

Guidelines for how to write a project description as part of the application for acceptance into the ph.d. program at Department of Chemistry

Effective from Oct 13, 2024.

The project description constitutes a framework for the Ph.D. project. It should be prepared by the candidate in collaboration with the proposed supervisory committee. It should be brief and concise: typically 2500-5000 words, excluding references.

The project description is expected to include the following items:

1. Research background. Describe the present status of knowledge in the particular scientific subfield/problem, and increase the focus gradually toward the knowledge gap that your research aims to fill. Include central references.
2. Statement of the research question and project aims. This includes a decomposition into secondary research questions (work packages) If relevant, state one or more research hypotheses than can be explored. Describe expected outcomes and deliverables.
3. Choice of methodology and overall approach. Argue why your choice of methods is good for the problem you wish to answer. Describe what data are required to address the research questions as well as your plans for data analysis and processing.
4. Progress plan. Make a semesterly progress plan in the form of a Gantt diagram¹ that includes
 - - your project in terms of work packages, milestones that can be assessed, preparation and submission of papers, and other aspects that you think is useful.
 - - your education plan (which courses to take when)
 - - if you are on a 4-year contract: optimal scheduling of your teaching obligations
 - - travel plans (research stays at another university or laboratory, ..)

Note: it must be possible to build on this progress plan later in your PhD, that is, the halfway evaluation and progress reporting. The progress plan should be detailed in the initial phase of the project to ensure a quick and efficient start. You should revise the progress plan as need be, to help you stay on the track to the PhD!

5. Risk analysis and mitigating measures. Identify particularly critical points in the project plan, and discuss mitigating measures and possible alternatives to the original plan if the risks realize. An example of a typical risky situation is that finishing your planned work depends on the performance of a collaborator.
6. Resource requirements. Identify the critical resources that you will need, and describe how to access them. Examples of critical resources are: infrastructure, sample materials, or data required for the successful completion of the project, beyond what the department possesses or can provide access to.
7. Innovation. State briefly whether the project is expected to lead to results that may be commercialized, and if so, what kind of results this is. Example: new catalyst for a chemical reaction, new active compound for a therapeutic or diagnostic purpose, new software,..
8. Provide an overview of partners, planned stays abroad, collaborations etc and describe briefly their roles in relation to project execution.
9. For each member of the supervisory committee, state main responsibility in the project.

¹ <https://resources.rework.com/creating-a-gantt-chart-for-your-research-project-proposal#understanding-gantt-charts-and-their-application-in-research-proposals>