„How To Thesis“
Wednesday, 19.06.2024 17:45
Notice

- This event will be recorded
- The recording will be uploaded to Youtube
- You will find links in the video description
- Q&A at the end will **not be** recorded
Moderation instructions

- Questions please only after the lecture
- Questions in ZOOM are also welcome in the chat. We will collect them and read them out/discuss them later.
We are:

- Dominic Brestel
  - Computer Science Master Student
  - Mentor

- Ioana Gheta, Dr.-Ing.
  - Manager of the Informatics Study Program Services
  - Course counselling, modularisation officer, support of the examination committees
Topics

- Bachelor’s thesis and Master’s thesis – key data
- Best practices for theses
  - Search for a topic
  - Dealing with the supervisor
  - Thesis procedure
  - Preparation of the final presentation
  - Overcoming challenges
  - NO-GOs
- Q&A
Mentimeter

Join at menti.com
Code 4714 0148
BACHELOR AND MASTER THESIS

KEY DATA
Key data of Bachelor and Master thesis

**BACHELOR THESIS**
- **Requirement:**
  - 120 ECTS passed
  - Maximum 1 compulsory module open
- **Rating:**
  - 15 ECTS (counts double for grade)
- **Processing time:**
  - 4 months
  - Extension: 1 month*

**MASTER THESIS**
- **Requirement:**
  - 60 ECTS passed
  - 15 ECTS from a specialization subject
- **Rating:**
  - 30 ECTS
- **Processing time:**
  - 6 months
  - Extension: 3 months*

*Apply for an extension no later than 2 weeks before the thesis deadline
General information:

- Bachelor’s thesis and Master’s thesis also possible as group work
  - Contributions of those involved must be clearly defined!

- For parallel studies, an interdisciplinary thesis may be sufficient

- Final thesis also possible externally (e.g. FZI, etc. ...)
  - Consider the additional organizational effort!
General information:

- Withdrawing from the thesis is possible once (only in the 1st month)
  - Does not count as a lost attempt!

- A valid reason is always required for an extension of the processing time
  - Apply for an extension no later than 2 weeks before the thesis deadline
  - Must be approved!

- Thesis presentation should take place no more than 4 weeks after submission, preferably earlier
FROM PREPARATION TO PRESENTATION

BEST PRACTICES
Progression of a thesis

Find and apply for thesis

First month

Kick-off presentation

Intermediate month / Interim presentation

Final month
Search for a topic

Advertised thesis
- Advertised by institutes at KIT (websites are the most up-to-date)
- Often, exact topics can only be found in conversation
- A topic might sound very abstract before talking about it – don’t get intimidated

Initiative-applications
- Requests with own ideas are almost always possible
- The subject areas of the chairs can be found on the institute’s website
- The scope of the work will then be determined in discussion

External thesis
- Must be accompanied by an examiner within KIT
- Requirements of external parties and KIT must both be met
- IOSB (Fraunhofer) & FZI, for example, do not belong to KIT
- Communication between supervisors is very important
Search for a topic (in the Master)

Internships and seminars provide good insights into institutes

Practice of Research [ PdF ] brings experience for scientific work

HiWi jobs enable you to familiarize yourself with subject areas and get to know your potential team/supervisor

The variety of elective subjects offers a wide choice for specialization
Search for a topic (in the Master)

Attention:
For students who are pursuing a profile in the master, the master thesis must match this profile!

Master profiles in informatics (e.g. artificial intelligence)
9 profiles to choose from
Taking certain modules and master’s thesis in this subject area
Certified specialization as Computer Science M.Sc. with profile Artificial Intelligence

Studies/final thesis with a master profile must be planned early!
Working with supervisor

Contact person during the thesis
- Usually not the examining professor
- Supervisor but also involved in grading

Clarify the type of support:
- How familiar is the supervisor with the topic?
- What work rhythm does the supervisor expect?
- To what extent is the supervisor able and willing to help?
- To what extent is the supervisor willing to correct interim results?
- How difficult is it to contact the supervisor quickly?
Before the thesis:

Identify the topic
- Scope must be appropriate
- Exact objectives and research question (exposé, induction)
- Work environment & technology
- Has the department already produced work on a similar topic?

Official registration
- After introduction phase
- Start date must be recorded
- Title must be determined at the time of registration (not too specific to avoid missing the topic!)

Avoid misunderstandings!
- Often different expectations in advance
- Record the results of discussions
- In case of doubt / if several people are involved: send an email with protocol
First month:

Possibly kick-off presentation at the chair (often only in the Master's program)

Research and experimentation

• Write basics into the paper during research
• Always keep track of sources! It is best to use literature management software directly (Zotero)
• Find out if the topic suits you!

