



# Degree Project Course

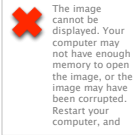
## MSc of Engineering, Master Degree

**Anne Håkansson**

[annehak@kth.se](mailto:annehak@kth.se)

Director of studies for degree projects

**Information and Communication Technology, KTH**



# Objectives for Degree projects

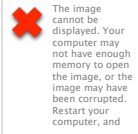
According to Higher Education Ordinance

<https://www.uhr.se/en/start/laws-and-regulations/Laws-and-regulations/The-Higher-Education-Ordinance/>

*Degree of Master of Science (120 credits) [Masterexamen]*

*Degree of Master of Science in Engineering [Civilingenjörsexamen]*

Have the different course codes

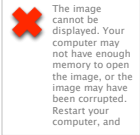


## Objectives for Degree projects (exemple)

- *Demonstrate specialised methodological knowledge within the main field of study/the specialisation for the education,*
- *Demonstrate, with a holistic approach, the ability to critically, independently and creatively identify, formulate, analyse, assess and deal with complex phenomena, issues and situations even with limited information,*
- *Demonstrate the ability to, in English, clearly present and discuss his or her conclusions and the knowledge and arguments on which they are based in speech and writing to different audiences,*
- *Demonstrate the ability to, within the framework of the degree project, assess and show awareness of ethical aspects on research and development work with respect to methods, working methods and the results of the degree project.*

-> For all objectives – see Canvas /KTH Social

**”Assessment template Bachelor of Science and Bachelor of Science in Engineering (Civil engineer), Year 3 Degree projects, 170516”**



# Prerequisites

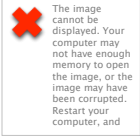
To begin the degree project:

MsC of Engineering (Civilingenjör) at least

- 210 credits of studies for a 270 hp program
- 240 credits of studies for a 300 hp program.

Master: at least 60 credits of studies for a 120 hp program.

These requirements are checked by the administration before the student is registered for the degree project course and can begin the course.



# Degree project course

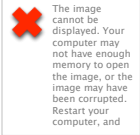
- Starts two times per year:

  - 1 period (Aug/ Sept)

  - 3 period (Jan)

-> Start the degree project = start finding a project  
2-3 months before the course begins

\* Write a project proposal, which is a memorandum  
for the project. Hand in 10 of December / 15 of June



