Syllabus for


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<th>Credits</th>
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<tr>
<td>Examiner</td>
<td>Anna Öhrwall Rönnbäck (Ola Isaksson, Johan Ölvander)</td>
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| Target group | Professionals and PhD candidates who want to get a deeper understanding of research in Engineering Product Development. |
| Prerequisites | MSc in Engineering or similar. This is a basic PhD course. |
| Aim | The course aims to provide a theoretical reference base for conducting research in product development. |
| Teachers/tutors | Anna Öhrwall Rönnbäck, professor LTU, LiU; Ola Isaksson, professor Chalmers, and senior specialist in product development GKN; Johan Ölvander, professor LiU |
Learning outcomes

Upon completion of the course the participants should have:

- Gained increased awareness of research on the product development process.
- Improved their ability to critically review and make use of established and recent research literature.
- Independently written a critical review of research literature on the engineering product development process.
- Trained evaluation of other course participants’ written literature reviews
- Improved their ability to communicate orally and in written about the EPD process in a research context.

Contents

The course covers the following areas:

- **1st session**: Content: Introduction. Presentation of course literature.
- **2nd session**: Process Modelling of the PDP. (Large corporations, small businesses.)
- **3rd session**: Degree of formalism of the Product Development Process and its implication.
- **4th session**: A Systems and Life Cycle Engineering view on the PDP for Complex Products.
- **5th session**: Participants’ review papers, presentation and discussion of implications. Compilation of a report.

Organisation

The course is organized in the following way:

Each session will be structured as follows:

1. Introduction by course examiners
2. Reports from reading and discuss implications (academic and in practice)
3. Introduce literature assignment for the next session

At the end of the course participants are expected to write their own review paper over the product development process, summarizing the reading assignments, which is presented to the group. This final assignment also includes reviewing others’ work. After review, each contribution can become a chapter of an EDP published report.

Literature

Separate list below.

Examination

The course is examined through active participation at the seminars and the written review of literature as presented and discussed in the course during the time schedule.
LITERATURE LIST (PRELIMINARY)

Literature for Session 2: (Every participant reads the same collection of papers/book. Relate your reading to your own research area.)


Also see: [http://www.ulrich-eppinger.net](http://www.ulrich-eppinger.net)

General literature, suggested:


Literature for Session 3: Books “Classics”

(These are suggestions, choose 1 to read (you can choose the same as somebody else in the course), and choose 1 more recent article to discussion and compare with. Relate the classic book and the article to your own research area.)


**Other suggested literature for Session 3: Articles “Classics” (suggestions)**


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**Literature for Session 4: Articles on “Systems Engineering”** *(Every participant reads the same collection of papers. Relate your reading to your own research area.)*

**ARTICLES (to read for every participant)**


**BOOKS (extra reading)**

- *Systems Engineering and Analysis*, by Blanchard and W J Fabrycky (originally from 1981)


**Literature for Session 5: Your own papers.** *(Every participant reads 5 other participants’ review papers.)*