

## Physics 220: Writing equations in Word

Two things to know about using equations in scientific and technical writing:

1. Equations are used as integral parts of sentences, as in the example below.  
and

2. Any symbol used in an equation, with the exception of completely standard ones such as  $\pi$ ,  $e$ ,  $\hbar$  and  $h$ , or  $c$ , should be defined, either in the sentence that includes the equation, or earlier in the document.

“Insert/ Symbol” is a useful command for putting Greek letters and mathematical symbols (such as  $\pm$ ) directly in a line of text.

Superscripts and subscripts can be put into text by (under Home) choosing Font, then checking the Superscript or Subscript box. There’s also a keyboard shortcut: Ctrl = for subscripts, Ctrl + for superscripts.

“Insert/ Equation” is the command for putting in more complicated equations. Generally more complicated equations are displayed, that is, put on a separate line, to make them easier to read (see example below).

Here’s an example:

In special relativity, the relative speed  $u$  between two reference frames is an important parameter for relating quantities mentioned in both frames. For example, the relationship between time intervals in different inertial reference frames is given by

$$\Delta t = \frac{\Delta t_0}{\sqrt{1 - u^2 / c^2}} ,$$

where  $\Delta t$  is the time interval measured in the frame moving with respect to the events and  $\Delta t_0$  is the time interval measured in the frame at rest with respect to the events.

**Assignment:** Create a Word document with a sentence including one displayed equation (something like the example above). Your equation must have at least one Greek letter, at least one superscript or subscript, and at least one “built-up” fraction (in which the numerator is directly over the denominator, not one that looks like  $y/2$ ). You can use equations from a textbook, as long as you figure out how to enter them into Word.

You may use any resources available to you (instructor, online help, reference materials) to do the assignment. Your completed assignment will consist of a Word file emailed to me as an attachment. You may work with others, but each person should use a different equation. This is due by class time Tuesday, March 3.

A second draft of your abstract is due at the same time. Please print out the second draft and hand it in along with your first draft.