

Bachelor`s Thesis INHN0024

School of Computation,
Information and Technology



Infosession Bachelor`s Thesis

31st of January, 2025



Topics today

- Regulations
- The process in 6 Steps
- Citation
- The Colloquium
- Suggestions & further information

Presented by

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The Bachelor`s thesis

- A Bachelor's thesis is a scientific work that is written by students at the end of a bachelor's degree program.
- You work on a technically relevant topic and analyze existing specialist literature. *„The final thesis should show that the student is able to work on a task independently using scientific methods.“ (Allgemeine Prüfungsordnung „APSO“ = General Academic and Examination Regulations).*
- You are **NOT** expected to carry out any independent development or research of your own, as you do in a **master's** thesis.

Source: www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering

Program regulations



- The Bachelor's thesis should be your **last examination** within your study program (exceptions are possible).
- Completing your Bachelor's thesis should **not take more than 4 months**.
- It should be between **30 and 60 pages**.
- You will get **12 Credit Points** for the thesis (=9 weeks of full-time work).
- You have to pass it with a least a **4.0**, if not, you can register for a second chance within 6 weeks.

Source: *Fachprüfungsordnungs- und Studienordnung BIE*,
www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering

University regulations

- Students have to be enrolled when they take an exam (including the thesis).
- In accordance with § 18 subsection (1) APSO students must be enrolled in the respective program until completion and submission of the final thesis. This is true even if the period for writing the thesis was extended for reasons beyond a student's control.
- *„With the approval of the chairman of the examination board, the final thesis may be carried out in a facility outside the university if it can be supervised by an examiner from the Technical University of Munich.“ (APSO, www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering)*

Source: www.cit.tum.de/en/cit/studies/students/thesis-completing-your-studies

Step 1 – Find a topic

Do you have a special field of interest?

- Inform yourself about the research areas of our CIT Professors. They might have announced interesting topics at their websites already.
- Afterwards, contact him/her or a faculty member of that academic department in good time to discuss possible thesis topics or to concretize them.

Do you know what is perhaps the most difficult step in writing a thesis?

It is finding an appropriate topic and putting it in to concrete form. Allow yourself sufficient time to find a topic that suits your level of knowledge and interest.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

When you are choosing a topic, remember that you will have to deal with it intensively over a period of several months!

Professors



Prof. Dr. Stephen
Kobourov
Efficient Algorithms



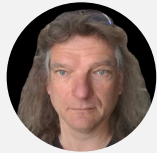
Prof. Dr. Hartwig
Anzt
*Computational
Mathematics*



Prof. Dr. Luise
Pufahl
*Information
Systems*



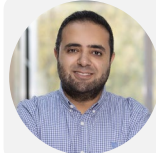
Prof. Dr. Ali
Sunyaev
*Information
Infrastructure*



Prof. Dr. Carsten
Trinitis
*Computer
Architecture &
Operating Systems*



Prof. Dr. Maribel
Acosta
Data Engineering



Prof. Dr. Amr
Alanwar
*Cyber-Physical
Systems*



Prof. Dr. Chunyang
Chen
*Software
Engineering & AI*



Prof. Dr. Stefan
Wagner
*Software
Engineering*



Prof. Dr. Alexander
M. Fraser
*Data Analytics &
Statistics*



Prof. Dr. Stephan
Günther
*Distributed Systems
and Security*

<https://chn.tum.de/research/professors#c3049>

Step 2 – The Koinon Portal

- Once you have found a topic and a supervising chair for your thesis, you will be registered **by the supervising chair**.
- You will receive an **e-mail asking you to confirm** your thesis registration.
- Only after you have confirmed your registration the Academic Programs Office will be able to check the admission requirements and you will receive an **email confirming your binding registration** for your thesis.
- You can log in to the CIT portal at <https://portal.cit.tum.de/en/Theses/> with your TUM ID and get a overview of your thesis timeline and deadlines.
- In rare and reasonable cases, you can apply for an **extension** in the CIT portal.

Step 3 – Establish a working plan

A major project, such as a thesis, should not be started without a working plan. The plan should include all phases of work on the thesis, from searching for a topic to submitting your work.

