

Frequently Asked Questions about the Use of *MasteringPhysics* and *MasteringAstronomy*

MasteringPhysics is used for tutorials and assignments in PHYS 1001, 1002 and 1901 in Semester 1 and PHYS 1003, 1004 and 1902 in Semester 2. *MasteringAstronomy* is used for tutorials and assignments in PHYS 1500 in Semester 2. As with any computer-based system, the *Mastering* system is basically dumb and expects input in a particular way and marks you accordingly. There is relatively limited capacity to discern shades of meaning that a human can handle easily. So it is really important to **do the ‘Introduction to *MasteringPhysics*’ tutorial exercise** on the use of the system to you become familiar with what the system expects.

Other useful information on accessing *MasteringPhysics* & *MasteringAstronomy* can be found in the Assignments section of Blackboard and also in the Help section of *MasteringPhysics* (when you have registered). Similar comments apply to *MasteringAstronomy*.

When you register for *MasteringPhysics*, you are asked to enter your SID. Please enter this in full and **correctly**. We use the SID to connect your marks so it is important to enter it correctly. If you make an error you can correct it within *MasteringPhysics*.

If you have any problems with *MasteringPhysics* please email the *Mastering Physics* Coordinator, at (mastering_physics@physics.usyd.edu.au).

Below are some Frequently Asked Questions about the use of *MasteringPhysics*.

1. My final answer was right. Why did I lose marks?
2. How do I know why I lost marks?
3. If I ask for a hint and get another question, do I have to answer it?
4. If I submit a wrong answer but correct it on a subsequent try, will it hurt my grade?
5. Should I use the hints?
6. I didn't understand the question, thus used all my attempts up trying to figure it out. What should I do now?
7. My answer was only off by a little (e.g. a wrong sign), so I tried slightly different versions but none were correct. How do I get credit for being close?
8. My answer is correct and *MasteringPhysics* won't give me credit. What should I do?
9. Entering symbols and equations in *MasteringPhysics* is a bit tricky. How can I make sure that I get them correct?
10. What are “rounding errors” when entering numerical values into *MasteringPhysics*?
11. Is *MasteringPhysics* useful for anything other than the compulsory assignments?
12. How can I tell if the *MasteringPhysics* web server is working?
13. I am having trouble with *MasteringPhysics* questions. Where do I go for help?
14. How does *MasteringPhysics* grade assignments?
15. Can I rework the assignment question after the deadline date?
16. I have not registered for *MasteringPhysics* and have not done any assignments. Will my chances of doing well in this course be affected?
17. It is later in the semester, I want to register for *MasteringPhysics*, but it does not let me. What can I do?

If you have any other questions, you should consult one of the following:

- Extensive on-line help within *MasteringPhysics*
- MasteringPhysics & MasteringAstronomy Support information access through the support tabs in MasteringPhysics.
- A discussion group on the Blackboard pages for this unit that is monitored by Physics staff.

FAQ

1. My final answer was right. Why did I lose marks?

Just as with traditional paper-based homework or exams, you lose marks for submitting wrong answers or failing to answer the questions (i.e. you request solutions). Also, the hints, advice, and repeated attempts *MasteringPhysics* gives you are not "free". They generally cost you marks (or the bonus marks that you would get if you do not use the hints) to varying degrees. If you are stuck, you can get a hint, but must pay the small price. If you answer this sub-part wrongly, it is considered that you got part of the problem wrong and are marked accordingly. The idea of repeated attempts isn't to let you keep guessing, but rather to give you another chance (for slightly less credit) if you get it wrong the first time, something you do not get in traditionally graded homework. A detailed information page about the marking system is available in the last question on this FAQ list. Note that tutorial questions are done only to increase your skills and therefore have zero mark value.

2. How do I know why I lost marks?

After a problem is completed, you are shown a scoring screen that shows you the marks you were given. It will show you if you lost marks for not submitting a correct answer (under "base score" column), for submitting wrong answers to multiple choice questions (under "guess factor" column) and submitting wrong answers (under "wrong answers" column). With this information, you can go back and look at your answers to see which were wrong. Keep in mind that you may have lost marks on the sub-parts which are hidden after the completion of the problem, so you need to click on "Show Complete Part" to see the sub-parts and answers.