# Before the course starts (in Jan)

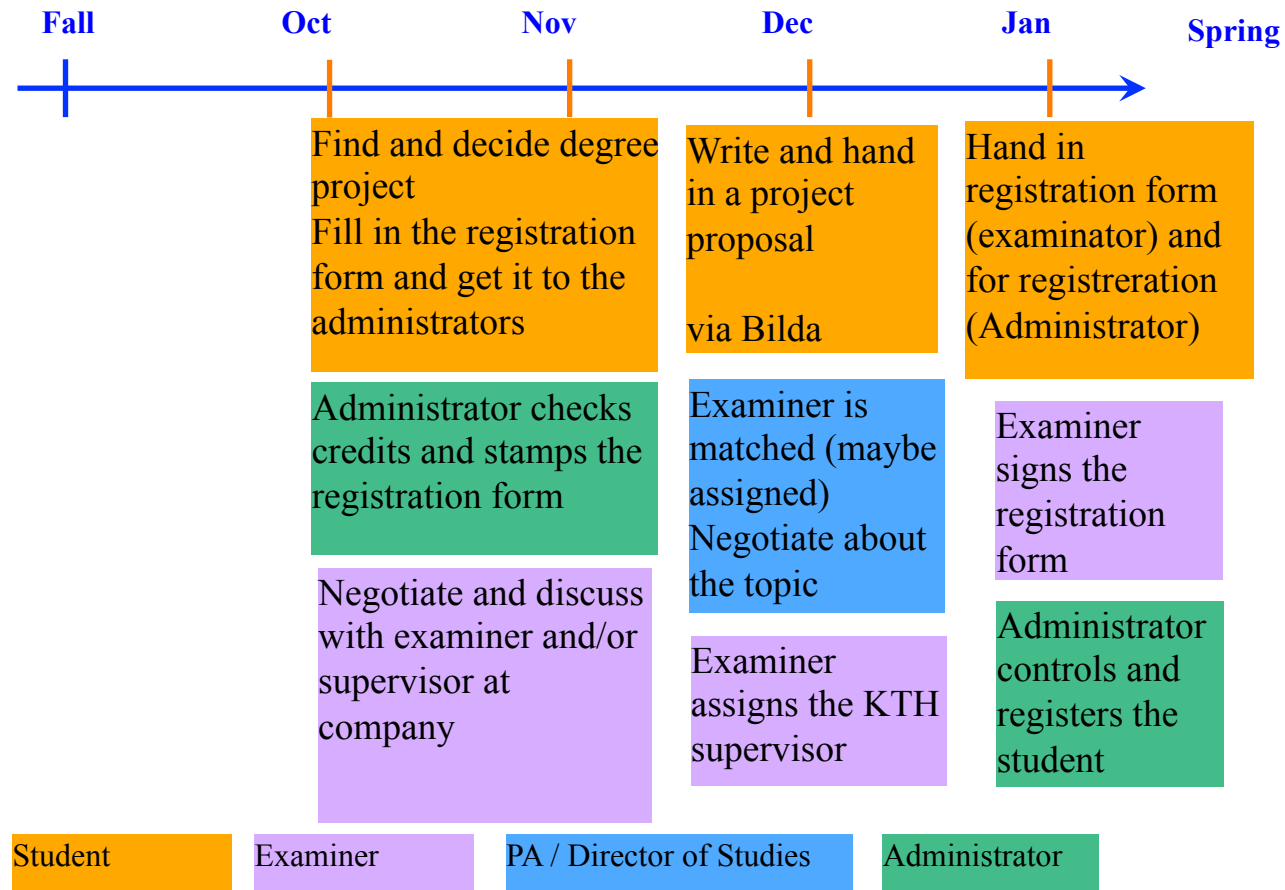
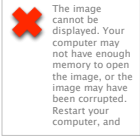


Figure. Start-up phase for degree project, Fall - Spring.



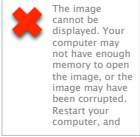
# Before Course

Number of students for a master thesis:

1 student per Master thesis

Not 2 or 3 students

*Note - Several students can work together with a Project solving a problem from different angels but not write the thesis together!*



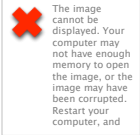
# @ICT- school

## Task order:

1. Find a degree project
2. Registration form
3. Write a project description (project proposal)
  - Negotiate! AND
  - Hand it in – in Canvas!

*@another KTH-school* – talk to them – follow their routines!  
May have a start early in January, at a certain date with a certain task!





# Find and decide on a degree project

## ICT- school Degree project Fair

– Today, Electrum

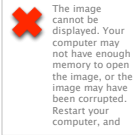
11.30 – 15.30

Meet companies, and researchers

For more information see: <https://www.kth.se/blogs/degreeprojectfair/>

### Contact - Visit

- companies
- researchers
- teachers



# Find degree projects

Web sites (KTH, ICT KTH, External)

## ***KTH Degree Project Portal***

<http://www.kth.se/samverkan/exjobb/kth-exjobbportal-1.292786>

## ***KTH degree project pool***

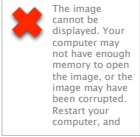
<http://xjobb.it.kth.se>

## ***Degree Project***

<http://www.kth.se/student/program/examensarbete/>

## ***Degree project abroad***

<https://www.kth.se/student/program/utlandsstudier/examensarbete?programme=tebsm>



# @ICT-school

## How to get the registration form approved?

Fetch the registration form via:

Canvas: *Degree Project at the School of Information and Communication Technology - Second Cycle*

Fill it in

Take the registration form to the administrators

Get a stamp!

