4910 Style Guide
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Abstract
The principles and rules are presented here for producing major documents for PHYCS 4910. These principles must be followed for the small individual project, and the larger collaborative project to follow it.

General Principles
The style that you are to use is in general that in The American Journal of Physics, which can be found in the Physics Departmental library. If you are unsure of some issue of style, you should first look in a recent issue of that journal.

If you have tried that journal, and looked through the guidelines below, and still cannot resolve your question about style, send the question, via email, to The Management.

Sections and Structure
Projects are to be typed in an 11 or 12 point ordinary (not italic, not bold, not Gothic,…) font on pages with at least one inch margins on all sides. Each page is to be numbered. You may choose to number at the upper right hand corner or in the center, at the top or bottom.

Your paper must start with an abstract, and must be divided into sections. You may choose also to have subsections. The sections, must have flush left boldface names, consisting of capitals and lower case (i.e., not all capitals). In addition to being boldface, the font size of section headings must be a step above that of the regular text. The abstract should be of smaller width than the main text, and it and its heading should be centered. The headings on this page show the correct style. Subsection headings, if any, should be centered, italicized, lower case (except for the first letter and proper nouns) and the font should be the same size as the regular text. An example of this is just below. Avoid mathematical expressions in headings.
Numbering or lettering sections and subsections

You may choose not to use any numbers or letters; section and subsection headings may consist of names only. Alternately, you may choose to use capital Roman numerals (I,II,...) to enumerate section headings, and ordinary (italic) numerals (1,2,3,...) for subsections. You must be consistent in your choice whether or not to apply numbers/letters; you must do it to all sections and subsections, or to none.

The title and related matter

At the very top of the first page, the document’s title is to appear in a font two steps larger than that of the ordinary text. This is to be followed on the next line by your name, centered, in the ordinary font. Following this is your affiliation in ordinary sized italic letters. You may choose whatever affiliation you want.

Citing the Literature

References are to be cited in either two styles: You may use superscripts¹, or in-text numbers [2]. At the end of the paper, you are to list the works (journals, books,...) that you are citing. This list is to be titled “references” in the same (flush left, large, bold) style as a section heading. The style used for references is that used in The American Journal of Physics. There are many different conventions that apply to different kinds of references, but in the journal you will be able to find examples of almost anything. Two simple examples (for a book reference, and a reference to a journal article) appear at the end of this guide.

Parenthetical remarks [3], remarks that you want to append at the end, should be cited in the same style as citations to references, and should appear in the reference list at the end of the paper.

Mathematical Expressions

Mathematical expressions, whether in the text, or “displayed,” must not be typed using ordinary symbols. Thus you may not use a x b if you mean \( a \times b \). The word processing system you are using almost certainly has the facility to produce mathematical symbols. Consult with The Management if you have questions about this issue.
Displayed mathematics means expressions set off from the regular text. Your displayed mathematics must be centered. Examples of this are the integral
\[ \int_0^\infty J_0(z^2r\Omega) \, dz, \]
or the equation
\[ \psi = \nabla^2 \Phi + \text{tax}. \] (1)
Displayed mathematics must be treated as part of the sentence, and punctuated accordingly. Note the comma at the end of the first example above, and the period at the end of the second example. See *The Mayfield Handbook* for further discussion of punctuation and mathematical expressions. You may want to number some, or all, of your displayed mathematics. If you do, the number must be flush right, as in the second example above.

**Figures**

Figures are to appear in a position in the text reasonably close to the text that refers to them. Each figure must have a figure number (Figure 1, Figure 2, ...) and each figure must be cited in the text. (Example: “As Fig. 3 clearly shows, the Burkenhausen effect is suppressed at high fluffenquat.”) Each figure must have a caption that succinctly identifies the figure.

![Figure 1: General problem of the magnetic field outside a long solenoid.](image)

The lettering and general appearance of a figure must be chosen so that all features of the figure are clear when the paper is printed and copied.
Punctuation, Abbreviations, Capitalization, and Such

For all conventions on these matters refer to the *American Institute of Physics Style Manual*. This is linked to the course website under Online Resources. Section III of this manual has general grammatical rules (punctuation, spelling and hyphenation, English usage, capitalization, abbreviations, and symbols for units). Appendix C contains a more complete list of conventions for units. Appendix B has the correct or preferred spelling of frequently occurring scientific terms.

References

[3] This is an example of such a remark.