- **Do not think too detailed**; otherwise, there is the danger that you will have to spend too much time readjusting your plan. This consumes precious time that you need for your work.
- In your working plan, record the times when, for example, the lab is **closed**, your supervisor is on **vacation**, or the university is closed due to **holidays**.
- Do not overtax yourself. You should plan **extra time** as a buffer.
- Fix clear **deadlines**. If you tend to continuously push back deadlines, it could help if you set your deadlines in combination with an appointment to see your supervisor or fellow students.
- According to experience, the greatest level of stress comes towards the end of your project. **Plan as few other activities as possible around this time**, so that you can meet your submission deadline.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Step 4 – Search for sources

It is a good idea to get a general overview of **available sources** for your work while searching for the appropriate topic. At the latest, once you have chosen your topic, you should begin to research resource material.

→ Start with introductory **articles and books**. If you discover **certain authors** have published literature relevant to your topic, or if you have identified **keywords**, you can search for further contributions in the library's online-catalogues and literature data banks.

Researching has a “**snowball effect**”. The bibliographies of your introductory sources will lead you to

→ further sources; their bibliographies will, in turn, direct you to

→ even more sources, and so on.

Be careful not to drown in your research and get buried in mountains of sources you will never be able to deal with in the limited time you have for writing your thesis. Set a clear deadline in your working plan for completing your initial research.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Keep track of your sources

Record all the sources relevant to your work from the very start.

It is extremely annoying to be in the throes of composition and realize you no longer remember where you found the excellent article you want to reference.

Write a short summary of the article and record page numbers of important quotations, so that you can find them again during the writing process.

By using **an electronic organization system** for recording your sources, you can gain the best overview of the material you have read. The university library has a campus license for the sources organization programs.

You can find more information on this subject here: www.ub.tum.de/literaturverwaltung

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Step 5 – Create an outline

A good outline can make it much easier to write your thesis.

- Creating an outline forces you to consider your **line of reasoning** in the construction of your arguments. These thoughts should be clear, well-structured and comprehensible to the reader of your thesis.
- Once you have an outline, the entire thesis is divided into **small, clearly arranged units**, which, in turn, facilitates the writing process.
- Suddenly, you no longer have that huge “mountain” of work in front of you, but you can see – like on a good trail map – the individual sections of your hiking trail leading to the summit ahead of you.
And: **A good outline is an important foundation** for good advising. On the basis of your outline, you can more readily discuss your specific questions, the structure, and length of your thesis.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Tip: Create a “commented outline” for yourself!

Step 6 – Start writing

You do not have to immediately produce a polished chapter on paper.

For a start, it often helps to begin with a section of a chapter you find easy to deal with.

In the initial phase, you may only write down keywords and incomplete sentences you will later formulate completely during the writing process.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks



Cite correctly

Working scientifically means everything you write must be reliable and accurate, so that readers can check the facts.

You must, therefore, properly acknowledge the source of every idea that is not your own and every fact on which you have based the argument of your thesis.

→ That means any passage of your text that you have not developed on your own accord but have taken over from other sources, must be clearly indicated to the reader.

→ This includes direct and indirect quotations, as well as tables or graphs.

To avoid oversight (something that could easily happen with such a comprehensive final project), we recommend that you **immediately** indicate all citations and enter their sources in your bibliography or reference list as you draft your thesis.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Cite correctly

Remember, when you submit your thesis, you must declare in writing that you have written it yourself and that no sources or aids other than those listed have been used (§18 (9), APSO).

In other words: if you integrate citations and passages and even ideas in your text from someone else and you do not declare that other person accordingly, this will be counted as an attempt of deception and result in failing the thesis!

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Back up your data

Is such advice out of place at a technical university? Far from it! It cannot be repeated often enough: **Back up your data!**

Save your data when you stop writing at the end of a day. Save your data in between, before you answer the telephone, take a break, treat yourself to a nap, clean your apartment and so on. It can be devastating to lose thoughts hard won and difficult to write down.

Moreover: make back-up copies on external storage sites. All students at the TUM have free access to readily available and secure storage and project disk drives: www.it.tum.de/en/it/students

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Complete your thesis

All sections are completed? Congratulations! But you are not finished yet. Now you have to make your work presentable for submission. To do this, once again, you will need a good deal of patience and care. For this step, you should allow a sufficient amount of time.

- **Proofread** for grammatical accuracy and stylistic form. Or – even better – find someone who can do this for you because, as an author, you are often “routine-blinded” and no longer see your own typing, spelling and grammar mistakes. Friends, relatives or fellow students (who are currently not under the stress of writing a thesis) are perfectly suited for this job.
- **Check** your table of contents, tables, lists and cross references. Ensure that all page numbers correspond to the correct page of the graphs and tables, that their headings have been correctly written and numbered, and that the bibliography is complete.