*Then :*

Upload a copy of the registration form in Canvas system  
& Give it to the examiner for a signature



BLANKETT

Dnr

Blankettkod:

Reviderad datum

UT-EXAR

2016-11-14

Ansvarig avdelning

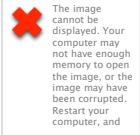
UF/PLU

**Stamp  
&  
Signature**

**ANSÖKAN OM EXAMENSARBETE, DEL 1/APPLICATION FOR DEGREE PROJECT, PART 1**

**Fylls i av studenten/To be filled in by the student**

Förnamn/ <i>First name</i>	Datum/ <i>Date</i>
Efternamn/ <i>Surname</i>	Personnummer/ <i>Civic registration number</i>
E-postadress/ <i>E-mail</i>	
Program vid KTH/ <i>Programme at KTH</i>	
Planerad start för examensarbete/ <i>Degree project is planned to start</i>	
<input type="checkbox"/> Jag godkänner publicering via DiVA/ <i>I accept publication via DiVA</i>	
<input type="checkbox"/> Jag godkänner inte publicering via DiVA/ <i>I do not accept publication via DiVA</i>	
Signatur student/ <i>Signature student</i>	



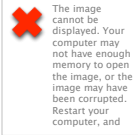
## Grades: P/F – ECTS A-F

Degrees with P/F or A-F:

Students that have started their education **before 2015-07-01** have the **right to choose** grade A-F  
*Education program and Course code must be given when handing in the project proposal*

But the final choice of course code is decided when the course is registered.

Cannot regret the choice later and choose another grade!



## Hand in – start period 3

HAND in project proposal by *upload* it in the Canvas system – *not later than* – 10<sup>th</sup> of Dec

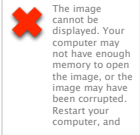
(<https://kth.instructure.com/courses/1586>)

UPLOAD registration form together with project proposal in the Canvas system – 10<sup>th</sup> of Dec

USE *both* when talking to examiner! (i.e., if you have a project)

GIVE the registration form to your examiner (for additional information)!

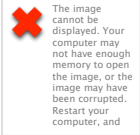
You *or* the examiner hand in the registration form to the administrators - white post box, 3<sup>rd</sup> floor, A-elevator, Service Center



## Hand in – *start period 1*

HAND in project proposal by *upload* it in the Canvas system – ***not later than*** – 15<sup>th</sup> of June  
(<https://kth.instructure.com/courses/1586>)

UPLOAD registration form together with project proposal in the Canvas system – 15<sup>th</sup> of June



## Why hand in a project proposal?

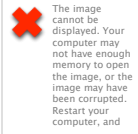
To get **suggestions** about a possible *examiner*

Matching between student's topic and examiner.

Examiners can read the project proposals and discuss the topic with the student

Note: Examiners, themselves, pinpoint supervisors at KTH





# Project proposal = Announcement, *Not registration*

(template in Canvas or: <https://www.kth.se/social/group/degree-projects-ict-/page/forms-application-form-project-proposa/>)

**Project Title + Date**

***Author information (individual work)***

***Organization and Supervisor, information***

***KTH Examiner and Supervisor, information***

***Keywords***

1-6 keywords describing the degree project

***Background***

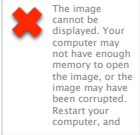
Short description of the area

***Problem statement***

Problem area, focusing on the area to work with

***Problem***

Concrete problem to work with during the project



# Project proposal, cont.

***Purpose*** with the degree project

***Goals***

The goals of the project

***Tasks***

Tasks to carry out during the project

***Method(s)***

Research methods that will be used to carry out the degree project and to write the thesis

***Delimitations***

What affect the project but will not be included

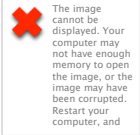
***Milestone chart (time schedule)***

***Risks, Consequences and Ethics***

***Summary***

short summary of the degree project and work including expected results

***Reference(s)***



## **No idea what to work with?**

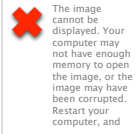
HAND in a Project proposal in Canvas with:

**Project Title** “ To be determine / decided”

***Author information***

***Keywords***

1-6 keywords that shows what you are interested in (e.g., Artificial Intelligence, programming, developing a system ...)



