PHYSICS 151 - Spring 2011

University of Hawaii, Manoa
Dept. of Physics & Astronomy

Instructor: Michael Nassir
Office: Watanabe Hall, Rm. 426, (808) 956-2922
E-mail: nassir @ hawaii.edu

Return to PHYS 151 main page

SYLLABUS

last updated: May 13, 2011
(topics and links will continue to be updated during semester)

- The syllabus below lists all sections of the book that you are responsible for understanding for exams. This is my *intended* schedule of topics; *actual* subject matter covered during each lecture may vary a bit, or may lag behind slightly. In that case, exams will only cover material actually discussed in lecture before the exam date. I will continue to update the table below to accommodate changes throughout the semester.
- **Reading Assignments** are intended to reinforce lecture material, provide worked examples, and prepare you for the next lecture. Exam questions may cover material from lectures, reading assignments, or any homework problem. (For sections in [[brackets]], you only need to understand the general concepts in those sections *qualitatively*, but you do not need to know any specific formulas or how to solve numerical problems for those topics.)
- **Links to Handouts & Paper Homeworks** (PDF format) will be added as they become available -- just click on the name of the handout or the "Paper HW #" below.
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DATE	READING	TUTORIAL SHEETS & OTHER WORKSHEETS (just for practice -- NOT to be handed in)	HOMEWORK
Mon. Jan. 10 Lecture #1	"Course Information & Policies" handout *Review as needed:* Appendix A (pp. A-1 to A-9): Algebra, Geometry & Trig. Formulas [[1.1 & 1.2: Physics & Science, The Scientific Method]]	*Review as needed:* "Scientific Notation, Metric System, & Unit Conversion Review Worksheet" handout (NOT due -- answers attached) Lecture #1 Tutorial Worksheet	

Wed. Jan. 12 Lecture #2	"Powers of 10 & Scientific Notation" handout 1.3 (and Appendices B & F): SI (Metric System) Units & Metric Prefixes 1.4: Dimensions & Unit Conversions 1.5: Expressing Uncertainty/Error & Significant Figures [[1.6: Order-of-Magnitude Estimates]] video: "Powers of 10" optional (alternate) video: "Cosmic Voyage"	Lecture #2 Tutorial Worksheet	
Fri. Jan. 14 Lecture #3	2.1-2.2: Position & Displacement, Speed & Velocity, Graphing position & velocity *Cartoon Guide*, Chap. 1: Motion	Lecture #3 Tutorial Worksheet	
Mon. Jan. 17	HOLIDAY -- MLK Jr. Day		
Wed. Jan. 19 Lecture #4	2.3-2.4: Acceleration, Graphing position, velocity, & acceleration	Lecture #4 Tutorial Worksheet	
Fri. Jan. 21 Lecture #5	2.4: Equations of Kinematics w/ constant accel. (in 1-D) more Graphing position, velocity, & acceleration	Lecture #5 Tutorial Worksheet	Paper HW #1 handed out
Mon. Jan. 24 Lecture #6	2-6: Law of Falling Bodies/Freefall	Lecture #6 Tutorial Worksheet	**Online HW #1A DUE -- 12:30pm**
Wed. Jan. 26 Lecture #7		Lecture #7 Tutorial Worksheet	
Fri. Jan. 28 Lecture #8	1.7: Scalars vs. Vectors 1.8: Vector Components	Lecture #8 Tutorial Worksheet	Paper HW #1 DUE Paper HW #2 handed out
Mon. Jan. 31 Lecture #9	1.7-1.8: Vector Addition (Triangle Method & Component Method)	Lecture #9 Tutorial Worksheet	**Online HW #1B DUE -- 12:30pm**

