

Course syllabus for

P13: Engineering Product Development (EDP): Sustainability in Engineering Product Development (SEPD)

Syllabus adopted 2019-09-12 by Professor Bengt-Göran Rosén, Produktion2030 Head of Education, revised 2020-11-17



Credits	5 hec
Grading scale	Satisfactory/not satisfactory
Education cycle	Third-cycle
Examiner	Professor Glenn Johansson, Lund University and Mälardalen University, Sweden Professor Sophie Hallstedt, Blekinge Institute of Technology, Sweden
Eligibility	A Master's degree in engineering or equivalent
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.

Intended learning outcomes	<p>After completion of the course the course participant should be able to:</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none">• 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 <p>Skills and abilities</p> <ul style="list-style-type: none">• demonstrate skills of presenting and explaining how his/her own research relates to sustainability in Engineering Product Development <p>Judgement and approach</p> <ul style="list-style-type: none">• demonstrate ability to penetrate and analyse empirical and/or theoretical materials that focuses on sustainability in Engineering Product Development.
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Course content	<p>The course will include lectures, literature seminars, and a written assignment. A number of pressing themes relating to Sustainable Development will be addressed and through the seminars and assignment 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 student's own research will also be addressed.</p>
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Planned themes are:

1. Sustainable product development & Ecodesign
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.

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

Course organisation	<p>In brief, the course is structure as follows:</p> <p>Meeting 1: 4 March, 08.00-17.00, Online Course introduction, lecture, literature discussions, etc.</p> <p>Meeting 2: 22 April, 08.00-17.00, Online Lecture, literature seminar, etc.</p> <p>Meeting 3: 25 May, 08.00-17.00, Online (or hopefully F2F depending on the Covid19 situation) Presentation/discussion of texts written by the participants, etc.</p> <p>Please note that the structure is preliminary and may be exposed to some minor changes until the course starts.</p>
Examination	<p>The course is examined through active participation at the seminars and the written assignment which will be presented at final meeting.</p>
Literature	<p>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.</p>