Source: www.tum.de/en/studies/graduation/theses/tips-and-tricks

Submit your thesis

After completing your thesis, you upload it in the Koinon Portal.

Make sure to follow the procedure that is requested in the portal.

Checklist thesis

Preparation

- ✓ Make sure that you are **enrolled** until completion and submission of your thesis.
- ✓ **Find a topic** - inform yourself about the research areas of our CIT Professors and contact him/her or a faculty member.

Formal registration

- ✓ Once you have found a topic and a supervising chair for your thesis, you will be **registered** by the supervising chair in our **Koinon portal portal.cit.tum.de/en/Theses**.
- ✓ You will receive an e-mail asking you to **confirm** your thesis registration. Only after you have confirmed your registration we (the Student Service Center) will be able to check the admission requirements and you will receive an email **confirming your binding registration for your thesis**.
- ✓ You can **log in to the CIT Koinon portal** with your TUM ID and get an overview of your thesis timeline and deadlines.

Scientific work & Upload

- ✓ Start with your **scientific work** on your thesis and be sure to follow our **recommendations**.
- ✓ If necessary, you can apply for an **extension** in the CIT portal.
- ✓ After your completion, **upload** the thesis in the Koinon portal.

After your successful thesis: the Bachelor`s Colloquium INHN0025

- It will be held by the **supervisor of your thesis and a so called observer** which presumably will be a scientific staff member of your supervisor.
- It takes about **30 minutes**. You have about 15 minutes to present your Bachelor`s Thesis followed by the so called “Disputation” which is a scientific debate that represents one of the forms of examination for obtaining academic degrees.
- **Minimum passing grade: 4.0 / Credits: 3**
- You can register as soon as you have passed your Bachelor`s Thesis. Make sure to minimize the time between passing the thesis and attending the colloquium!

Source: *Fachprüfungsordnungs- und Studienordnung BIE,*
www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering

University Regulations

- The time until the first week of classes belongs to the exam period of the previous semester. For exams which take place until the end of the first week of classes of the new semester no obligation for enrollment exists. This is also true for the usually with a final thesis associated mandatory colloquium.

Students who have submitted their final thesis in the previous semester therefore do not have to be enrolled for a colloquium or presentation which takes place until the end of the first week of classes.

- If the colloquium takes place after submitting the final thesis and if this is the last requirement of the program, then the day of the colloquium or the presentation also is the date of the certificate (and not the date of submission of the thesis).

Source: www.cit.tum.de/en/cit/studies/students/thesis-completing-your-studies

Checklist Colloquium

- ✓ After your successful thesis, register for the Bachelor`s Colloquium.
- ✓ Be sure to keep track of your enrollment.
- ✓ Exception: Students who have submitted their final thesis in the previous semester do not have to be enrolled for a colloquium or presentation which takes place **until the end of the first week of classes.**

Sources and more information

- Tips and Tricks for the final research papers and thesis: www.tum.de/en/studies/graduation/theses/tips-and-tricks
- <https://thesisguide.org>
- TUM's English writing center / Zoom courses: www.sprachenzentrum.tum.de/sz/sprachen/englisch/english-writing-center/article/writing-fellows-english-writing-center/
- Thesis and completing your studies: www.cit.tum.de/en/cit/studies/students/thesis-completing-your-studies/
- Allgemeine Prüfungs- und Studienordnung (=General Academic and Examination Regulations), §18: www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering (Section Examinations and Regulations)
- Fachprüfungs- und Studienordnung für den Bachelorstudiengang Information Engineering am TUM Campus Heilbronn der Technischen Universität München vom 12. März 2021 (=BIE Program Regulations), to be found here: www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering (Section Examinations and Regulations)



Contacts



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Head of SSC



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SSC



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paulsenm@in.tum.de

Web: www.cit.tum.de/en/cit/studies/degree-programs/bachelor-information-engineering (Check section „Thesis“!)

Email: ie-bachelor@hn.cit.tum.de

1:1 consulting:

- in person: Wednesday 12.00pm – 13.00pm, Bildungscampus 2, 74076 Heilbronn, Room D.1.01
- virtual (Zoom): Monday 12.00pm – 13.00pm, Meeting-ID: 622 1548 6938, Pin: 598361



**Thank you for your attention
and good luck!**