3. If I ask for a hint and get another question, do I have to answer it?

No. If you do not answer the question or click the solution button, but go on to answer the main part correctly, you should get full credit (but not the 0.02 points of extra credit that you would have got for not viewing the hint). However, if you answer the sub part wrongly or request its solution, then you will lose more credit (depending on the number of sub parts).

4. If I submit a wrong answer but correct it on a subsequent try, will it hurt my grade?

Maybe – it depends. If the format is multiple choice, there is a "guess penalty" of $1/(n-1)$, points where n is the number of options to choose from, so you would lose 0.25 points if there were five choices. You should note that your maximum mark *decreases to zero quite quickly* and therefore *you should avoid guessing in multiple choice questions*. For other question types, there is 0.03 points deducted if *MasteringPhysics* gives you some useful feedback. Otherwise there is no penalty for a wrong answer as long as you get it right on a subsequent try.

5. Should I use the hints?

If you *always* use hints, you miss the 0.02 points of extra credit" points for *not* using each hint and you run the risk of becoming too dependent on having the problem broken down into simpler parts for you. If you *never* use hints, you'll gain a little extra credit, but lose full credit on problems you fail to answer correctly. If you are concerned about getting the best possible grade, let's put this in perspective. *The main effect on your grade of doing the assignments is not through the score you receive for the assignments, but rather through the benefit it has on your exam performance. The best strategy is to try the problem without a hint first, then, if you get stuck, try the hint. You'll learn more that way, and the occasional three percent you forego is trivial.*

6. I didn't understand the question, thus used all my attempts up trying to figure it out. What should I do now?

At this point all we can suggest is to learn from this experience and not use all your attempts up right away. In fact don't use any at first. Simply read and/or print the problem, then work on it BEFORE trying to enter your answer. We do not intend you to be able to sit down and type in the answers cold without working on and thinking about them first. It is often best to do a problem off-line at first and then come to *MasteringPhysics* to enter your answer.

7. My answer was only off by a little (e.g. a wrong sign), so I tried slightly different versions but none were correct. How do I get credit for being close?

The work is intended to help you learn the material. Wrong signs and similar mistakes indicate some misunderstanding that you really should work on. "Trying slightly different versions" is a poor strategy for improving your understanding. Instead, you should work through the problem again, trying to locate your mistake and understand why that was wrong. We give you multiple tries so that you're motivated to do that.

8. My answer is correct and *MasteringPhysics* won't give me credit. What should I do?

"the scary thing is that you can lose marks, not for getting the right answer, but for not typing it right"
student comment

First, make sure your answer is in fact correct. You can go back and click on "Review Answers" to see what you entered. (Sometimes you have to click on "Show Complete Part" first.) You will also see a column where *MasteringPhysics* has plugged in numbers to evaluate your expression, and similarly evaluated its own expression. If these numbers are different, then your answer cannot be algebraically equivalent to *MasteringPhysics*' answer. Please check your expression for typos, mistaken parentheses, etc.

9. Entering symbols and equations in *MasteringPhysics* is a bit tricky. How can I make sure that I get them correct?

The key is ultimately to be very careful, although the 'palette' used to enter Math symbols make it easy (rather like the MS Word *Equation Editor*). Make sure that all your brackets match and that your symbols are chosen correctly. Make sure that you enter powers of ten correctly and do not use "e" (as in some programming languages) which in *MasteringPhysics* is 2.71...

Be careful of symbols that look similar (e.g. Greek nu and italic v; w and Greek omega). *MasteringPhysics* follows the same conventions as the textbook (e.g. angular velocity with be an omega and never a w). If in doubt, mouse over the symbol and *MasteringPhysics* will tell you its name.

10. What are "rounding errors" when entering numerical values into *MasteringPhysics*?

MasteringPhysics marks as correct values that vary slightly from the precise value (because of rounding errors"). If your input is slightly different it may mark you correct but give the correct value and tell you to use it for subsequent sections of the question. Make sure you use the *MasteringPhysics* value!

