SE Master Thesis

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Thesis

GU

- DIT551
- Syllabus: http://kursplaner.gu.se/english/DIT551.pdf

- Pre-requisites
  - 60 hec (or more) must come from courses on advanced level

Chalmers

- DAX05
- Syllabus: https://www.student.chalmers.se/sp/course?course_id=26067

- Pre-requisites
  - 5Y Master of Science: 225 hec
  - 2Y SE Master: 45 hec within the program

What is expected

- Pull together the knowledge from your program
- Including the methodological aspects
- Take it a notch further
- By apply it to an (industrially) relevant problem
- With research interest

Learning objectives
See syllabus for your program

- CTH "contribute to **research** and **development** work, and be able to relate their work to relevant scientific or technical/industrial/architectonic contexts"

- GU "apply the accumulated knowledge and skills to a problem that is interesting from both a **research** and an **industrial** point of view"

Process

Getting started → Execute the project → Examination

Getting started
Process

Select topic
- Proposal from academic supervisor
- Proposal from company
- Own idea

Write proposal
- With academic supervisor

Submit
- SP1 ~~Aug 20~~
- SP2 Oct 22
- SP3 Jan 21 (Dec 13)
- SP4 TBD

Wait for evaluation
- Approved
- Revision
- Rejected

Selecting the topic

- Normal case: **pair of TWO students**
(also from different programs)

- Individual thesis are possible
(but not encouraged)

- Area of interest, e.g., previous knowledge and experience

Find a topic 1/2

- Check the **SE wiki page**
  http://wiki.portal.chalmers.se/cse/pmwiki.php/SE/ThesisProjects

- Thesis proposal from SE faculty
  (most cases, in collaboration with industry)

Find a topic 2/2

- Most thesis are in collaboration **with a company**
  - Check the websites of Volvo, Volvo Cars, Ericsson…

- Does company have **academic supervisor** at SE ?
  - If supervisor at other program, thesis might <u>not</u> fit you
- If not, look for one!
  - *Organize a meeting company + academic supervisor*

Academic supervisor

- It's a <u>must</u> to be successful in the next step:

  the **proposal writing**

SE proposal

- Proposal structure (see template for more info)
  1. Introduction
  2. Statement of the problem
  3. Purpose of the study
  4. Review of the literature
  5. Research question and/or Hypotheses
  6. Methods and Procedures
  7. Limitations and Delimitations
  8. Significance of the study
  9. References

Also include a mini-plan (as steps)

SE proposal

- It should display you understand the problem (context, related work)

- There must be a research contribution
  - Formulation of *research questions* is important

Proposal submission

- **What**
  - Thesis proposal in PDF
  - Registration forms (one per student)
- **Where**
  - master-thesis.cse@chalmers.se
- **When**
  - https://masterthesis.cms.chalmers.se/content/proposal-deadlines

SP3: **Jan 21** (Dec 13)

Proposal evaluation @SE

- Thesis Examiners Group
  - Chair: Riccardo Scandariato
  - Members: Eric Knaus, Regina Hebig, Robert Feldt
    Jan-Phillipp Steghöfer

- Two reviewers + group discussion
  (< 2 weeks)

Proposal evaluation @SE
Outcome

- Accept
  - **Examiner** is assigned and they send you an email. You also get a weird email from the system (it looks like a case status report) – don't worry ☺
  - You get registered (<u>it takes weeks</u>!!!)
  - You contact your supervisor for detailed plan (but no planning report needed)
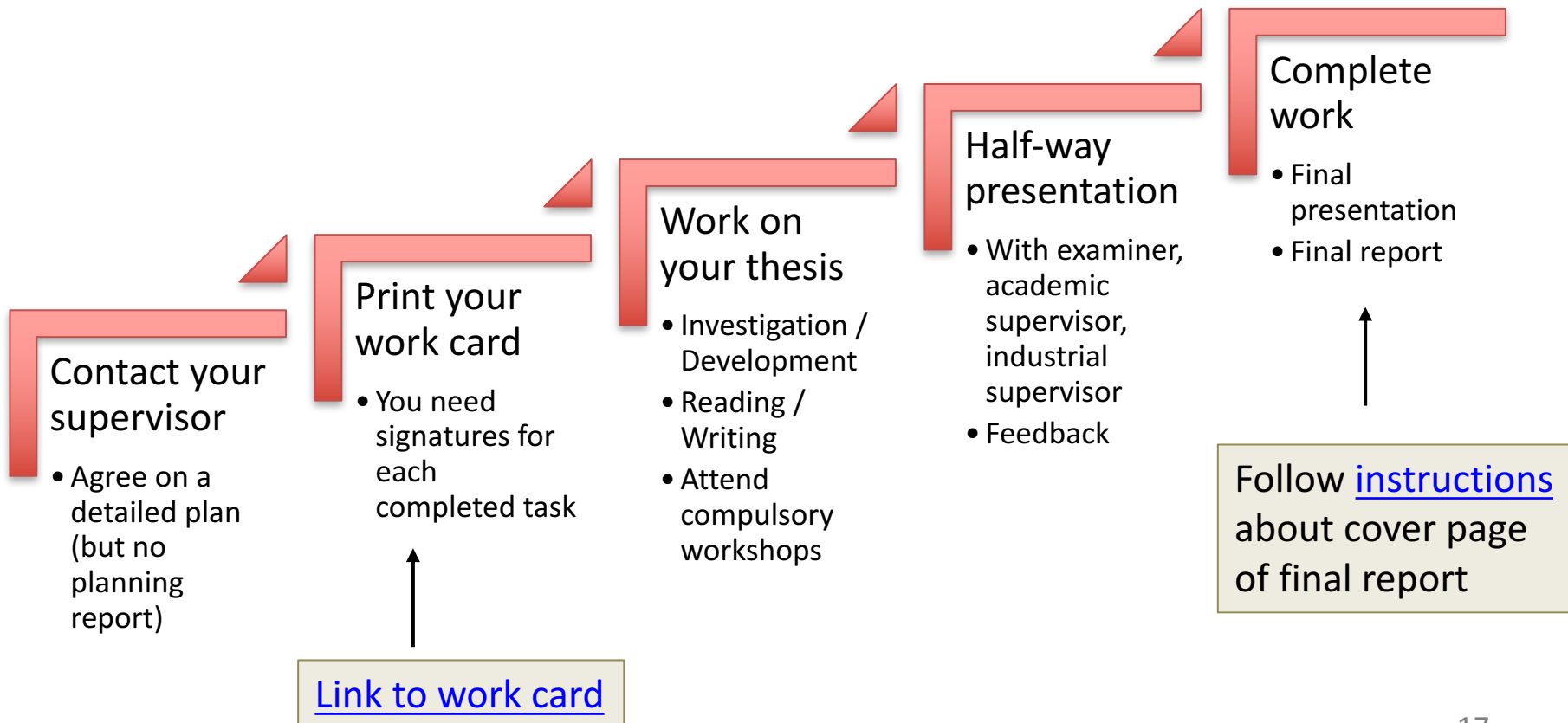
Proposal evaluation @SE
Outcome

