

Dr. Conroy's Math 381 homework guidelines and suggestions

General guidelines

1. Please write your name, the date when the homework is due, and the homework number on the first page of your homework. You must staple your pages together. Please staple as close to the upper left-hand corner as is practicable (be sure not to write too close to the upper corners of your pages - if you do, the staple may render your work unreadable).
2. All writing must be in complete English or mathematical sentences, with proper spelling, punctuation and grammar. English sentences must start with a capital letter. All sentences must end with a period. All mathematics must be introduced with explanatory sentences.
3. All homework must be self-contained. If you are solving a problem in the homework, it should be clear what that problem is simply by reading your work. **All problem writeups must begin with a complete description of the problem.**
4. Code (even well-commented code) is **never** sufficient: you must explain all methods and give all justification and supporting arguments in complete sentences, outside of any code. All code must be thoroughly commented.
5. Please do not write in multiple columns. Please just write your work in one column down the page: problem 1, then problem 2 below it, then problem 3 below problem 2, etc. Please present your answers to the problems in order.
6. Please write one sentence maximum per line. This will help me greatly in reading your work.
7. Please don't break expressions across lines like this: $91 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13$. Please just start a new line:

$$91 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13.$$

It makes things much easier to read.

8. **Do not copy work** from another student (or any other source) and **do not allow your work to be copied**. The work you turn in must be your own, and must not have been shared with other students.

If I see evidence of copying, I will have to bring the matter to the attention of Community Standard and Student Conduct. **If you are unclear what constitutes copying, do not hesitate to speak with me about it.**

9. Often, your first draft of a problem may not be adequate. Much like other courses, you may need to write a second or third draft. Start on scratch paper and leave time to write up a final draft of each problem.

Doing well

10. Make use of my office hours - that's why I have many.

11. Talk mathematics with other students at least once a week (and preferably daily!).
12. If you do not get full points on a homework assignment, I recommend that you write up better solutions to any problems you lost points on, and talk to me about them during office hours.
13. You must pick up your graded homework no later than the next class session after the one at which they are available. (For example, if I hand back the homework on Monday, and you are not there, you need to pick up the homework from me no later than Wednesday). If you do not pick up the homework in time, I will deduct significant points from your score.

More specific guidelines and suggestions

14. All variables must be introduced. Do not just start using a variable in statements in your writing until after you have introduced it. When you introduce a variable, you want to state clearly what it represents (a real number, an integer, a polynomial, etc.) and any properties you are assuming. Here are some examples of ways a variable may be introduced.
 - Suppose n is an even integer.
 - Let x_1 and x_2 be real numbers such that $x_1 < x_2$.
 - Let x be the number of cows in the field, and let y be the number of stars in the heavens.
15. Please don't use the words "trivially", "clearly", "obviously", etc. They can (and should) be left out with no loss of clarity.
16. Do not use arrows as logical connectors. If you want to write $A \rightarrow B$, you probably mean something like "Since A, B." and so that is what you should write.
17. Do not use symbols for therefore or because (i.e., \therefore or \because). Use words.
18. Use the following terms correctly.
 - *e.g.* means *for example* (*exempli gratia* in Latin) and should be followed by a comma.
 - *i.e.* means *that is* or *in other words* (*id est* in Latin) and should be followed by a comma.
 - The words *thus*, *hence*, *therefore*, *so*, and *then* introduce a logical conclusion. The statement that follows one of these words should be a direct consequence of the preceding line of logic.
 - "Thus", "Therefore" or "Hence" are particularly good indicators that you are at a significant conclusion, while *so* and *then* are good for indicating an intermediate conclusion.
19. If you are typing, use italics for letters used as variables or representing mathematical symbols. For example, this is standard: "Let a be an element of the set E ", while "Let a be an element of the set E" is not as good. (Using italics also helps to distinguish the word "a" from the variable or element " a ".) If you are seriously interested in typesetting your mathematics, you should check out L^AT_EX, a free, incredibly powerful system, that makes beautiful mathematics. I'd be happy to talk about it.

The most important guideline

20. If you are ever unsure about anything, ask me about it. Email, discussion board, office hours, before class, in class, after class - just ask.