

Guidelines for the Bachelor Project Computer Science

2015/2016

The guidelines in this guide describe the course of events around the Bachelor Project and are intended for students as well as for teachers.

Table of Contents

1. Objectives and content.....	2
2. Place in the curriculum	2
3. Method and supervision.....	2
4. Lectures and group meetings.....	3
5. Final stage of the project, final presentation, and reviewing.....	3
6. Grading	3
7. Roadmap.....	4
8. Problems	5

1. Objectives and content

The Bachelor Project completes the bachelor study of Computer Science. The student can apply the knowledge and proficiency he/she obtained during the bachelor period in a larger project.

Objectives:

- the student get acquainted with research in the area of Computer Science and contributes as much as possible to the research,
- the student learns (under supervision) independent execution of a project,
- the student finds, uses, and discusses literature relevant to the project,
- the student presents the discovered results (in written and oral forms),
- the student takes part in the process of peer review, and
- the project can also serve for orientation for a possible master's specialization.

The content of the bachelor project can be different per research group and per student, and is established in agreement with the scientific supervisor. A student can choose from the offered topics (these can be found on Blackboard) or can suggest his/her own topic within the research area. The content may be purely theoretical, as well as practical and contain, for example, programming work.

The Bachelor Project can be seen as a training in scientific work. This means that execution and research report of the project must answer scientific standards. Work with relevant literature forms part and parcel of the task, and this should be reflected in the thesis, together with a critical evaluation of the findings.

Expectations should be realistic: the scale of the project is not grand, and the students are at the beginning of their path to science or profession. While we are naturally attracted towards interesting and exciting problems, we cannot, generally speaking, expect scientific breakthroughs from this project. What we can expect is that the student shows understanding of the problem, contributes to the extent possible, to its resolution, and that (s)he can lucidly but concisely describe and evaluate the problem as well as any solutions.

2. Place in the curriculum

The Bachelor Project is worth 18 ECTS. In the standard bachelor curriculum the Bachelor Project takes place in periods 5 and 6 of the 3rd year.

The Bachelor Project is meant to be the last part of the bachelor studies. This means that in principle a student follows the Bachelor Project after completing all other courses of the bachelor stage. Dispensation is possible if a student has earned at least 150 ECTS of the bachelor curriculum.

3. Method and supervision

The student is individually supervised by a staff member who sets the task. This is the person who is responsible for the supervision, the main supervisor. In some cases (a part of) the daily supervision can be delegated to a postdoc or a PhD student. The supervisor(s) should arrange regular appointments with the student.

Usually, the project is carried out individually, but in exceptional cases a team of two or three students can be working on a bigger project. In this case each student delivers a thesis and gives a presentation separately. The latter should make it clear what the individual student's contribution is in the results.

4. Lectures and group meetings

There are three lectures about:

- a. literature study,
- b. writing a scientific paper, and
- c. reviewing scientific paper.

There are two group meetings:

- a. First presentation: 4th week of April. In this presentation the student presents and discusses their individual plans, literature study, and the formulation of the research questions.
- b. Second presentation: last week of June. In this presentation the student discusses his/her individual results.

A group consists of 5-8 students supervised by a staff member. Presence during group meetings is mandatory.

5. Final stage of the project, final presentation, and reviewing

The final stage of the Bachelor Project consists of the final presentation and completing the bachelor thesis. The presentations take place during the Bachelor Project seminar at the end of June. Each presentation lasts approx. 15 minutes, finalized by a short discussion of group members. Active participation from group members is expected. Presence of the student during final presentations is mandatory. Each supervisor is either present during the presentation of his/her student, or delegates this duty to another staff member, preferably the second reader.

The final thesis is evaluated by the supervisor and a second reader (see *Beoordelingsformulier* on the blackboard).

Each student makes review of the draft theses of two other students (see the review form on the blackboard). These two reviews will be evaluated by the supervisor. Suggestions from the reviewers (after discussing these with the supervisor and the second reader) can be processed into the final version of the thesis.

6. Grading

The main supervisor defines the final grade based on

- a. the work executed (50%),
- b. the thesis (40%),
- c. the reviews (fail/pass),
- d. the final presentation (10%), and
- e. the participation in group meetings (fail/pass).

The second reader takes part in grading of the thesis. Other supervisors participating in the Bachelor Project seminar also take part in grading the final presentations.

Note: That the students do not get a mark for reviewing the thesis and participation in a group meeting. These parts are graded with fail or pass. The main supervisor checks whether these parts are sufficient and whether the two parts has been completed properly. Students have to do some extra reviews if these parts are not properly completed.

Checklist of grading criteria:

- *Work executed:* insight, results, creativity, precision, effectiveness, independence, initiative, collaboration, planning
- *Thesis:* introduction and problem statement, summary, presentation of the results, discussion and conclusion, organization, readability, literature assessment, making use of supervisor(s)' and reviewers' advice
- *Reviewing:* thoroughness, systematically, comments on content, comments on style and form, usefulness and meaningfulness of advice
- *Presentation:* introduction/conclusion, presentation of results, clarity, organization, use of media, discussion
- *Group meetings:* presentations, contribution to discussion, involvement

7. Roadmap

7.1. Orientation: kick off meeting - period 4:

- explanation of what a bachelor project is
- answering students' questions
- explanation of method and form

7.2. Search for topic and supervisor

7.3. Planning (see Planner on the blackboard):

- title of the project
- task and work plan
- setting a timeline for work plan execution
- allowing for break time (for vacation, exams, etc.)
- daily supervision, frequency of appointments with supervisors
- language of the thesis and presentation

7.4. Actual work on project:

- most of the work is in period 5/6 but you can start earlier
- nominally you have 18 weeks
- start the thesis as soon as possible and discuss current versions with the supervisor

7.5. Three lectures (April/May):

- Literature study
- Writing a scientific paper
- Reviewing scientific paper

7.6. Two group meeting:

- 4th week of April
- Last week of June

7.7. Draft thesis, reviewing, planning final presentations

- hand in the draft thesis approximately two weeks before the presentation to your supervisor
- send the thesis to the reviewers after discussion with the supervisor and corrections

- reviewers have a week for writing reviews
- discuss reviewers' suggestions with the supervisors
- the thesis is in principle no longer than approx. 16 pages.
NB: if you have, e.g. software, in addition to the thesis then the thesis can be slightly shorter (this should be approved by the supervisor)
- study of the relevant literature is part of the project and recognizable part of the thesis
- the thesis is also evaluated by a second reader
- discuss a plan of your presentation with the supervisor a week before the Bachelor Project seminar

7.8. Final presentation

- final presentation takes place during the Bachelor Project seminar
- duration of the final presentation is 15 minutes
- there is time for discussion with active participation of other students
- language: English or Dutch
- evaluation of final presentations is discussed with staff members present at the Bachelor Project seminar

7.9. Grading

- the work executed and the thesis are graded by main supervisor and second reader
- the quality of the reviews is graded by the supervisor
- staff members present at the Bachelor Project seminar grade final presentations
- the main supervisor determines the final grade
- the Evaluation Form (see blackboard) is filled in by the main supervisor who deliver it (together with an exam form) to the Educational Office

8. Problems

In case of any problems concerning the Bachelor Project, contact the coordinator of the Bachelor Project or the study advisor. If they cannot find a mutually acceptable solution, the Examination Committee may be asked to arbitrate.