UCD Writing Centre
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UCD Writing Centre resources provide general writing advice only and students should always follow the specific rubric required by their School.

Writing for Science: General Structure

Please note that the outline below is a general structure for scientific writing, and you should follow the specific instructions provided by your module, your lecturer, or your supervisor.

1. **Table of Contents.** Scientific papers and dissertations will often feature a table of contents at the beginning, which provides an overview of, and a point of navigation for, everything covered in the work. This may include listed graphs, tables, and illustrations.

2. **Abstract.** The abstract is a short paragraph at the beginning of the work, which provides an outline of the paper, the key arguments and findings, as well as the significance of the research. Please see the UCD Writing Centre's handout on abstracts for a more comprehensive overview.

3. **Introduction.** The introduction announces the topic and nature of the paper/ dissertation. It may include, outline, and explain:
   - ✓ Any background information the reader may need to engage with what is presented.
   - ✓ The current state of the field (if applicable) and the wider significance of the research.
   - ✓ How the paper/ dissertation may be contextualised within the field of study (like an abbreviated literature review).
   - ✓ The research objectives, the research methodology, and the materials and research settings used.
   - ✓ The aims and key findings of the thesis.
   - ✓ Why the research is significant/ necessary.

4. **Literature Review.** The literature review is a critical appraisal of existing research on a topic or in a specific field. It summarises research in the field (like articles, books, etc.), evaluates the strengths and weaknesses of that research, and it assesses the contributions such research makes to the field, as well as the ways in which the research is relevant to the given paper/ dissertation. Please see the UCD Writing Centre's handout on literature reviews for a more comprehensive overview.

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5. **Methods and Materials.** This section describes the research process and design in more detail (what you did, how, and why) in order to provide an empirical record for the results obtained, and so that future scholars may replicate your work/ experiments in new contexts. Please see the UCD Writing Centre's handout on scientific methods and materials for a more comprehensive overview.

6. **Results.** The results section summarises the data collected in the research. It records observations and measurements taken while conducting the procedures described in the methods section. It addresses the questions raised in the introduction and any hypotheses formulated. Where possible, this section may present results in tables and graphs, which helps the reader to condense key points of information.

7. **Discussion.** The discussion is the "framing section" of the paper/ dissertation. It interprets and analyses the research results, and it also instructs the reader about what the results have revealed in terms of patterns, trends, insights, etc.

8. **Conclusion.** The conclusion synthesises the key arguments, results, and/or findings of the research. It makes final empirical statements announced in the introduction. It explains the contribution of the paper/ dissertation to the field, as well as announcing any future implications of the findings (application to other materials or topics, future research to build on knowledge produced, etc.). The conclusion provides a way for the reader to think about the validity and significance of the paper/ dissertation as a whole.

9. **Works Cited / Bibliography.** A works cited section provides a list of any source to which you referred directly in your paper/ dissertation. A bibliography provides a list of *all* sources with which you consulted for this paper/ dissertation, regardless of whether or not those sources were mentioned directly in your work. Students should consult with lecturers/ supervisors about whether a works cited section or a bibliography is required.