

Syllabus for PHYS 153

Astronomy Laboratory

PS 128, CHE 209

Be sure to download a copy of this syllabus and bring it with you to your lab orientation.

PHYS 153 Corequisite: PHYS 152. Topics: Celestial Coordinates, Telescopes, The Solar System, The Orbit of the Moon, H-R Diagrams, The Nature of Light, The Age of the Universe.

Time:

Lab Instructor:

Lab Instructors office/office hours:

Lab Instructor's phone/email:

Lab Supervisor: Mr. Martin Hackworth, campus 4439, hackmart@physics.isu.edu

Note: This syllabus is the binding document for this course. Your instructor does not have the authority to waive any of the following requirements. Only the Lab Supervisor may grant exceptions to these policies and procedures.

MATERIALS: Lab notebook (Roaring Spring® Brand Computational Notebook, #77-648), Edmund Scientific Star and Planet Locator (# 9227), Sky Publishing SC001 Equatorial Region Constellation Chart, TI-30Xa scientific calculator, C-Thru ruler (M-100), protractor (**these items are bundled at the campus bookstore**). The lab manual for this course is available online at: <http://www.physics.isu.edu/~hackmart/phys153.html>.

GRADING: This course will be graded on a point system. You may acquire points from the following sources:

1. QUIZZES - A short, open notebook quiz will be given at the beginning of each lab. Questions will be selected from the lab of the previous week as well as the lab to be done the day the quiz is given. If you arrive late you will not be allowed extra time to complete the quiz.
2. LAB NOTEBOOK/LAB PERFORMANCE - Your lab notebook should consist of $11\frac{3}{4} \times 9\frac{1}{4}$, 4×4 quad engineering paper without carbons, with numbered pages, in a *permanent* binding. A notebook of this type comes with the Astronomy Lab bundle available at the campus bookstore.

A lab notebook is a journal of what you do each week in this lab. Your lab notebook is to be used only for this course. You are to write your observations and measurements in a legible manner, in ink, directly into your lab notebook without recopying. Mistakes in an experiment are part of the game. *You should never erase or recopy lab notes, or tear pages out of your lab notebook, or make an entry in your lab notebook prior to beginning an experiment or exercise.* All of the material in your lab notebook should be original (i.e., no photocopies, paste-ups, etc., or copying directly from the lab manual) and should pertain directly to what you have done in each procedure. You are not to copy quizzes into your lab notebook, or use your notebook as a "cheat sheet" for upcoming quizzes or the final. You are not permitted to use anyone else's lab notebook in preparing your own. You are not permitted to use a lab notebook that you have previously used for the same lab.

Each week your lab instructor will evaluate your notebook, your performance in lab, take an inventory of your lab materials and you will receive points based on this. If you arrive on time with a copy of the lab procedure for the week and all of the materials you are supposed to have, follow directions, produce a good notebook, and put forth a good effort, you should receive most of these points. If you come to lab unprepared, fail to read the instructions before asking for help, work in a group of three or more without explicit permission, miss lab, arrive late, leave early, fail to clean up after yourself, produce a poor notebook, show up without a notebook, calculator, etc., or damage lab equipment you will receive very few, if any, of these points.

3. FINAL EXAMINATION - A comprehensive final will be given. Notice that the point value of the final is such that it is an important component of your grade. You will be allowed to use your lab notebook to take this exam. **No "make-up" finals will be given.**

ATTENDANCE - Although attendance has no point value by itself it should be obvious that you cannot earn points if you do not attend lab. You should not commit yourself to anything that may interfere with the time allotted for this lab. If you arrive after the quiz has been given or leave before the procedure is complete you not earn full points. You will not be allowed to make up missed quizzes if you are late. *In extenuating circumstances your lab instructor may allow you to make up a missed lab by attending another section of lab the same week.* You should make arrangements with your lab instructor to make up a lab before the end of the week in which it is scheduled. In general, some form of written documentation will be required to substantiate the reason for your absence. You should consider the opportunity for credit lost if you fail to make up the lab by the end of the week. As there are many extra points built into the grading structure there will be no opportunities for makeup quizzes or exams other than outlined above. None, nada, zilch. Please don't ask about makeups.

Available Points: Quizzes are worth 10 points each, Lab Notebooks are worth 13 points per procedure, Lab Performance is worth 10 points per procedure and the final exam is worth 100 points.

Totals: Quizzes	11 @ 10 points each = 110 points
Lab Notebook	10 @ 13 points each = 130 points
Lab Performance	10 @ 10 points each = 100 points
Final	100 points (minimum)

440 points available

Final grades will be tentatively based upon the following scale:

"A" > 380 points
"B" > 320 points
"C" > 260 points
"D" > 200 points

You should attend only the lab that you have registered for. All arrangements to switch labs must be made through the Registrar's office. It is your responsibility to make sure that you are registered for the lab you are attending and are on the class roll for that lab. If you go through the semester in a lab in which you are not registered you will receive a grade of "F" at the end.

PHYS 153 is a 1 credit hour course. For each credit hour taken the standard amount of effort expected is three hours. So three hours per week is the amount of effort expected for this course. For a 16-week semester you should *expect* to spend 48 hours on this course. What you will probably spend is:

Orientation:	about 1½ hours
#1 - #10:	less than 25 hours
Final	2 hours

Total **28.5 hours**

A *well-prepared* student should almost never need the full time allotted for the lab (2 ½ hours). The amount of time required in this lab is well below what is normally expected for the credit hours associated with this course. The extra time should be more than enough for you to read over the procedures before coming to lab, and to prepare you for the quizzes and lab final.