

Research Project Outline & Science Abstract¹

Cécile A.C. Chazot, Max L'Etoile, Jessica Sandland

Objective: Students will summarize their research project for their peers and write a scientific abstract.

Focus of the research group you are part of:

This can be the whole research group or the specific team you are a member of.

Research project title:

- Indicate accurately the subject and scope of the study.
- Avoid using abbreviations.
- Use words that create a positive impression and stimulate reader interest.

Introduction/Background:

Identify and summarize the key background information needed to understand your research project. Write these pieces of information as a bulleted list of statements. Your hypothesis or research question should follow from this information

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Research question you are trying to answer and associated hypothesis:

A research question is a concise, focused and debatable question that your research is attempting to answer. A hypothesis is a formal statement designed to predict the relationship between two or more variables. A hypothesis states your predictions about what your research will find, and it could be proved or disproved.

¹ Adapted from Branchaw, J.L., Pfund, C., and Rediske, R. (2010), Entering Research: A Facilitator's Manual: Workshops for Students Beginning Research in Science, W.H. Freeman & Company

Relevance and Implications of your research project:

Why is your research important? What may be the potential implications of your results? How will your project benefit basic research, human health, or the development of a new technology or commercial product?

Experimental design and potential results:

Outline the experiments you will do to test your hypothesis. For each experiment, explain

1. The technique(s) that will be used and the reason(s) for selecting that technique
2. The type of data that will be generated and why this type of data will inform the hypothesis
3. All the potential results and whether each would support, or not support, your hypothesis. Draw what the predicted results will look like, if applicable (e.g. data table, graph, processed image)

Timeline:

Outline a weekly or monthly timeline for your project. Be sure to refer to each of the proposed experiments (or parts of the experiments), allow time for data analysis, and allow time for the preparation of a presentation of the data (e.g. poster or oral presentation). You can help yourself with visual tools such as Gantt chart, Project planning timeline, Kanban board, Scrum board, etc.

Abstract:

Synthesize the core information in your outline and write a scientific abstract of max 200 words.

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