# Canvas, Degree Project at the School of Information and Communication Technology - Second Cycle



Konto



Översikt



Kurser



Kalender



Inkorg



Help

☰ Degree Project at the School of Information and Communication Technology - Second Cycle >

Hem

Moduler

Uppgifter

Diskussioner

Betyg

Personer

Konferenser

Samarbeten

Media Gallery

## ▼ Introduction

### Pågående arbete/Work in progress



Welcome to Degree Project Course,s second Cycle /Välkommen



Grants from KTH Opportunities Fund / Bidrag från KTH Opportunities Fund



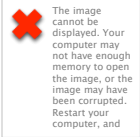
Instructions for degree project / Instruktioner för examensarbete



Lectures/ Föreläsningar



Templates/Mallar

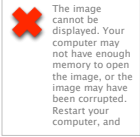


## For example....

Target audience	Degree program(s)	Subject area	Course name	Credits	Course code for A-F grading scale	Course code for Pass/fail grading scale
Civil Engineering students	CINTE, CDATE	Computer Science and Computer Engineering	Degree Project in Information Technology, Second Cycle	30	<a href="#">I1225X</a> ↗	<a href="#">I1245X</a> ↗
	CINTE, (CDATE)	Electrical Engineering	Degree Project in Information Technology, Second Cycle	30	<a href="#">I1228X</a> ↗	<a href="#">I1248X</a> ↗
For students in the ICT School's Master's programs	TSEDM, TDISM, TIVNM (TEBSM)	Computer Science and Computer Engineering	Degree Project in Computer Science and Computer Engineering, Second Level	30	<a href="#">I1226X</a> ↗	<a href="#">I1246X</a> ↗
	TCOMM, TIVNM, TEBSM	Electrical Engineering	Degree Project in Electrical Engineering, Second Cycle	30	<a href="#">I1226X</a> ↗	<a href="#">I1246X</a> ↗

“I1243X\_Amanda-Rise\_A-distributed-system-for-structured-data–Distributed-structured-data-storage–171210.doc”

“I1243X-Sead-Mansfield–To\_be\_decided–distributed\_systems-embedded\_systems–121130.pdf”



# Change of project and alterations

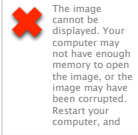
## Altered version:

Course that starts in period 3 (January):

– Hand in the altered version *not later than* 10 of January! (if carrying out the degree project in period 3-4)

Period 1 (September):

– Hand in the altered version *not later than* 15 of August! (if carrying out the degree project in period 1-2)



# Examiner and Supervisors

- Examiner and Supervisor at KTH
- Supervisor (Company)

- Find examiner and supervisor at KTH

Help from Director of Studies – from project proposals

Contact possible Examiner and/or Supervisor

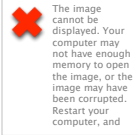
(Examiner pinpoints supervisor)

Contact PA (Program Directors)

Contact Director of studies

Canvas – support if both supervisor and examiner are missing

\* *Examiner* handles the registration form



## Program Directors (PA)

<https://www.kth.se/en/ict/kontakt/kontakt-for-studenter/akademiskt-ansvariga-1.33074>

### **Master of Science in engineering**

Information Technology (CINTE) - [Robert Rönngren](#)

### **Master's programs**

Communication Systems (TCOMM) - [Ben Slimane](#)

ICT Innovation (TIVNM) - [Konrad Tollmar](#)

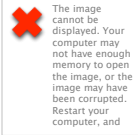
Embedded Systems (TEBSM) - [Johnny Öberg](#)

Nanoelectronics/Nanotechnology (TNTEM) - [Mattias Hammar](#)

Software Engineering of Distributed Systems (TSEDM) - [Mihhail Matskin](#)

Erasmus Mundus, Security and Mobile Computing (TSMKM)” - [Ben Slimane](#)





# Program Directors

## Older programs with no admission

Master of Science in Engineering, Microelectronics (CMIEL) [Robert Rönngren](#)

Master of Science, System on chip Design (TSKKM) [Johnny Öberg](#)

Master of Science, Design and Implementation of IT Products and Systems (TDIPM) [Mark T Smith](#)

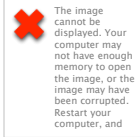
Master of Science, Engineering and Management of Information Systems (TEMSM) [Paul Johannesson](#)

Master of Science, ICT Entrepreneurship (TICTM) [Markus Hidell](#)

Master of Science, Interactive Systems Engineering (TISYM) [Fredrik Kilander](#)

Master of Science, Internetworking (TINWM) [Markus Hidell](#)

Master of Science, Photonics (TPHSM) [Urban Westergren](#)



## Program Directors

### Older programs with no admission

Master of Science, Information and communication Systems Security (TICSM) -

Erasmus Mundus, European Master in Distributed Computing (TDISM) [Johan Montelius](#)