11. Is *MasteringPhysics* useful for anything other than the compulsory assignments?

MasteringPhysics includes a wealth of material that can help you understand concepts in Physics and develop your problem solving ability. It should therefore be treated as a valuable resource for learning. Your performance in tutorial questions is not recorded and you can use them in any manner that you wish.

12. How can I tell if the *MasteringPhysics* Web server is working?

At the bottom of the "welcome page" to *MasteringPhysics* is a link to information about the performance of the *MasteringPhysics* system. If you notice any extended problems, especially close to deadlines for assignments, it is a good idea to email the Mastering Physics Coordinator (mastering_physics@physics.usyd.edu.au) to make sure that the School of Physics is aware of the problem.

13. I am having trouble with *MasteringPhysics* questions. Where do I go for help?

Physics offers a range of help for students. Some options are:

- ask other students using the Discussion forum provided in the unit Blackboard page;
- go to the Physics Student Support Office, Room 210 in the Physics building, or phone 9351 3037;
- ask your lecturer or tutor; or
- ask a Duty Tutor - a staff member or postgraduate student who is available to help you with problems with physics course material. The Duty Tutor times and location is in your course material and also at the top of each assignment in *MasteringPhysics*.

14. How does *MasteringPhysics* grade assignments?

Problem Score

MasteringPhysics is set up to give the best score if you can answer the problem on the first try without the aid of any hints. If you ask for hints, you lose the small bonus that is given for not viewing hints (but get assistance towards the credit given for getting the section correct). If you submit a wrong answer your score can go down a little or a lot depending on the type of problem and your subsequent work. The *MasteringPhysics* algorithm for grading a problem is a bit complicated. Roughly speaking it is this:

- Each main part is worth 1 point. This point value is divided evenly between all questions for which an answer is completed. This includes the main part itself and any sub-parts (within hints) for which an answer was completed. Your score is the fraction of those questions answered correctly. For example, imagine a main part with one sub-part. If the sub-part is answered correctly, but the solution was requested for the main part, then a total of 1/2 points would be awarded. Similarly, if the solution was requested to the sub-part, but then the main part was answered correctly, a total of 1/2 points would be awarded.
- Each hint that is NOT VIEWED before the associated main part is answered is worth 0.02 points of "extra credit".
- If the question is multiple-choice, a deduction of $1/(n-1)$ points, where n is the number of options to choose from, is applied for each unique wrong answer submitted. (This is the "Guess Penalty" column on the grading screen).
- A deduction of 0.03 points is applied for every wrong answer submitted, most often if there is some sort of useful feedback given when the answer is submitted. Again, this advice doesn't come for free.
- You are given a maximum of (currently) eight attempts at a problem. So it is important not to waste them by 'trying something to see if it works'. Go back and check your calculations and get it correct.

After the entire problem has been completed, the total points are divided by the "maximum" points possible for the problem to obtain a percentage. This percentage is the "score" for the problem that will appear next to the problem name on the assignment screen. Note that the score for a problem may be greater than 100% if most of the parts were answered correctly without using many hints.

Assignment Score

To determine the total score for an assignment each problem score is multiplied by the "credit" of the problem (the credit is listed underneath the problem name on the assignment screen). The results are summed to obtain the total credit received for the assignment. The total credit is divided by the maximum possible credit for the assignment to obtain the total score. Again the total score for an assignment may be greater than 100%, if enough of the problem scores are greater than 100%.

The total available value of an assignment decreases from 100% at the time the assignment is due down to 0% at a time five (5) hours later.

15. Can I rework the assignment questions after the deadline date?

Yes. You can do the assignment questions again after the deadline date. This is good practice but your answers are not recorded for marks.

16. I have not registered for *MasteringPhysics* and have not done any assignments. Will my chances of doing well in this course be affected.

Even though assignments are not directly included in your overall mark, your mark will mean limitations on the highest grade that you can achieve. But much more importantly if you do not do the assignments you will learn much less compared with a person who has done the assignments, and hence you will do much more poorly in the exam. Records show that many people fail because they have not done assignments – and they would have passed if they had done them!

17. It is later in the semester, I want to register for *MasteringPhysics*, but it does not let me. What can I do.

Contact the Mastering Physics Coordinator (mastering_physics@physics.usyd.edu.au).

The classes are locked after a few weeks and must be reopened to let you register.