Abstract information:
- Abstracts are found at the beginning of journal articles, research papers, reports, theses, and dissertations. If you are to complete a research project of any reasonable size as an undergraduate (like a Senior Project at Cal Poly), you will have to write abstracts. Engineers often write abstracts as their sole means of communicating results.
- Many times, abstracts are required for scientific papers. In this case, the abstract is a complete but concise and informative account of your work, i.e., a condensation that makes sense without reference to a full document. It is not merely a descriptive guide to a paper’s content, it is an abbreviated version of a paper.
- The purposes of writing an abstract are: (1) To enable readers to quickly and accurately identify the substance of your work and to decide its relevance to their own interests; (2) To advertise your work.
- An abstract is more than a summary, which is a restatement of the important findings and conclusions at the end of a document. Unlike the summary, the abstract includes condensations of other portions including the background, purpose, or methods of the study.
- Confronted with information overload, many people will read only the abstract of your paper.
- With the advent of abstract databases, many readers can see your abstract for free, separate from the rest of the paper. Therefore, writing an excellent abstract is vital to encourage readers to obtain the full paper, read it, and cite it.
- The essential elements of the structure of an abstract are the background, the problem, the methods, the results, and the implications.

Parts of an abstract: (not labeled, but present in the paragraph)

**Title**: The title of the paper, or the abstract, tells the reader about the content. The title should specify information such as the identity of the molecule being studied, how a system was evaluated, if a new technique has been developed, or if a specific location was investigated.

**Background**: In one or two sentences, set up the background and context to the study, its rationale and significance. The background should be directly related to the problem you are solving.

**Problem**: Here you need to identify the particular research problem under investigation, the purpose of the study, and any specific research objectives or hypotheses.

**Methods**: Outline the general approach you took and the methods/techniques you used to investigate the problem. Describe the extent of the study, what you did or measured, and how you did it. Specify the location of the study (the institution).

**Results**: Give any important data. Be specific, not vague. Quantify if possible; avoid terms such as "most" or "some" if you have specific numbers. State the major interpretations and findings, how the findings relate to the original research problem, and any limitations/caveats on the results.

**Implications**: Finish by stating the contribution of the work and its implications. There may be implications for associated problems, or for previous studies, e.g., reinterpretation of a previous model may be necessary in the light of your findings. Do your results have general or specific application or relevance? What do you propose to do next? What should be done next by others?
The structure for an abstract described above is appropriate for articles, papers, theses etc. Abstracts for meetings, conferences, and conference proceedings are sometimes more speculative/descriptive in nature and may not follow this structure, as these are viewed as somewhat of an advertisement.

In order to become good at writing abstracts, you need to read and examine others’ abstracts, and practice writing your own. You can read abstracts in journals and theses, and by accessing abstract databases (e.g., Science Citation Index). When reading an abstract, judge if it is informative and well-written. You will be able to identify both good and bad abstracts. When writing your own, give yourself time to produce revised drafts and try to read it as someone reading it for the first time, i.e., as your audience.

Abstract tips

- Make your own work sound interesting and exciting, after all, if you can’t, who can?
- Avoid long-winded, complex sentences.
- Avoid excessive use of jargon, colloquial terms and informal language.
- Write in 3rd person.
- Keep within the specified word limit, otherwise an editor may chop it down for you.
- Ensure the abstract contains all your key words (for the searchable databases).
- Short abstracts should usually be a single unified paragraph; longer abstracts for theses and reports for extended projects may be paragraphed.

Your abstract for General Chemistry must conform to a 350 word limit. A minor penalty of 10% off for each extra word above 350.

More examples:

http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#abstract

http://classweb.gmu.edu/biologyresources/writingguide/Students.htm#Abstract