Erasmus Mundus, Photonics (TPHOM) [Min Qiu](#)

Master of Science (One Year), Applied Information Technology (TTITM) [Anders Västberg](#)

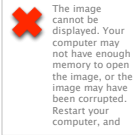
Master of Science (One Year) Internetworking, (TINTM) -

Master of Science (One Year), Nanoelectronics (TNELM) -

Master of Science (One Year), Software Engineering of Distributed Systems (TPVDM) -

Master of Science (One Year), Interactive Systems Engineering (TINSM) [Fredrik Kilander](#)

Master of Science (One Year), Engineering and Management of Information Systems  
[Paul Johannesson](#)



## Director of Studies

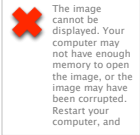
**Software and Computer systems** [Alf Thomas Sjöland](#)

**Communication Systems** [Fredrik Kilander](#)

**Electronic Systems** [B Gunnar Malm](#)

**Degree Project** [Anne Håkansson](#)

***Director of First and Second Cycle Education*** [Anders Västberg](#)



## Information about degree project

Find more information about degree project:

**CANVAS**

<https://www.kth.se/social/group/degree-projects-ict-/>

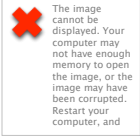
Forms, templates, *evaluation template* etc:

**CANVAS**

<https://www.kth.se/social/group/degree-projects-ict-/page/forms-application-form-project-proposals/>

**CANVAS**

Degree Project at the School of Information and Communication Technology - Second Cycle




# Lectures, in Canvas

Lecture January, 2018, which includes:

Structure and Contents

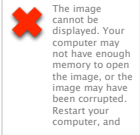
Introduction, Research Methodology /Methodologies

Conclusions, Others

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# Questions





# About the course - Work Phase

*21 weeks of work (number of weeks, not calendar weeks)*

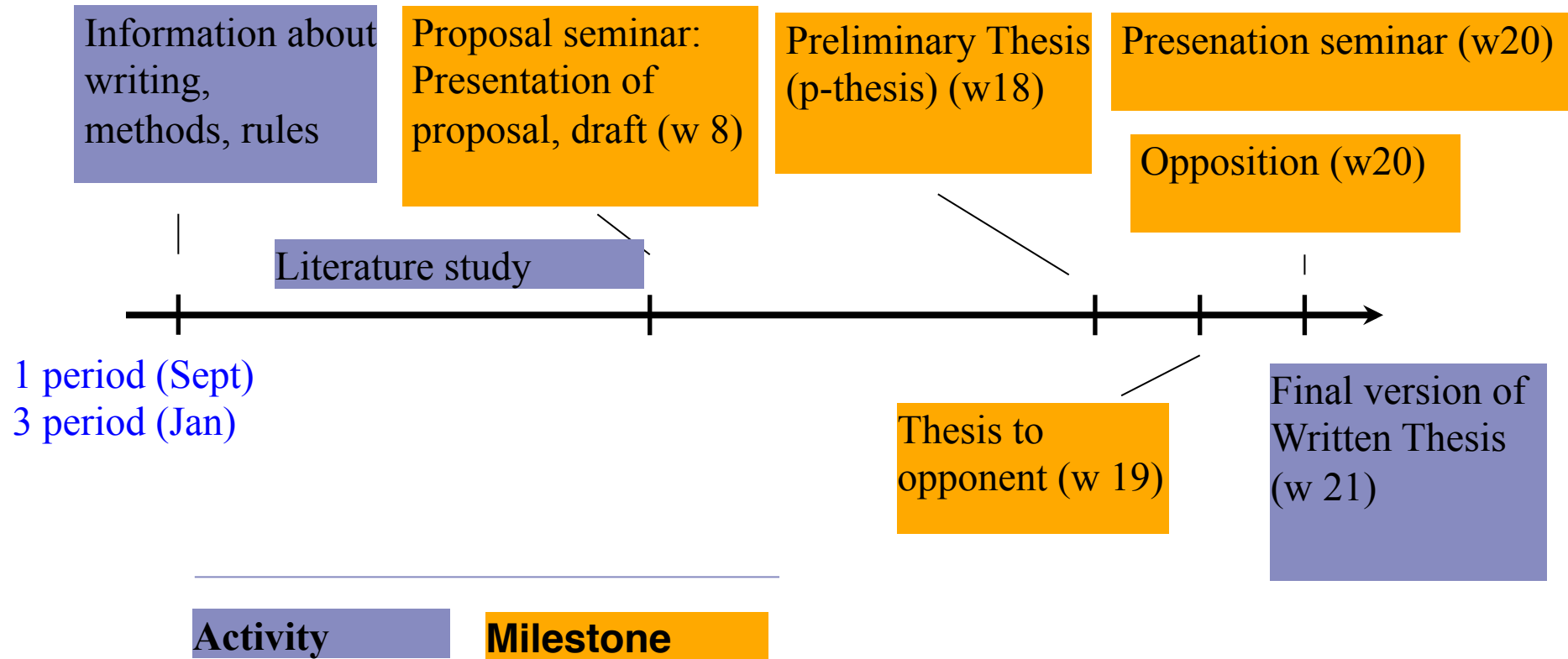
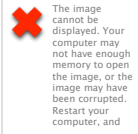