Wed. Feb. 2 Lecture #10	2-7: Adding Velocities (in 1-D) 3.5: Summing velocity vectors	Lecture #10 Tutorial Worksheet	Paper HW #3 handed out
Fri. Feb. 4 Lecture #11	3.1-3.3: Projectile motion (2-D kinematics) *Cartoon Guide*, Chap. 3: Projectiles	Lecture #11 Tutorial Worksheet	Paper HW #2 DUE Paper HW #2 Solutions
Mon. Feb. 7 Lecture #12	more Projectile motion examples	Lecture #12 Tutorial Worksheet	
Wed. Feb. 9 Lecture #13	*Lecture CANCELED (instructor illness)*	(Lecture #13 - NO new Tutorial Worksheet)	
Fri. Feb. 11	MIDTERM EXAM #1 -- all assigned sections of Chaps. 1 to 3 (excluding section 3.4)	see Past Exams webpage for sample midterms	Paper HW #3 -- extended to Monday
Mon. Feb. 14 Lecture #14	Chap. 4: Force, Mass, and Newton's 1st & 2nd Laws of Motion Free-body diagrams & One-dimensional force problems *Cartoon Guide*, Chap. 2: The Apple and The Moon	Lecture #14 Tutorial Worksheet	Paper HW #3 DUE Paper HW #3 Solutions
Wed. Feb. 16 Lecture #15	Chap. 4: Weight Normal Force Tension more 1-D force problems	(Lecture #15 - NO new Tutorial Worksheet)	Paper HW #4 handed out
Fri. Feb. 18 Lecture #16	4.4: Newton's 3rd Law of Motion 5.4: Springs & Hooke's Law	Lecture #16 Tutorial Worksheet	
Mon. Feb. 21	HOLIDAY -- Presidents' Day		
Wed. Feb. 23 Lecture #17	5.1-5.2: Two-Dimensional force problems Examples 5.3 (p.132), 5.6 (p.135), 5.11 (p.143) & 5.12 (p.143): Inclines	Lecture #17 Tutorial Worksheet	

	5.3: Friction: static & kinetic Example 5.13 (p.144-5) Drag force & Terminal velocity [not discussed in lecture] Examples 5.7 (p.136) & 5.4 (p.132): Two-body/pulley problem 5.4: Force by a spring: Hooke's Law		
Fri. Feb. 25 Lecture #18		Lecture #18 Tutorial Worksheet	Paper HW #4 DUE Paper HW #4 Solutions Paper HW #5 handed out
Mon. Feb. 28 Lecture #19	Mechanical advantage (not in Young&Geller) 5.5: The Four Fundamental Forces of Nature	Lecture #19 Tutorial Worksheet	
Wed. Mar. 2 Lecture #20	3.4, 6.1: Uniform Circular Motion (UCM): linear vs. angular velocity, period, frequency, centripetal acceleration, centripetal force	Lecture #20 Tutorial Worksheet	Paper HW #6 handed out
Fri. Mar. 4 Lecture #21	6.2: UCM in a vertical circle 6.3: Law of Universal Gravitation 6.4: Gravitational acceleration video: "Schoolhouse Rock -- A Victim of Gravity" (3 mins.)	Lecture #21 Tutorial Worksheet	Paper HW #5 DUE Paper HW #5 Solutions Paper HW #7 handed out
Mon. Mar. 7 Lecture #22	6.5: Orbits Kepler's 3 Laws of Planetary Motion (not in Young&Geller) Gravity Simulator (webpage Java applet)	(Lecture #22 - NO new Tutorial Worksheet)	
Wed. Mar. 9 Lecture #23	7.1: Forms of energy 7.2: Work 7.3: Kinetic Energy, Work-Energy Theorem 7.8: Power	Lecture #23 Tutorial Worksheet (to be used during Lecture #24)	

Fri. Mar. 11	MIDTERM EXAM #2 -- all assigned sections of Chaps. 4 to 6 (plus section 3.4)	see Past Exams webpage for sample midterms	
Mon. Mar. 14 Lecture #24	7.5: Potential Energy: Gravitational and Elastic 7.6: Conservation of Energy 7.7: Conservative vs. Non-conservative forces Gravitational Potential Energy & Escape Velocity (not in Young&Geller)	Lecture #24 Tutorial Worksheet (to be used during Lecture #25-26)	Paper HWs #6&7 DUE Paper HW #6 Solutions Paper HW #7 Solutions Paper HW #8 handed out
Wed. Mar. 16 Lecture #25	8.1: Linear Momentum 8.5: Impulse 8.2-8.4: Conservation of Momentum in Collisions, Elastic vs. Inelastic Collisions	(Lecture #25 - NO new Tutorial Worksheet)	
Fri. Mar. 18 Lecture #26	8.2-8.4: more One-Dimensional Collisions Example 8.7 (p.242): "Ballistic Pendulum" problem	(Lecture #26 - NO new Tutorial Worksheet)	Paper HW #9 handed out
Mon. Mar. 21	SPRING RECESS		
Wed. Mar. 23	SPRING RECESS		
Fri. Mar. 25	SPRING RECESS HOLIDAY -- Kuhio Day		
Mon. Mar. 28 Lecture #27	Examples 8.5 (p.238) & 8.11 (p.247): Two-Dimensional Collisions 8.6-8.7: Center of Mass & Motion of C.M.	Lecture #27 Tutorial Worksheet	Paper HW #8 postponed to Wednesday
Wed. Mar. 30 Lecture #28	Chap. 9: Rotational quantities vs. translational quantities Rotational Kinematics	Lecture #28 Tutorial Worksheet	Paper HW #8 DUE Paper HW #8 Solutions
Fri. Apr. 1 Lecture #29	Rolling Objects Rotational K.E. & Moment of Inertia	Lecture #29 Tutorial Worksheet	Paper HW #9 DUE Paper HW #9 Solutions
Mon. Apr. 4 Lecture #30	Chap. 10: Torque Rotational Dynamics Rotational Work & K.E.	Lecture #30 Tutorial Worksheet	