Create time schedule with supervisor

Check expectations

If it turns out in the first month that you cannot cope with the topic at all:

• You can withdraw from the thesis once without losing your first attempt
Intermediate months:

- Continuously write your thesis, not everything at the end
- Keep track and document work
- Regular consultation with supervisor
- Write down decisions with reasons (at least bullet points for later formulation)
- Evaluation should be completed 3-4 weeks before submission

Productive, content-based work…
…on implementation and thesis

Interim presentation at the chair (often only in the Master's program)

- Dependent on the institute

Clarify problems directly with your supervisor!
Last month:

Writing, correcting and finalising the draft

- Formulating and improving the draft
- Finalize order/structure
- Include images in the latest version (PDF or SVG)
- Standardize terminology
- Check sources

Supervisor needs time to read through (intermediate) results

- Always plan time for feedback

Formulate the introduction, summary and outlook last

- Are very important (first impression on examiner)
- Reflect the rest of the work

Check with your supervisor if a pdf is enough or a printed thesis is expected
The final presentation:

**Ask about general conditions:**
- Online / face-to-face (sometimes both)
- Who is listening (usually the working group / the institute)
- Time frame (Bachelor 20 minutes, Master 30 minutes)

**Set priorities**
- Present 1 or 2 interesting points of the work as clearly as possible
- "Preparation" and "Outlook" are also important

**Prepare for the questions section**
- Don’t panic!
- Consider placing the topic in context
- Content Questions are often superficial

**Rehearse presentation!**
- e.g. with supervisor or fellow students (also with questions)
- Rehearse with different audiences
Challenges

External factors:
• Software unsuitable
• Defects in the material used

Internal factors:
• Psychological stress, illness, writer’s block

Desired result seems unattainable?
• In research, failures are normal and important
• If the work does not produce the desired result, you can still write a scientific paper about it
• If there are problems at the beginning of the thesis: reorientation of content?
• Extension might be sufficient?
Dealing with writing problems

Thesis should always be a priority
But what if things just don’t move forward?

“Just One Thing” method:
Select individual tasks and complete them step by step

Fixed working hours:
For example, always write from 9 a.m. to 3 p.m.,
→ but take the weekend off

Intentionally writing in non-final form:
On paper, schemes, bullet points
→ Only formulate later

Avoid hurdles of getting started:
Plan chapters/sections early
→ Makes it easier to start new sections

Take a writing course at HoC
No – Go`s

Large discrepancies between one's own ideas and the wishes and expectations of the supervisor

Difficulty differentiating sub-problems of the overarching topic

Code not/poorly documented

Writing half of the work three days before the deadline

When submitting the paper don’t forget to print, bind and sign it
# After a bachelor thesis

## Apply for the master on time

<table>
<thead>
<tr>
<th>Semester</th>
<th>Application Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>15.07.</td>
</tr>
<tr>
<td>Summer</td>
<td>15.01.</td>
</tr>
</tbody>
</table>

## For the Master's application, all examinations must be completed before the end of the semester (submission & final presentation):

<table>
<thead>
<tr>
<th>Semester</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer</td>
<td>30.09.</td>
</tr>
<tr>
<td>Winter</td>
<td>31.03.</td>
</tr>
</tbody>
</table>

If necessary, request a 4.0 certificate.

## Submission is shortly after the start of the semester?

Student can transfer up to 30 ects of courses to the master from their bachelor study.
After a master's thesis

- Officially complete the degree
  - Download title certificate
  - Collect final documents

- Pursuing a doctorate

- Career entry
  - Job search, for example, via the CareerService
Q&A-PANEL
THANKS FOR YOUR ATTENTION!
Ressourcen

Bachelor of Science
- Mastermodule im Bachelorstudium: https://www.informatik.kit.edu/faq-wiki/doku.php?id=mastermodule_im_ba
- Interner Übergang vom Bachelor- zum Masterstudium am KIT: https://www.informatik.kit.edu/faq-wiki/doku.php?id=interner_uebergang_ba_ma

Master of Science
- Master Informatik: https://www.informatik.kit.edu/10862.php
- Studienprofile im Master Informatik: https://www.informatik.kit.edu/9378.php

Weitere Ressourcen

- Externe Abschlussarbeiten:
  https://www.haa.kit.edu/downloads/KIT_ALLGEMEIN_Merkblatt_Externe_Abschlussarbeiten.pdf
- Parallelstudium: https://www.informatik.kit.edu/faq-wiki/doku.php?id=parallelstudium
- HoC - SchreibLabor:
  https://studium.hoc.kit.edu/hocampus/index.php/lehre/wissenschaftliches-schreiben/
- HoC - Schreibberatung:
  https://studium.hoc.kit.edu/hocampus/index.php/beratung/schreibberatung/
- KIT-Fristen: https://www.sle.kit.edu/imstudium/termine-fristen.php
- Abschlussdokumente: https://www.sle.kit.edu/imstudium/abschlussdokumente.php
- Titelführungsbescheinigung: https://www.informatik.kit.edu/faq-wiki/doku.php?id=titelf
- Promotion- Karlsruhe House of Young Scientists (KHYS): https://www.khys.kit.edu/promovieren-am-kit.php
- Berufseinstieg: https://www.careerserviceportal.kit.edu/de/