Welcome to DAT096 2019

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Today - 3 parts

- 13.15 - ~14.00 Course Introduction/Lena
- 14.15 - ~14.45 Introduction to project tasks + teams/Lena & Sven
    - Break with your team!
- 15.15 - ~17.00 Fish bowl exercise
    - Intro in EL43
        - Then divide up in EL42 and EL43
    - Two teams per room.

Part 1

- Learning outcomes
- Deadlines for deliveries, presentations etc
- Group dynamics and diversity 2019
- Process
- Teachers & schedule
- Advice from previous year(s)
- Changes 2019
- What’s next in planning phase

Learning outcomes

After completion of this course, the student should be able to:

- Apply her/his ***technical expertise*** to a multi-person project where an electronic product (FPGA / ASIC) is ***specified, designed, implemented, and verified***.
- Proficiently use ***modern EDA tools*** for FPGAs / ASICs.
- Contribute, in several team roles, to a ***multi-person project*** where an ***industry-like project model*** is used. This includes planning, follow-up and trade offs under resource constraints.
- Reflect on the ***group process in an international team***.
- Write an ***academic report***, with several authors, describing a product-development project, with correct handling of ***references*** and including ***relevant ethical aspects***.
- ***Document*** an electronic product technically, including testing and verification documentation.

Why these outcomes?

- Skills for working life:
  - Expected by employers
- Skills for master’s thesis:
  - Expected by supervisor and examiner

Team deliveries:

- **Feb 11**: Team agreement (in sealed envelope)+ student course representative proposals
- **March 29**: Half-time academic report
  - Preliminary version of academic report
- **May 29**: Final version of academic report
- **May 31**: Product with documentation & contribution report (possibly also moved to May 29)
- Exam week 24 hours before closeout meeting: team reflection report.

Team presentations

- Monday **April 1** (PM) - half-time presentation
  - Technical achievements so far
    - Increment for sprint 2 (& 1)
- Monday **June 3** (AM) - final presentation
  - Focus on technical result as described in final academic report
- Everybody in team should attend but not everybody presents each time.

Individual submissions

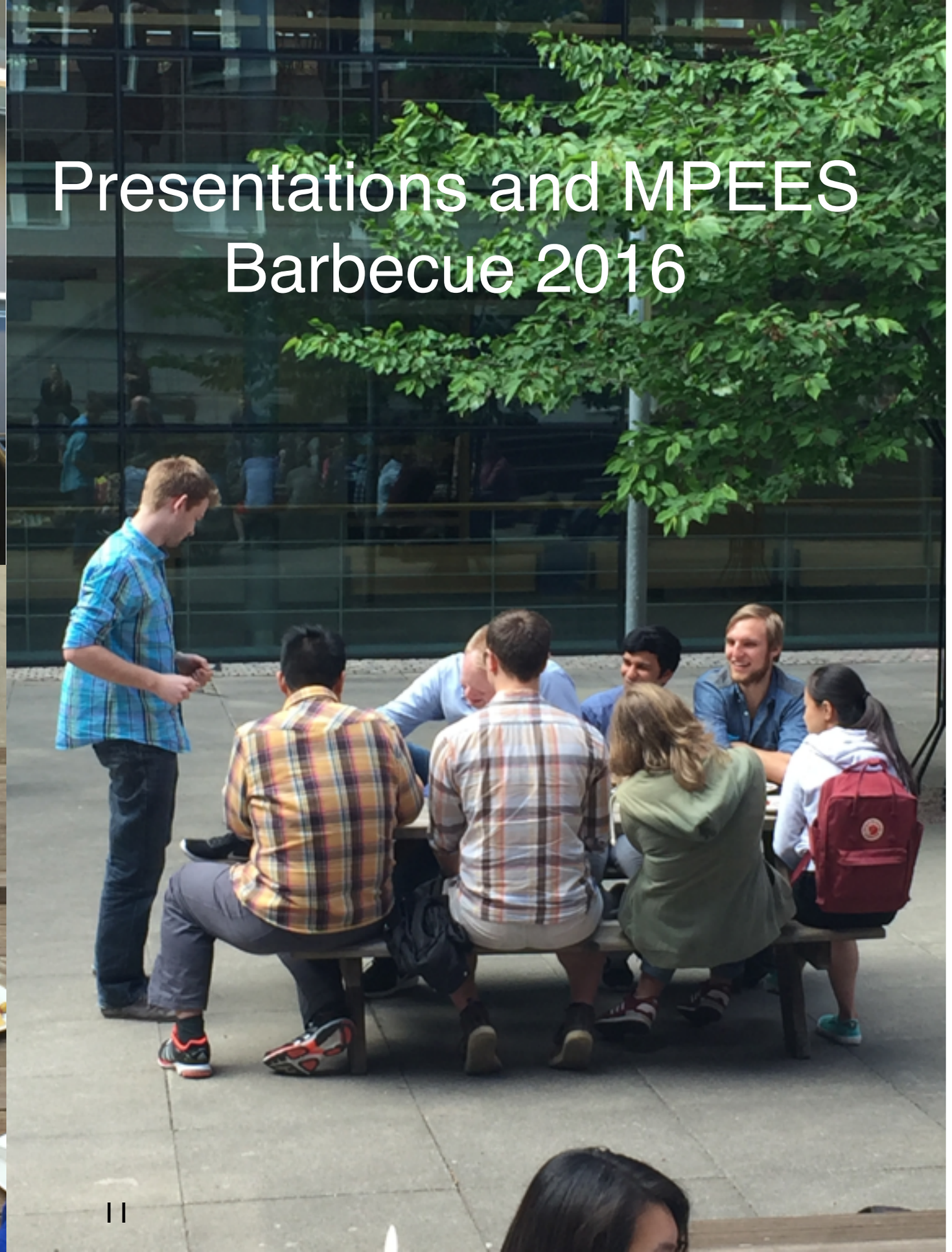
- **March 8** Half-time team-member assessment
  - Serves as input for your meeting with Becky/Anthony in week 8 + sprint 2 retrospective.
- **March 8** Individual ethics assignment (new)
- **June 3** Final team-member assessment
  - Serves as input for grade distribution and project closeout meeting.