Wed. Apr. 6 Lecture #31	Statics Stability & Balance Angular Momentum, Conservation of A.M., Gyroscopes Vector nature of rotational quantities	Lecture #31 Tutorial Worksheet	
Fri. Apr. 8 Lecture #32	Chap. 11: Simple Harmonic Motion (SHM) review: Hooke's Law, Elastic Potential Energy Conservation of Energy for SHM Kinematics of SHM & relationship with UCM	(Lecture #32 - NO new Tutorial Worksheet)	Paper HW #10 handed out
Mon. Apr. 11 Lecture #33	Pendulums [[Damped Oscillation]] [[Driven Oscillation, Resonance]] video segment on Resonance	Lecture #33 Tutorial Worksheet	TAKE-HOME MIDTERM EXAM #3 handed out -- all assigned sections of Chaps. 7-10 (see Past Exams webpage for sample midterms)
Wed. Apr. 13 Lecture #34	Chap. 13: Density Pressure & Pascal's Principle	Lecture #34 Tutorial Worksheet	Paper HW #11 handed out
Fri. Apr. 15 Lecture #35	Archimedes' Principle & Buoyancy Bernoulli's Principle & Bernoulli's Equation [[Viscosity]]	Lecture #35 Tutorial Worksheet	TAKE-HOME MIDTERM EXAM extended to Mon. Apr. 18 Paper HW #10 DUE Paper HW #10 Solutions
Mon. Apr. 18 Lecture #36	Chap. 12: Waves, Pulses, & Reflection Sound waves	Lecture #36 Tutorial Worksheet	TAKE-HOME MIDTERM EXAM #3 DUE TAKE-HOME MIDTERM EXAM #3 Solutions
Wed. Apr. 20 Lecture #37	Superposition & Interference Beats Standing Waves & Harmonics	Lecture #37 Tutorial Worksheet	Paper HW #12 handed out
Fri. Apr. 22	HOLIDAY -- Good Friday		

Mon. Apr. 25 Lecture #38	[[Sound Intensity]] Doppler Effect [[Shock Waves]]	(Lecture #38 - NO new Tutorial Worksheet)	Paper HW #11 DUE Paper HW #11 Solutions
Wed. Apr. 27 Lecture #39	Chap. 14: Temperature Thermal Expansion (linear only) Heat & Mechanical Equivalent of Heat	(Lecture #39 - NO new Tutorial Worksheet)	Paper HW #13 handed out
Fri. Apr. 29 Lecture #40	Heat Capacity [[Conduction, Convection, Radiation]] Chap. 15: Ideal Gases, Moles Kinetic Theory of Gases	Lecture #40 Tutorial Worksheet	Paper HW #12 DUE Paper HW #12 Solutions
Mon. May 2 Lecture #41	Phases & Phase Diagrams Latent Heat 1st Law of Thermodynamics	(Lecture #41 - NO new Tutorial Worksheet)	
Wed. May 4 Lecture #42 (final lecture)	Chap. 16: Thermal Processes Carnot engines [[Refrigeration]] Entropy & 2nd Law of Thermodynamics	Lecture #42 Tutorial Worksheet	Paper HW #13 DUE Paper HW #13 Solutions
Fri. May 6	STUDY PERIOD	STUDY PERIOD	
Mon. May 9	FINAL EXAM: 12:00pm-2:00pm -- all prior material, with emphasis on assigned sections of Chaps. 11-16	see Past Exams webpage for sample final exams pau! congratulations!	

