

Evaluation criteria for a "Scientific Team-project" at the Lehrstuhl für Simulation (LFS)

Evaluation criteria used by the Chair of Simulation are based on the module description.

The most important aspect of the evaluation is the scientific paper that has to be handed in at the end of the project. To aid the students in writing this paper, both the project and its grading are split into four sections. For the first three sections, the students have to hand in a two-page long document detailing all relevant information. The project ends after the fourth section with the submission of an eight-page full final paper. The documentation of the previous sections can be used as a basis for the final paper.

1. "Project Proposal" – Where does the problem originate?

The first section of the project will deal with the background and goal of the scientific question the students try to answer. They will have to present a convincing project plan that details all necessary tasks and intermediate results needed. Results of this first research and the planning process have to be presented and defended.

At the end of the first section, a two-page long written documentation has to be handed in. It includes the "Introduction" and "Related Work I" for the final scientific paper.

Evaluation criteria for "Project Proposal" are i.a.:

- convincing motivation for the project (gap, relevance)
- clear definition of project goals, including objective, measurable success criteria
- complete background (setting the project apart from others)
- realistic and detailed project plan
- convincing defense of the "Project Proposal"

2. Conclusive approach of solution (project specific contents)

Here students create the theoretical groundwork for the upcoming practical solution. The exact contents of this section heavily depend on the specific project. For example, students could look at all the research areas that would be impacted by their line of questioning. That includes reviewing literature to take a look at already existing solutions and tools. From there, a conclusive new solution could be developed and evaluated. This second section also results in a two-page long documentation including the "Related Work II" and "Approach" parts of the final paper.

Evaluation criteria for the second section, depending on the specific project:

- relevant result of literature review
- complete, conclusive and feasible approach for the solution
- critical evaluation and discussion of said approach`

3. Implementation (project specific contents)

The third part of the project will deal with the implementation of the approach chosen in the prior section. The exact contents of this section rely heavily on the chosen project. For example that implementation could be done in a suitable software of valid model. This should be followed by the proper experiments to answer the scientific question asked in prior sections.

The two-page long documentation includes the "Implementation", "Validation" and "Experiments" Parts of the final paper.

The following evaluation criteria are relevant, depending on the contents of the project:

- completed implementation
- useful validation
- goal-oriented experiments and presentation of results
- conclusions derived from the results

4. Critical Evaluation

The last project section is meant for the students to look at the whole project , their results and their answer to the research question with critical eyes. The results of this process are an important part of the final paper that has to be finished now.

The final evaluation criteria are:

- critical evaluation of the benefits gained
- quality and relevance of the findings
- follow up questions suggested by the project
- justification of changes made since "Project Proposal"
- convincing final presentation
- final discussion with the supervisor/client
- scientific documentation (eight pages) following the proper formatting (Style Guide)

These evaluation criteria serve as guidelines for students participating in the "Scientific team-project". They are discussed with the supervisor before the start of the project and can be adjusted accordingly to the actual project specifics.