Group dynamics and diversity

- Diversity survey week 1 (deadline Sunday Jan 27) in Canvas
- Thursday Jan 31 8-11.45 with Becky and Anthony
  - Lecture + team exercise, Note: in **VASA6**
- Team reflection meeting period 3, week 8 (doodle soon)
- Thursday April 4: Conflict management
- Reflection end of course

MPEES
Barbecue 2017

Presentations and MPEES Barbecue 2016



Assessment incl. grade calculation

- Team base grade:
  - Academic report: 40%
  - Product: 30%
  - Process: 30%
- Grade redistribution among team members
- Read document - ask if anything is unclear!

Process

- Weekly meeting w. team support person (Lena)
- Scrum planning and review + retrospective
- Individual logbooks in Canvas:
  - Time spent and on what.
  - Weekly deadline Sunday night.
- Team log book in some form
  - Record team progress, decisions
  - Bring up impediments
- Lectures, labs, study visits and consultations

Individual logbooks in Canvas

- We will try to use e-portfolios for this purpose
- I have made one example for how it could work. See link below

- https://chalmers.instructure.com/eportfolios/10?verifier=rWXdkLDl0o99KTTMsapGoN8BHtlPcsu3J51QyFiO
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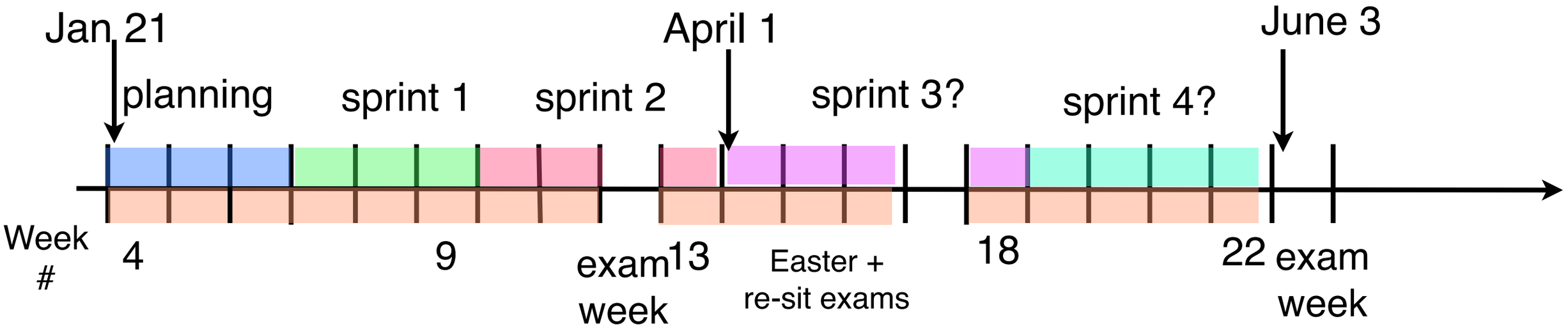
Time line 2019



Sprint 1 and 2 lengths given - the rest up to each team to decide.

20 weeks at half time = 20x20 = 400 hours/person

Note: There are only 17 study weeks.