PHYSICS 151 — COLLEGE PHYSICS I

UH MANOA — Spring Semester 2011

Course Information & Policies

Lecture

MWF 12:30–1:20 p.m.
Physical Science Building ("PSB" or "PhySci"), Rm. 217

Instructor

Mr. Michael Nassir
E-mail: nassir@hawaii.edu
Course Website: **http://www.phys.hawaii.edu/~nassir/phys151/**
Office: Watanabe Hall, Rm. 426, (808) 956-2922

Help Hours:
- Wednesdays 4:30–6:00pm in PSB 217
- Thursdays 4:30–6:00pm in PSB 217
- By appointment in Watanabe 426 (office)

Required Materials

TEXTBOOK: Young & Geller, *College Physics*, 8th ed. (2006), Vol. 1 only (Chaps. 1–16 only)

ONLINE HOMEWORK ACCESS: *Mastering Physics* website — requires access code (valid for one calendar year): http://www.masteringphysics.com

various options:

Partial Book (151 only): • ***Vol. 1 paperback***, bundled with *MP* Access Kit (and iClicker rebate coupon?): approx. $145 new at UH Bookstore

Full Book (151 & 152): • ***Vols. 1&2 bound hardcover***, bundled with *MP* Access Kit (and iClicker rebate coupon?): approx. $217 new at UH Bookstore

Full Book (151 & 152): • ***Vols. 1&2 looseleaf*** (requires 3-ring binder, cannot be resold), bundled with *MP* Access Kit: approx. $146 new at UH Bookstore

If already have book: • *Mastering Physics* Access Code only: available online for $54 at http://www.masteringphysics.com — be sure to click on image of "Young/Geller, College Physics, 8/e" cover (photo of swimming dolphins). Access is valid for one calendar year.

eBook (151 & 152): • Full text + *MP* Access Code for $94 — follow same steps as above for online purchase. Access is valid for one calendar year only.

SCIENTIFIC CALCULATOR with scientific notation, trig functions, exponents, & logarithms — bring to lab & exams (necessary!) and lectures (needed for occasional in-class questions). *Graphing or programmable calculators are allowed, but are NOT necessary.*

iCLICKER — approx. $39 new at UH Bookstore (This is the same iClicker that is used in other UH classes. Used iClickers are fine.)

Optional Books

Ford, *Student Solutions Manual for Young & Geller 8th ed.*, Vol. 1 only (Chaps. 1–16 only) (2006), paperback: approx. $39 new, $30 used at UH Bookstore

Gonick & Huffman, *The Cartoon Guide to Physics* (1990), paperback: approx. $18 new, $14 used at UH Bookstore

Course Description

This course is the first half of a two-semester introduction to the fundamentals of physics, and will cover kinematics, mechanics, waves, and heat. Lectures and problem-solving will regularly use the mathematical tools of algebra, geometry, trigonometry, and vectors, but *not* calculus.

Prerequisite: A grade of "C" or better in **MATH 140 (trigonometry & pre-calculus) or higher**; or instead, a passing score on the Mathematics Department's Math Assessment Exam (≥14 on Part I & ≥10 on Part II).

Lab: If you also need to take PHYS 151L lab, it is strongly recommended that you do so concurrently with the lecture; the lab provides a hands-on way of reinforcing and complementing many of the topics presented in lecture. However, concurrent enrollment in PHYS 151L lab is *not* mandatory for all students in PHYS 151 lecture.

Grading & Course Work

• **Final grades** will be computed on a **curve** (to be decided), based on your **overall course percentage** relative to the other students in the class. Your overall course percentage will be computed as follows:

iClicker In-Class Questions	**5%**
Homework (Paper + Online)	**20%**
Midterm Exams #1 & #2	**19% each**
Take-home Midterm Exam #3	**7%**
Final Exam	**30%**

After each major exam, I will post online grade sheets (listed by your "roster numbers," not names) displaying all of your scores, and I will provide a histogram showing the relative scores of everyone in the class. I urge you to double-check your scores on my grade sheets, as well as the score tallies on your individual papers. While I apologize in advance for any errors, they may well happen with such a large class — please help me to correct them. Final exam scores and final grades will be posted outside my office and will be available for viewing on MyUH shortly after the term ends.