- **Revision**
  - Tentative examiner is assigned
  - They mail you a list of **improvements**
  - You have **2 weeks** to send the improved report back to the examiner
  - Final decision is made (accept/reject)
- **Reject**
  - New proposal at next deadline

Execute the project
Process

Contact your supervisor

- Agree on a detailed plan (but no planning report)

Print your work card

- You need signatures for each completed task

Work on your thesis

- Investigation / Development
- Reading / Writing
- Attend compulsory workshops

Half-way presentation

- With examiner, academic supervisor, industrial supervisor
- Feedback

Complete work

- Final presentation
- Final report

Link to work card

Follow instructions about cover page of final report

Mandatory seminars

- Academic writing 1 (fak-språk)
  TBD

- Academic writing 2 (fak-språk)
  TBD

- Industry Collaboration and Career Planning (Agneta Nilsson)
  October 3 09:00-12:00

- Research Approach (Agneta Nilsson)
  December 12 09:00-12:00

Half-way presentation

- Send the draft report to examiner well in advance (e.g., 1 week)

- Prepare slides !
  - Give a proper presentation (good training)

- Explain the objectives of the thesis (give context)

- Show what you have achieved
  (in relation to the original plan)

- Present an updated plan for the future

Thesis report
Language and format

- Thesis report is to be written in **English**
- Quality of writing is part of assessment
  - Not just language… but also
  - Start writing on time (no "last minute")

- Follow the <u>instructions</u> about cover page

Thesis report
Content

- Your thesis report <u>must</u> *answer the research questions* **clearly** and **explicitly**

- RQs in your proposal
  - RQs may change somewhat during the project

Examination

- **Supervisor** approves your final report for examination

- **You** send the final report to **examiner**
  - <u>Well in advance</u>
    <u>(</u>At least a week before the presentation)

- You book a time slot for presentation
  in agreement with examiner and supervisor
  - https://masterthesis.cms.chalmers.se/content/book-your-presentation

Final presentation

- Arrange opponents for own examination
  - The presentation <u>cannot</u> take place without opposition
  - You do not have to be opponent for the students opposing you

- Questions from the audience

Working on online support

- Questions from the examiner

Examination

After final presentation

- Examiner can accept your final report as is

- Require some improvements (**normal**!)

- Fail you

Evaluation criteria

- **Challenges**
  - Clear formulation of objectives
  - Relevance to master program
- **Context**
  - Mastering the related work
- **Methodology**
  - Scientific principles of the design and evaluation
- **Contribution**
  - Completeness and progress beyond the state of the art
- **Quality of writing**

Examination
Summary of required tasks

- Mandatory Seminars (4)
- Approved half-way presentation
- Audience at examinations (2)
- Opponent at examination (1)
- Present and discuss own work
- Satisfactorily perform required revisions (if any)
- Approved final report

Examiner can ask for preview of your questions

Grading

- Chalmers
  - Pass/fail

- GU
  - With distinction

Bookmark these these links

- Master Thesis @CSE
  - https://masterthesis.cms.chalmers.se/content/start

- Esp. "Forms and templates"
  - https://masterthesis.cms.chalmers.se/content/forms-and-templates

Differences @SE

- The proposal template is <u>different</u>
- We evaluate the submissions in Dec/Jan <u>together</u>
- <u>No</u> planning report
- <u>Extra</u> seminar

Questions?