Teachers

Sven Knutsson

Lena Peterson

Abel Armede

Pratamesh Moralwar

Anthony Norman

Becky Bergman

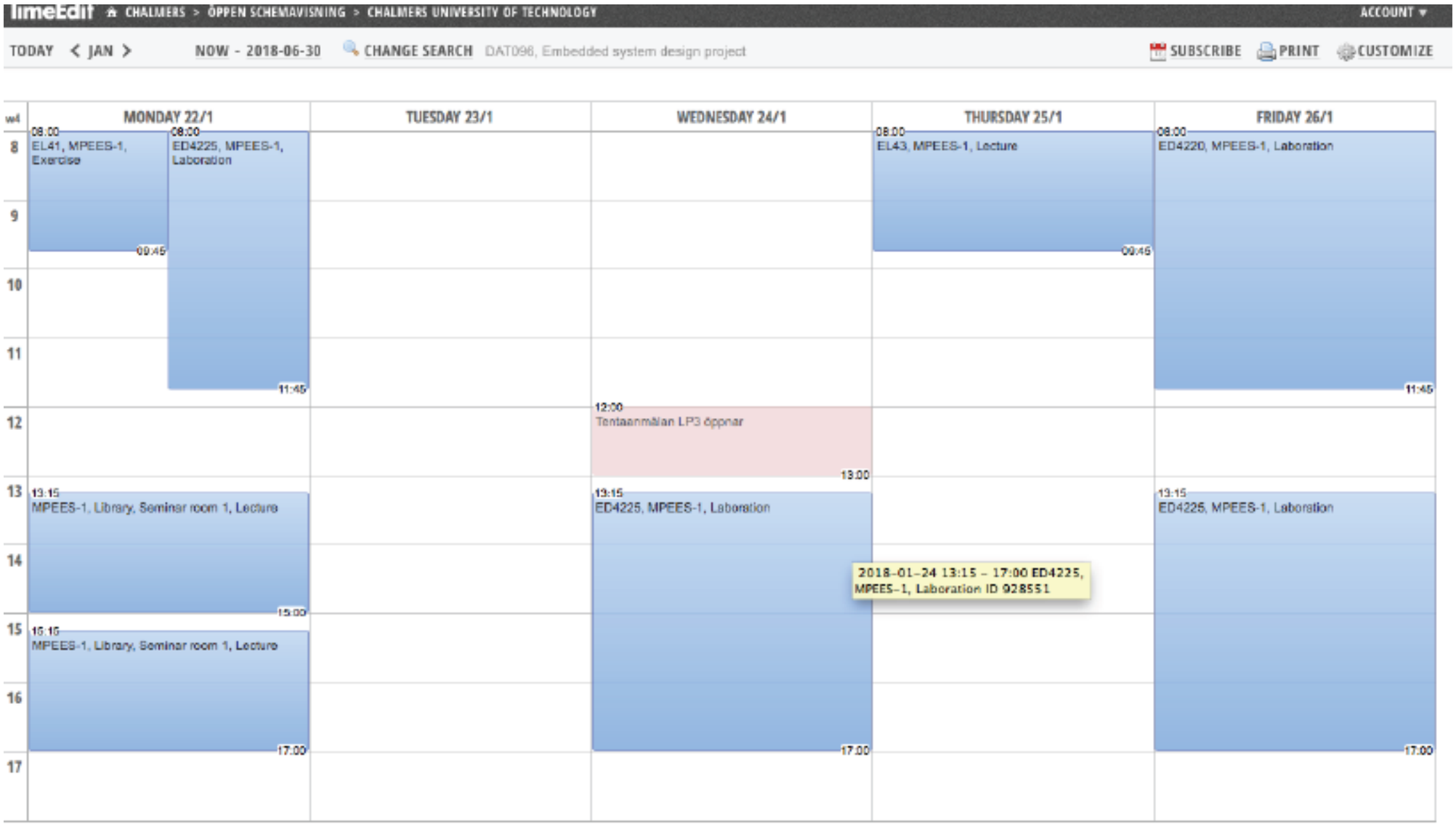
Lars Svensson

Per Larsson-Edefors

External customer

Bhavishya Goel
Syntronic Software Innovations AB
Former MPEES (MPIES) student
PhD from CSE dept

Schedule



Laboration means lab is available for you!

We will make sure you pass cards work there.


Be prepared to modify your plan.

Advice from 2018 teams

Team 1

Take your own deadlines seriously. Start early and organize the work in your project efficiently.

Team 2

The best advice would be to get started early and try to understand the project as early as possible. We had a long start phase before we actually understood what we were doing which slowed down the project. Another advice would be to spread out the time spent over all weeks as much as possible to reduce the stress during the last few weeks. Apart from that a good advice is to learn by doing, test different methods, have clear goals and take it step by step. A mistake we made was to have a very big goal which was the end product but we should have divided it into more clear steps and sub goals. Assume that nothing goes as planned.