• **iClicker Questions** will be asked during many lectures. Partial credit (1 point) will be given for any response at all (i.e., credit for "participation"); full credit (3 points) will be given for a correct response.

• **Paper Homework** sheets will usually be due on Fridays in lecture (with some exceptions due to holidays or exams), and will be graded either by our class grader or by me; please see me outside of class with any questions about grading. **Late paper homework** will ***NOT*** be accepted *for any reason* **after solutions** for that assignment have been posted online, usually at the end of lecture on the due date. All paper homework assignments will be worth the same number of points, and your **TWO lowest paper homework scores** will be **dropped**.

• **Online *Mastering Physics* Homework** will usually be due on Mondays and will be graded automatically on the *Mastering Physics* website. Your scores likewise will be reported to me automatically. **Late homework** is allowed, at a penalty of –5% per day. Details on how to log in at **`http://www.masteringphysics.com`** will be provided in a separate handout.

• Three **Midterm Exams** will test you on material from each month of the course. Roughly half of the **Final Exam** will cumulatively review all of this material, while the other half of the final exam will cover new material from the last month of the course. The first two midterm exams will be 50 minutes long (given during regular class periods), and the third midterm will be take-home (open-book) with no time limit:

Midterm #1	Friday, **February 11**	Chaps. 1–4
Midterm #2	Friday, **March 11**	Chaps. 4–7
Midterm #3	out Monday, **April 11,** due Friday, **Apr. 15**	Chaps. 8–11, 13
Final Exam	Monday, **May 9, 12:00–2:00 p.m.**	Chaps. 12, 14-16 & cumulative review

You are allowed to bring 1 sheet of **handwritten notes** (no printouts or photocopies) to the first and second midterms, and 2 sheets to the final exam. However, do NOT let your "cheat sheet" become a substitute for learning formulas and practicing problems! (Graduate school exams, like the MCAT or GRE, do NOT allow open notes — you must memorize your formulas.) You will be allowed to retain your "cheat sheets" after each exam to build upon for later exams. *You must take all midterms and the final exam to avoid a failing grade in the course.*

• **Reading assignments** will be assigned on my course website. The listed reading assignments are the specific sections of the text that will be covered in lecture and that you will be responsible to know for exams. *ActivPhysics Online* examples will also be assigned as "reading" — these are short tutorials with interactive applets and audio & video clips. You can browse them anytime (for free) at: `http://www.aw-bc.com/young_geller`

Solving Physics Problems

• You will need a **calculator** with **scientific functions** (trigonometric & exponential/logarithmic functions, and power-of-10 notation) for homework AND EXAMS. (Graphing calculators are not necessary.)

• On all assignments and exams that call for free-response answers, you must **SHOW YOUR WORK**. Writing only the correct final answer without showing your steps is *not* acceptable and will result in little or no credit. It is a central notion in science to show your method along with your results, so that others can follow your reasoning and can question any steps or assumptions. Also, clear and complete explanations will only help you later when you review your own work and study for exams. It is never possible to "show too much work," but it is easy not to show enough!

Always display your major mathematical steps from your initial formula(s) to your final answer, and annotate your reasoning with sketches and verbal explanations where appropriate. Mathematical steps should read sequentially and logically. Final answers must include **UNITS** and use an appropriate number of **SIGNIFICANT FIGURES**, and sometimes should be written in **SCIENTIFIC NOTATION**. To receive full credit, your answers to **free-response problems** MUST contain the following:

1. **initial formula**, followed by major algebraic rearrangement steps (if necessary)
2. **substitution** ("plugging in" known values), followed by major calculation steps (if necessary)
3. **final answer**, underlined or boxed, with proper **units**, **sci. notation** (if needed), & **significant figures**
4. additional **diagrams** or **comments**, as needed to define quantities (…a picture is worth 10^3 words!)

• **Organization** and **neatness** matter! Both will result naturally if you follow the above format. Disorganized or illegible work will be penalized.

• Please do NOT use **red ink** on any assignments or exams — we reserve that color for grading.

Collaboration

Working in pairs or groups is common in science, and indeed is encouraged: teamwork can help you to make more efficient measurements and to catch errors, and explaining something to another person is a great way to learn it yourself. However, if you are working with a classmate while completing a physics assignment (or while making measurements in lab), there are a few guidelines to follow:

(1) You are strongly encouraged **first to attempt each homework problem YOURSELF, individually** (or, in lab, to make some of your lab measurements yourself). That way, you will get the educational value and the experience that comes from working the problem (or using the equipment) and "seeing for yourself." Then, after you have tried first on your own, you can compare your answer (or lab results) to others' work as a "sanity check."

