increase their knowledge about how various sustainability aspects relate to Engineering Product Development
<b>Prerequisites</b>	MSc in Engineering or similar.
<b>Deadline for application</b>	Please register by email at the latest 28th February 2017 to one of the examiners.

## Aim

Societal and industrial activities call for a need to relate research and practice on Engineering Product Development to the pressing issues of sustainable development. In this course, we will address how various sustainability aspects relate to Engineering Product Development and focus on why, how and when sustainability needs to be integrated and implemented in the product development activities.

## Teachers/tutors

**Glenn Johansson** is professor of Product development at Mälardalen University and Jönköping University. His research interests concern effective and efficient innovation processes, with particular focus on the complex interdependencies that exist between the product development and production processes. He is also interested in management of sustainability issues in innovation processes. The research is carried out in close cooperation with industry and addresses both technological and organizational aspects related to the innovation process on strategic as well as operational levels.



**Sofia Ritzén** is professor of Integrated product development at KTH – Royal Inst. of Technology. Her early research on the integration of environmental aspects into product development lead her into issues on change and on how to create organizational learning. This is a red thread through her research. Currently a particular focus is on how to design and use measurement systems to develop the innovation capability in an organization. Another focus is on management of early phases in product development and innovation, where decision making is of particular interest.



**Sophie Hallstedt** is a senior lecturer and associate professor at the Department of Strategic Sustainable Development at Blekinge Institute of Technology in Sweden. She leads research in sustainable product development at BTH and runs research projects with manufacturing companies such as Volvo CE and GKN Aerospace. Her research interests include how a strategic sustainability perspective can be integrated and implemented into product innovation process with focus on the early phases. Her research is done in close cooperation with industry and society.



**Fee for industrial members**

7 500 SEK

**Learning outcomes**

Upon completion of the course the participants should:

*Knowledge and understanding*

- display knowledge of sustainability in Engineering Product Development and its relevance for manufacturing companies
- be familiar with motives and drivers for sustainability as well as models, methods, tools, and techniques that can be used for sustainability integration

*Skills and abilities*

- demonstrate skills of presenting and explaining how his/her own research relates to sustainability in Engineering Product Development

*Judgement and approach*

- demonstrate ability to penetrate and analyse empirical and/or theoretical materials that focuses on sustainability in Engineering Product Development.

**Contents**

The course will include inspirational lectures, literature seminars, and a written assignment. A number of pressing themes relating to Sustainable Development will be addressed and in seminars and writing these will be reflected upon in relation to their criticality for society and connection to the field of Engineering Design and Product Development. The connection to each PhD students own research will also be addressed.

Planned themes are:

- Socially sustainable development and its assessment in relation to ecological and economic sustainable development;
- Business development, sustainable innovations and Circular Economy;
- EcoDesign and strategies for integrating sustainability aspects in product development.

In addition, the basics of Sustainable Development will be addressed.

At the end of the course participants are expected to write a course paper where they relate their own research to literature on sustainable product development. The paper shall be presented at the third meeting and each participant must also act as "opponent" of another participant's paper.

In brief, the course is structure as follows:

Please note that the structure and content is preliminary and may be exposed to some minor changes until the course starts.

### **Organisation**

The course is organized in the following way:

Meeting 1: Course introduction, inspirational lecture, literature discussions, etc.

Meeting 2: Literature seminar, inspirational lecture, etc.

Meeting 3: Presentation/discussion of texts written by the participants, etc.

### **Literature**

A list of literature will be presented at the first meeting. A few articles will be distributed before the first meeting and participants are expected to read them prior to the meeting.

### **Examination**

The course is examined through active participation at the seminars and the written assignment which will be presented at final meeting.

### **LITERATURE LIST**

Will be will be presented at the first meeting

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