Evidence-based Software Engineering 2023-2024

Lecturer: Paris Avgeriou – University of Groningen (p.avgeriou@rug.nl)

Lectures

8 weeks: 1st hour: lecture
          2nd hour: lecture or presentation

1. H1 – Introduction to EBSE
    H2 – Systematic Literature Reviews
2. H1 – Case studies
    H2 – Presentations and feedback
3. H1 – Experiments
    H2 – Presentations and feedback
4. H1 – Surveys
    H2 – Presentations and feedback
5. H1 – Asking research questions and selecting empirical methods
    H2 – Presentations and feedback
6. H1 – Qualitative Data analysis
    H2 – Presentations and feedback
7. H1 – Quantitative Data analysis
    H2 – Presentations and feedback
8. H1 – Advanced topics in EBSE
    H2 – Presentations and feedback

The content of the lectures is subject to change according to the actual needs.

Assignments

There are 2 different group assignments: 1- consuming evidence; 2 – producing evidence. The organization of the two assignments is as follows:

- There are 8 review and feedback sessions (see description of assignments) per group: 4 sessions for assignment 1 and another 4 sessions for assignment 2.
- In order to provide feedback as early as possible, the students make an appointment with their coach. During these meetings, the coach will give advice on all types of technical issues, e.g. conducting automated searches or performing data analysis.
- Independently from all meetings, questions can always be asked to the coach, but not to the lecturer. The latter will be invoked by the coach if an issue cannot be resolved.
- The individual contributions are tested by asking questions about the assignments during the reviews and during the weekly presentations. For this purpose the reports must contain a change history describing per review which group member has made which contributions. A peer evaluation system, where students evaluate their peers and themselves, is also taken into account for determining individual contributions.
- Weekly presentations for each group are scheduled as a means of peer review. This allows each group to receive feedback from their peers but also to obtain some ideas and insights by looking into the work of other groups.
- The grade of the project is the same for all group members but individual grades will be adapted according to the individual contributions. Note that individual grades may have a large impact on the final grade.

Deadlines:

- Assignment 1 presented on weeks 2, 3, 4 and delivered by **December 14th 2023**.
- Assignment 2 presented on weeks 5, 6, 7, 8 and delivered by **February 4th 2024**.

Evaluation of the course: The grade will be composed from the following components: Assignment 1 (40%), Assignment 2 (60%), weighted by the aforementioned assessment of the individual contributions.

Organizational issues:

- Sign-in via Brightspace before the first lecture takes place.
- Questions about the lectures via email to the lecturer.
- Questions about the assignments to the coaches.

Time Investment:

Given the 140 hours reserved for the course, it is advisable to time-box your effort by spending the amount of time that corresponds to each assignment according to the grading weight of each assignment. A simple time-registration sheet is a good tool for time-monitoring.

Literature: There is a list of papers on Brightspace (see 'Reading Material') that can be accessed online through the RUG library https://www.rug.nl/library/search/e-resources. There is also a list of books that, while not mandatory, go in great depth on the subject matter covered in the lectures.