Team 3

Start early. Be aware of your responsibility towards the group. Communicate.

Advice from 2018 teams

Team 4

Include everyone in what you are working with and when you are working.
Daily scrum at least during the beginning of the project.
Start working on the report at an early stage.
Keep the communication between members alive even when not working.
Don't be shy or afraid while talking/working in the team.

Team 5

Make sure that you not only decide when to have meetings in advance, but also make a structure of how the meetings should work and what's expected of everyone, in advance (List of meeting points that everyone agrees on). Having this might have helped team members be more prepared for meetings. Make sure that you not only plan to have meetings at regular times, but that you also have them and everyone is an active part of scheduling them. Make sure everyone understands the top-down view of the system as early as possible, what the requirements means for the system as a whole. Make it a point early to use Trello or a similar tool to record work done/ progress. Enforcing this behaviour by using it to show what has been done on meetings or similar might be a good idea. Otherwise it's easy to end up not using it.

Advice from 2018 teams

Team 6

Start with the project from the very first week. Read the requirements, do research, re-read the requirements, do more research and then start trying (or start with trying something straight away, if that fits you better). Do not wait until the first sprint to start actually doing something useful and do not think that "I don't know enough yet to actually start with writing the code or choosing the components", you will never know enough, that is the fun part. Also, do not forget that you are working in a team, if you have a problem with something, tell someone, you're a team, don't wait until things get worse.

Also, there's not a correct answer to everything, most of the time you just have to decide which way you want to go, as everything has its pros and cons. This project gives you the best opportunity to try, just don't forget, that if you see that things aren't going the way you want them to go, you go back and choose another path.

Start writing the report straight from when you have time and/or you've finished some part of the final product, as you'll forget how and what you did if you don't immediately write it down. Also, having well-written log books help you remember what you've done throughout the whole project, so keep writing them.

No room for pride here. Remember that you are a part of this project just as everyone in your team. If you think you are too important to spend any time for this project, better quit! And no taking anything for granted. You team mates maybe better than you, in which case, learn from them. They may not know anything at all, in which case, make them learn.

Finally and probably the most important part is to choose the part of the project that is fun for you but also teaches you something. It's a long project, doing something you don't like doing at all, also affects the overall result.

To think about individually

- What skills/knowledge do I have?
- What skills/knowledge do I want/need to improve?
    - An opportunity to test roles that you do not usually take
    - Learning goals vs performance goals
- Also check learning outcomes.

Changes for 2019

- Updated learning outcome 5.
- Added an individual ethics task (moved from DAT110 to DAT096)
- Started using Canvas instead of PingPong.
  - Logbooks as e-portfolios.
- Changed the diversity schedule -
  - Conflict management moved to after half-time deadline for continuity

What happens in the planning phase week 1?

- Before Thursday read the Scrum guide
- https://www.scrumguides.org/docs/scrumguide/v2017/2017-Scrum-Guide-US.pdf
- Thursday Jan 24
  - 8-9 lecture/meeting w. customer
  - ~9-11.45 Scrum intro + exercise
- Individual survey on diversity
  - Reply by Sunday Jan 27 23.59!

What happens in the planning phase week 2?

- Team meetings with Lena (decide times by doodle - out soon)
- Jan 28
  - 13-15 No real lecture - possibility to meet with product owner(s)
- Jan 31
  - 8-11.45 Group processes and diversity w. Becky and Anthony

What happens in the planning phase - week 3?

- Team meetings with Lena
- Planning for sprint 1
- Feb 4
  - 13-15 More about scrum, Trello etc.
- Feb 7
  - 8-9 (approx) Technical meeting w customer
- **Feb 11** Deadline for team agreement & student representatives

Break!

Mixed-mode project

- Amplifier in form of class-D amplifier
- SNRD requirement: 62 dB for full-range signal.
- Drive earphone: 32 Ω (Optionally also 4 Ω load speaker)
- Power effiency: > 80% at full range
- Output power as high as possible.
- Power dissipation minimized.
- Lecture on class-D from earlier year is uploaded (under Technical reading)

2019 Teams

Team MM

Shilpa Gupta*
Magnus Karlsson
David Kvist
Akshay Venkatasubramanian Ramachandran

Team D1

Emil Emanuelsson*
Wenquian Han
Prasanna Kotrappa
Christoffer Mathiesen
Saud Ahmed Mian
Jiaxing Zhu

Team D2

Vincent Adler*
Said Björkholm
Nikhil Jahagirdar
Pradeep Logathan
Lin Wang
Ming Xu

Team D3

Elsa Andersson
Sinan Ding
Kristoffer Lindh
Antonios Panagiotou*
Nakul Raja Badarinath
Yang Zhang

* = initial scrum master (planning + sprint 1)