Figure. Activities and milestones of degree project (*Ends in Jan or June*)



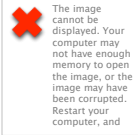
# Activities

**Information: writing, method, rules.** How to write a master thesis, how to choose methods for conducting the degree project, and the rules that govern the conduct of a degree project. (*Lectures, books, Web*)

**Literature study.** The literature study is essential for all degree projects and will identify required background and related work. Typically, the literature study takes around four weeks (but may in some cases be continued throughout the course).

**Written thesis.** The written thesis is the degree project most important part. It is a third of the grade of the degree projects and is a tool for judging the process.





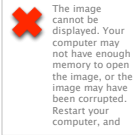
# Mile stones

## **Proposal seminar and draft of the thesis (8 weeks).**

A first draft of the thesis is to be delivered to the examiner. The draft *should* include the result of the literature study and an outline of the entire thesis.

## **Preliminary thesis (18 weeks).**

The preliminary thesis is meant to be the complete thesis *before* getting comments from the examiner, and the opponent is involved.



# Mile stones

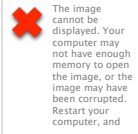
**Thesis to Opponent.** When no major revisions of the written thesis are required, the preliminary thesis is given to the opponent.

If possible, the comments from the examiner are already addressed in the thesis that is given to the opponent.

**Final Thesis.** The final thesis, at the very latest, 1 week after the degree project has been presented (that is, 21 weeks).

Must address the revisions required by the examiner and the opponent.

A short summary of how the comments from examiner and opponent have been addressed in the thesis should be given.

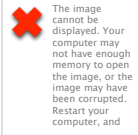


## Mile stones

**Opposition.** Must be opponent of another master thesis. The critical comments from the opponent *should improve* the written thesis;

the opponent must demonstrate that he/she is able to *reflect on, evaluate, and critically review* the work of another student.

An opposition report that evaluates and critically reviews the preliminary thesis and suggests improvements (language, structure, content, and so on) *must be submitted* to the examiner and examiner of the opposed degree project, at least, one day before the seminar, as well as, to the examiner of the opponent's degree project (for grading).

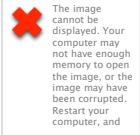


## Mile stones

**Oral presentation.** The student contacts the examiner sufficiently early so that the time for the presentation can be *agreed between student, examiner, and opponent and the opponent's examiner.*

The student, or student's examiner, announces the date, and place together with a short abstract well in advance of the seminar.

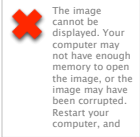
*If confidential material* - it is possible to produce two documents: one for the company *including* confidential material; the other for KTH *excluding* the confidential material. KTH grade and archive and so on only the document without the confidential information.



