

CHEM-E.2220 Product Development - Project Course

Season 2020
Kick-off 8.9.2020

Why this course?

- Engineering work situation where you need to find a proper solution for a problem in a limited time with limited resources.
- Target: Create a real product prototype (item, service, solution, concept...) for a real customer.
- Deepen your project work skills and project design know-how.

Learning outcomes

A course participant:

- Is able to manage in engineering work situation where you need to find a proper solution for a problem in a limited time and limited resources.
- Can utilise core and advanced knowledge in designing a product.
- Is able to utilise information search tools and other methods.
- Is able to use skills in critical/creative thinking and problem solving.
- Has deeper understanding on the role of professional ethics and responsibility.
- Has improved the skills in time and resource management, and in team working
- Is able to act in basic leadership and project management situations.
- Has improved his skills in written communication, visualization, oral and graphical presentation.
- Is able to assess and evaluate on personal, team and peer level and can utilize different feedback styles.

Project definition *[Artto, K 2002]*

- A set of *unique, complex, and connected activities* having one *goal* that must be completed in *specific time, within budget, and according to specifications*.

Way to work

- Topic descriptions and briefs @ MyCourses 11.9.2020
- Students prepare motivation letters where justifying why they are the right persons for a certain task/topic
- → selection of members for the teams vs. topic (companies/"clients")
- Team (=pair) formation – role setting
- A detailed start-up with the supervisor of the chosen topic
- Progress as rehearsed during CHEM-E2160 - Product Development Practices, (pre-requisite for students in this major!)
 - Role setting and team leading important
 - Task clarification
 - Requirement list
 - Function recognition
 - Variant survey
 - Solution assessment and grading
 - Hands on to the literature, materials and structures, construction, lab work, all what is necessary...
 - Keep record on your actions ("black notebook" paper or e-form) – to be checked weekly

Way to work/Timeline

- Kick-off 8.9.2020
- Topic descriptions available 11.9.2020
- “Motivation letters” by 14.9.2020 → Mon 14.9. 12:30 meeting
- (Team formation by 17.9.2020)
- Contract issues (Aalto-students, Aalto-companies) if necessary
- Meeting the clients (to be agreed between the teams and clients)
- Jouni’s reflection times (Wednesdays 9-10)
- “Weekly” meetings with supervisors/tutors
- To be agreed:
- End seminar on October 2020
- End report by 18.12.2020

Materials/resources/IPR

- Tutoring person from Aalto and the company/client is nominated to the team
- Necessary material and information will be given by the customer/company – confidentiality has to be addressed clearly
- If something new is invented, inventors are recognized → e.g. Aalto-invention disclosure
- Aalto and companies agree separately the transfer of results and rights

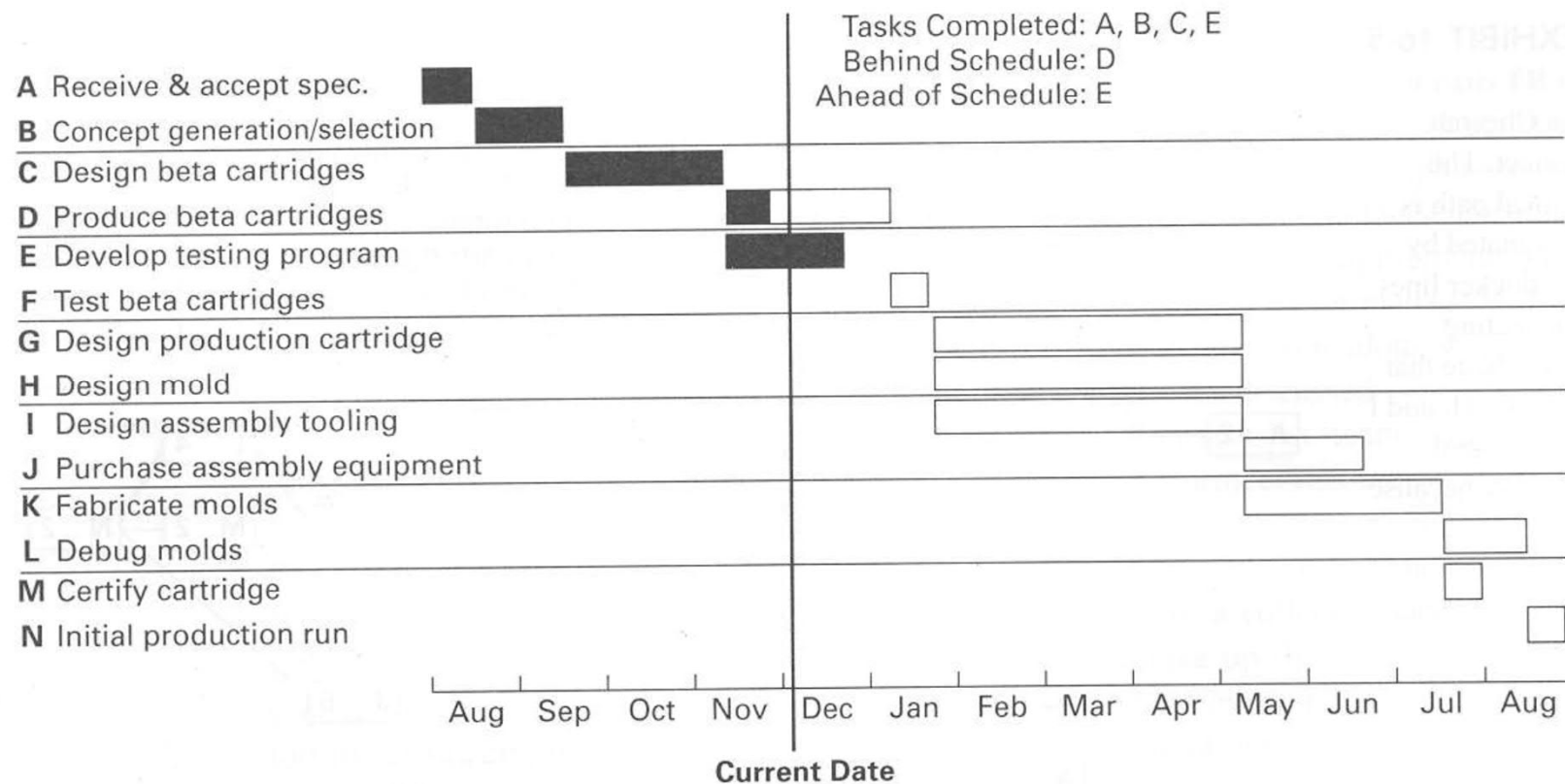
Work load

- 5 cr = 135 h
- “Lectures” ~4-10 h = consultative meetings with tutoring teachers
- Seminars 4 h
- Project work 100-110 h
- Self-study 20 h

Project phases

- Definition phase
- Planning phase
- Execution and control
- Reporting and closing

Handling the tasks and the time-line: GANTT chart



You need to do one like this and to keep it updated!

Practical tips

- Get results today, tomorrow, everyday
- Invest in human relations (team, other parties)
- Discuss and talk, on everything and early enough (to avoid conflicts)
- Don't wait (for anything, never), especially at the beginning (time is money)
- Manage the scope – be able to freeze the plan
- Value of personal contacts can't be overestimated
- Don't hide mistakes (or if something isn't done)
- Planning is hard – but necessary: tasking and follow-up
- Prepare for meetings
- Write down and store all decisions, comments etc
- Keep a record book or file on your progress and decisions
- Use MyCourses (team folders created) or Cloud-folders