How to get an A in physics

Physics is hard; there's no way to candy-coat this. Yet, to do well in physics, you don't need to be an Einstein. You do need some mathematical aptitude—no question there—but just as important, you need a solid work ethic, dogged determinedness, and a little fire in your belly to understand how the universe works. These can be acquired.

There is no fool-proof recipe for doing well in physics. But those who do share some common study habits.

1. Make liberal use of your professor's office hours! You've paid for them, use them!!
2. Go to class, no exceptions.
3. Before going to class, read the text up to and including the material for that class.
4. After each class, rewrite your notes, study the text, see your professor, and ask questions—*lots* of questions.
5. Try an assignment problem as soon as the material for it has been covered in class.
6. Do all assignments without using publicly available (*e.g.*, internet) solutions, *even if this means you submit incomplete assignments* (but make a big effort not to).
7. If you work in a group, make sure you can do the problems on your own too. Group work can help, but it can also hide holes in your understanding that need to be found before exam time.
8. Always compare and correct your assignment solutions with the posted ones. If you don't understand where you went wrong, see your professor!
9. In preparing for exams, spend ¼ of your time studying your notes and text, ¾ doing problems. If assignments were assigned from the text, do problems that weren't assigned.
10. As important as classes are, recognise that class is where only about 20% of learning takes place. The other 80% happens outside class where the material is studied and practised *relentlessly*. For every hour in class, plan to spend *four* dedicated hours outside class.

Physicists are universally renowned and recognised for their ability to *think*. To think like a physicist is to have acquired a certain "clarity-of-thought", unknown to most people outside the discipline. It includes an uncanny physical intuition, an ability to recognise and assemble a logical argument on any topic, and an ability to *learn*. To achieve this takes dedication, a thirst for knowledge, and lots of old-fashioned hard work.

And I would do it all over again. ☺

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