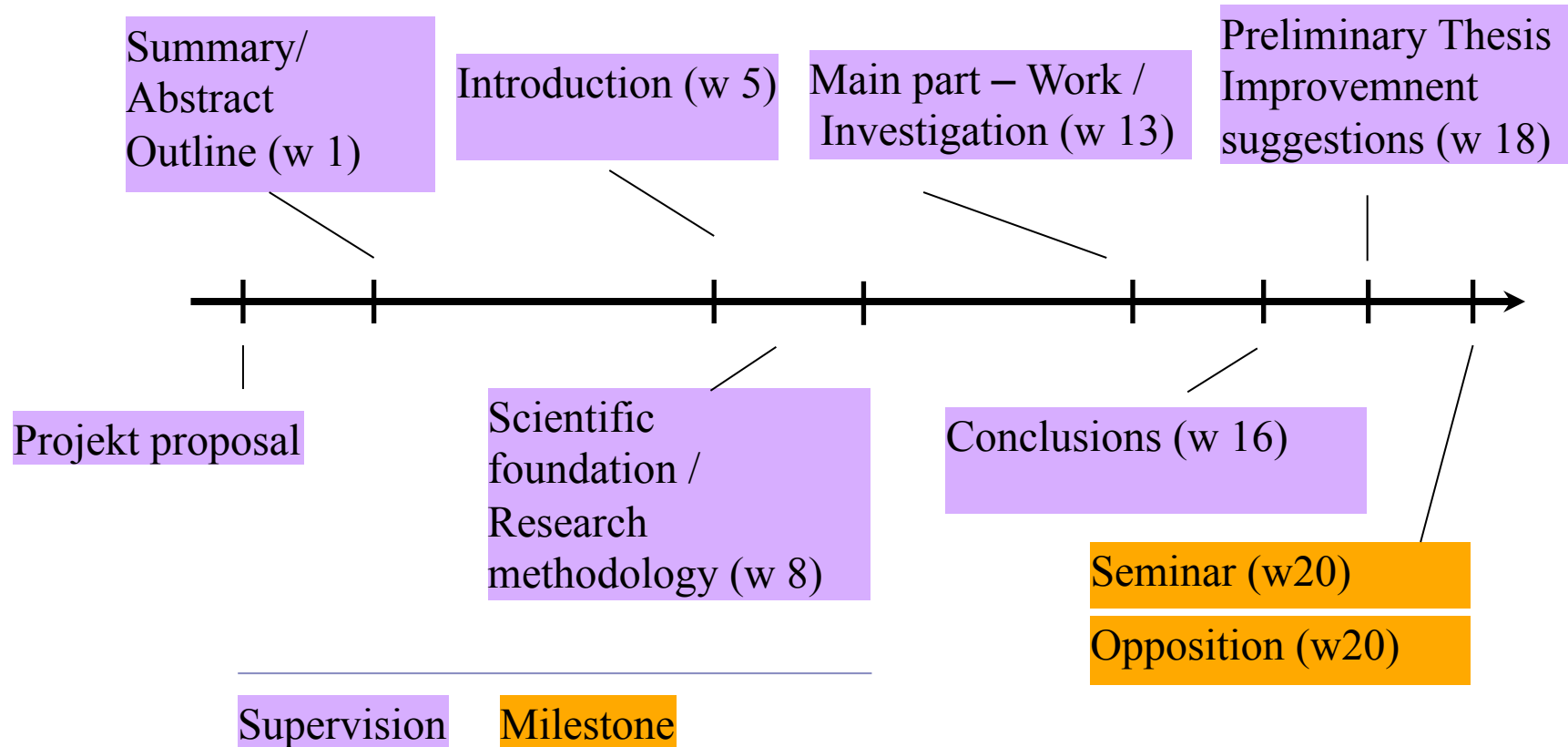
# Checkpoints / Seminars with supervisors - examiners

Several checkpoints and compulsory seminars:

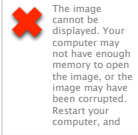
- Summary, Abstract, and Outline
- Introduction
- Research Methodology
- Main thesis
- Conclusions
- Presentation seminar
- Opposition seminar



## Supervision matches the working phases



Figur 3. Supervision /Seminars with supervisor and students.



# Student activities /seminars

w 0 – Registration form (fill-in, signatures, hand in)

w 1 – Summary, Abstract, Outline /Table of Contents

w 5 – Introduction

w 8 – Research Methodology

w 8 – Proposal seminar

w 13 – Main thesis

w 16 – Conclusions

w 18 – Preliminary thesis

w 19 – Thesis to opponent

w 20 – *Presentation seminar/ Opposition seminar*

w 21 – Final version of the thesis + evaluation template