# Guidelines for the Preparation of the Bachelor's thesis in the Computational Science and Engineering (CSE) programme

## 1. General

- The provisions of the subject-specific study and examination regulations for the Computational Science and Engineering programme apply: FSPO CSE 2019 in particular § 16 - § 18 and FSPO CSE 2025 in particular § 8. Unless otherwise stated, the information applies to both versions.
- The Examination Board decides on matters relating to the approval and acceptance of the thesis.
- The Bachelor's thesis is the final component of the Bachelor's programme.
- The duration for completing the Bachelor's thesis is three months.
- The Bachelor's thesis may also be completed as a group project; see below.
- The Bachelor's thesis is supervised by a reviewer from the University of Ulm or Ulm University of Technology. The reviewer acts as the examiner.
- With prior approval, the Bachelor's thesis may be undertaken outside a department involved in the Computational Science and Engineering Bachelor's programme or within a company (external Bachelor's thesis).

## 2. Aim of the Bachelor's thesis

The aim of the Bachelor's thesis is to demonstrate that students are capable of tackling a topic in the field of Computational Science and Engineering independently, in an academically sound and methodologically correct way, within the specified framework of 13 ECTS credits.

## 3. Choice of topic

- The topic of the Bachelor's thesis must have a clear connection to CSE (e.g. numerical methods, simulation, machine learning, scientific computing, software development in a technical context, etc.).
- The topics (assignments) for Bachelor's thesis are usually set by examiners from the Ulm University or Ulm University of Applied Sciences; in such cases, these examiners also act as the first examiner and supervisor of the Bachelor's thesis.

## 4. External Bachelor's thesis

- The document „*Guidance for students on external final thesis*" summarises key information.
- Bachelor's thesis completed within a company are referred to as external Bachelor's thesis.

- An external Bachelor's thesis must be approved by the chair of the CSE Examination Board. Registration must be completed using the form: *„Application for Approval of an External Bachelor's thesis".*
- The following documents must be attached to the application for approval of an external Bachelor's thesis:
  - Outline of the planned project (task, schedule, milestones)
  - List of the main methods used
- Statement regarding appropriate supervision and the necessary infrastructure, including software licences, at the external institution (Tip: How is the Bachelor's thesis structured within the company? Who is supervising the thesis? To which organisational unit is the comany supervisor assigned? Is hardware and software available at the company; if so, which?)
- It is possible that a confidentiality agreement and/or a restricted access agreement may be concluded with the company. An "*Information Letter to Companies*" has been drawn up for students, which they can use to provide company representatives with information regarding the confidentiality agreement.
- For confidentiality agreements and/or non-disclosure agreements, **only the forms jointly developed** by the Ulm University and Ulm University of Applied Sciences will be accepted.

## 5. Registration for the Bachelor's thesis

- Students who have completed modules totalling 130 ECTS credits and the work placement may register for the Bachelor's thesis (the provisions of FSPO CSE 2025 § 8 (4) and FSPO CSE 2019 § 16 (1) apply).
- Registration must be submitted via the Studiensekretariat at Ulm University using the form. „*Antrag auf Zulassung zur Bachelorarbeit*" (in German only) (https://www.uni-ulm.de/studium/pruefungsverwaltung/formulare-leitfaeden-studierende/).
- The following **must always** be enclosed with the application form:
  - Outline of the planned project
  - List of the main methods used
- For all external Bachelor's thesis, the "*Application for Approval of an External Bachelor's thesis*", signed by the CSE Examination Board, must be sent to the Studiensekretariat together with the „ *Application for Approval of an External Bachelor's thesis*".

## 6. Formal requirements for the Bachelor's thesis

- The Bachelor's thesis is usually written in German or English. The language used must be agreed with the supervisor.

- Other languages are permitted with the consent of the supervisor and the subject examination board (FSPO CSE 2025 § 8 (7) or FSPO CSE 2019 § 17 (6)).
- The length, layout and formatting must be agreed with the supervisor.
- Obligatory components of the Bachelor's thesis:
  - Cover page with title, name, student ID number, degree programme, supervisor, date
  - Declaration of Autonomy for written assignments, especially theses (*https://www.uni-ulm.de/en/study/exam-administration/forms-and-guides-for-students/*)
- In the case of group work, the individual's contribution to be assessed must be clearly delineated. The specification of sections, page numbers or other objective criteria that enable clear delineation must be clearly marked.

## 7. Submission of the Bachelor's thesis

- The Bachelor's thesis must be submitted digitally to the Studiensekretariat by the end of the submission period at the latest.
- Once the Bachelor's thesis has been registered with the Studiensekretariat, the end of the submission period can be found on the Higher Education Services Portal.
- Submitting the Bachelor's thesis to the examiner is not sufficient. (*https://www.uni-ulm.de/en/study/exam-administration/exams-and-modules-faq/*)
- It is possible to apply to the Chair of the Examination Board for a reasonable extension of the Bachelor's thesis deadline, provided there is a valid reason. (ASPO 2025 § 18, or FSPO for CSE 2019 § 17 (3))

## 8. Assessment by examiners of the Bachelor's thesis

- The Bachelor's thesis consists of work on the assigned topic and a colloquium.
- A date for the colloquium must be agreed with the supervisor(s). You must register for the 'Bachelorkolloquium' via the examination portal.
- A Bachelor's thesis is assessed by the examiners.
- FSPO CSE 2019: The Bachelor's thesis (12 ECTS) and the colloquium (1 ECTS) are assessed separately with their own grades.
  FSPO CSE 2025: The Bachelor's thesis is worth 13 LP. This includes a marked Bachelor's colloquium on the thesis (1 LP). The Bachelor's colloquium takes place in the presence of the examiner for the Bachelor's thesis.
- In the case of group work, the contribution of each individual to be assessed as an examination performance is evaluated on the basis of specified sections, page numbers or other objective criteria that allow for a clear demarcation.