



Syllabus for



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

Credits	5.0
Examiner	Glenn Johansson, Sofia Ritzén, Sophie Hallstedt
Contact	Sophie Hallstedt, sophie.hallstedt@bth.se Glenn Johansson, glenn.johansson@mdh.se Sofia Ritzén, ritzen@kth.se
Target group	Professionals and PhD candidates who want to increase their knowledge about how various sustainability aspects relate to Engineering Product Development
Prerequisites	MSc in Engineering or similar.
Deadline for application	Please register by email at the latest 30 th August 2019 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.

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Teachers/tutors **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.



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.



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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.

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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:

1. Sustainable product development & Ecodesign and support tools/methods
2. Social sustainability
3. Circular Economy/Sustainable business models.

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:

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, inspirational lecture, etc.

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

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Organisation

The course is organized in the following way:

Meeting 1: 19-20 September, 2019: 12.00-12.00 (lunch to lunch) – Place: KTH, Stockholm

Meeting 2: 28-29 November, 2019: 12.00-12.00 (lunch to lunch) - Place: MDH, Eskilstuna

Meeting 3: 6-7 February, 2020: 12.00-12.00 (lunch to lunch) - Place: BTH, Karlskrona

Dates for meeting 2 and 3 are preliminary and might be exposed to changes.

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.

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LITERATURE LIST

Will be will be presented at the first meeting

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