On homework: If you are stuck on a homework problem, you should seek just enough help to get unstuck. It is unwise to let someone simply feed you the entire solution, since you lose the educational value of working through the problem on your own. If necessary, try changing the numerical values in the problem and attempting it again by yourself, to ensure that you understand completely how to do the problem if you were to encounter it again on your own… say, on an exam.

In lab: If your results differ from other students' results by only a bit, then *you should keep your own results* — most scientific measurements vary slightly due to "random error" (this will be discussed in lab), so you should *not* change yours to match your classmates' results exactly. After all, how do you know which result is "correct," yours or your classmates'? Record what *you* see or measure. (If your results differ *wildly*, then it is appropriate to try to figure out "what went wrong." Small variations, however, are common and are a natural part of the random error inherent in making measurements.)

(2) All free-response solutions on all submitted assignments should ultimately be **in your own words**, reflecting ***your own understanding*** of the problems. You should plug numbers into your calculator and attempt (or re-attempt) all calculations *yourself*, even if you receive assistance from others along the way.

Any passages or calculations that are **directly copied or plagiarized** from another student (or portions lifted from any other uncited source) will be given a score of **zero**. Again, your submitted work should reflect *your own understanding* of the problems.

In lab: If you make measurements together with a lab partner, make a note in your lab report of who your lab partner was for any particular experiment. Then, be sure that your calculations and the written passages of your lab reports are ***in your own words***, even if your initial data or measurements are identical to your partner's.

(3) During **in-class exams**, **NO collaboration** of any sort is allowed; exams must be *entirely your own work*. Exams copied from another student, even partially, will be given a score of **zero**. Cases of cheating or plagiarism may be referred to the Office of Judicial Affairs for disciplinary review.

Getting Help

• **Regularly-scheduled help sessions** (solving homework problems, answering questions, etc.) will be held every week. Times and locations will be announced soon.

• The **Physics Learning Center in Watanabe 421** is open whenever Watanabe Hall is open, for all students to use to study (alone or together) on physics homework. There are tables, sofas, blackboards, and computers available for your use.

All Physics lab TAs will schedule at least one of their two weekly office hours in Watanabe 421 as **tutoring hours** — FREE help with any physics homework problems or other physics questions (although lab TAs will give first priority to their own students with lab-related questions). Go to Wat 421 and check the posted schedule for tutoring times.

• PHYS 151 has a **Supplemental Instruction (SI) study group** this semester — SI group study sessions are about one hour long, led by an experienced undergraduate tutor, and held once-a-week in the Student Success Center in Sinclair Library Commons (1st floor). This program is free and open to any student enrolled in PHYS 151. Our SI group leader's name and meeting time will be announced soon.

• You may also drop by to see me in **my office, Watanabe 426**, during afternoons at times other than the regularly scheduled help sessions. I suggest that you call first (956-2922) to make sure that I am in. Please forgive me if I happen to be busy and ask you to return at another time. You may also make an appointment with me if you wish.

• The Department of Physics & Astronomy Office (Watanabe 416) maintains a list of grad students and others who are available for hire as **private tutors** — please stop by Wat 416 and ask the Department secretary for a copy of the list.

Lecture Notes

• **Electronic scans** of my overhead transparencies during the semester may be made available on the Web as **PDF files** — to be decided. I will try to update the notes roughly once a week, and I will create a link to each scanned lecture from the PHYS 151 Syllabus webpage as the PDFs become available. Most Web browsers can automatically display and print PDF files, or you can download a free PDF viewer like Adobe's *Acrobat Reader* or Apple's *Preview*.

Extra Handouts

Extra copies of all handouts from the one or two previous lectures will be brought to every lecture and help session. Almost all handouts will be available shortly after lecture as PDF files, and will be linked from the course Syllabus page — you can download them anytime.

Graded Papers

Graded papers will be circulated in lecture once they are graded. Any papers that are not picked up in lecture will be left in the **wooden cubby boxes outside the rear of our lecture hall, PSB 217**. Look for "PHYS 151 Spring 2011," and find the box for your roster number. Please leave the boxes tidy and organized for your classmates' benefit.