

This is a sample syllabus for PHY2049C. Students should reference the section syllabus provided at the beginning of the semester for specifics regarding assignments and grade assignments.

General Physics B - Syllabus

PHY 2049C

Course Description: General Physics B (PHY 2049C, 5 credit hours) is a **calculus**-based introduction to electricity and magnetism and optics for physical science majors.

Pre- and Co-requisites: The prerequisites for this course are General Physics A (PHY 2048C) and Calculus II (MAC 2312), which must have been passed with a **minimum** grade of **C-**. The co-requisite is PHY 2049L. PHY2049C consists of 3 components: lectures, recitations, and laboratories. Don't forget to register for a section of PHY2049L. You can register for any section of PHY2049L regardless of which section of PHY2049C you are in.

Course Objectives: By the end of this course, students will:

- 1) Pose questions or hypotheses based on scientific principles.
- 2) Use appropriate scientific methods and evidence to evaluate claims or theoretical arguments about the natural world.
- 3) Analyze and interpret research results using appropriate methods.

Minor in Physics: After successfully completing PHY2048C and PHY2049C, you can get a minor in physics by completing Intermediate Modern Physics (PHY 3101). The 3 credit course is designed to follow on PHY2049C to complete your introduction to physics.

Textbook: *Essential University Physics, Volume 2, Second Edition by Richard Wolfson*, Pearson Addison Wesley. Any version of this book which includes Chapters 20 through 32 will be fine.

iClicker: You will need an iCLICKER transmitter to bring to lecture. Transmitters should be available at the university bookstore. *It is **your responsibility** to make sure that your iClicker is registered correctly and that it works.* You can register your iClicker at <http://www.iclicker.com/registration/>. You will get **1 point** if you try to answer a quiz question and **2 points** if you do so correctly. Your iClicker responses will constitute 5% of your total course grade. **NOTE:** it will **not** be possible to make any corrections or adjustments to the iClicker scores for **any** reason like forgetting to bring it to class, dead batteries, absences, incorrect registration. To compensate, your final score will be based on 92% of the questions. That is, your lowest scores on 8% of the questions will be dropped. It is a violation of the University Honor Code to use any iClicker other than the one registered to you in class.

Course Website: This syllabus, the laboratory assignments, and other information related to this course are available on the LON-CAPA websites for PHY2049C and

PHY2049L. Some of this information is also available via the [web site](#) for this course. Please check the **on-line syllabus** for updates during the semester for information not known as the paper syllabus goes to press. Some of the information to come later includes the TA assignments for labs, free tutor information, and location of Final Exam.

Course Enrollment: The course consists of lectures, recitations, and a laboratory. The laboratory is an integral part of PHY 2048C. Therefore, to pass this course you must also pass the lab.

Lectures: The lectures are intended to help you understand the basic concepts and to develop your problem solving skills. Demonstrations will help to clarify the concepts. All examinations except the final will be held in these Tuesday-Thursday lecture periods. Questions to be answered with your iClicker transponder will be asked at random times during the lectures. **REPEAT:** It is a violation of the University Honor Code to use any iClicker other than the one registered to you in class. Your iClicker responses in lecture will count for 5% of your total grade.

Recitations: The recitations provide an excellent way to learn how to solve the homework problems in a small class setting with an experienced professor. The recitations are interactive and your participation in them will contribute 7% of your total course grade. Your recitation instructor will tell you exactly how the sessions will be conducted and how your participation will be graded.

Homework: Homework assignments are to be completed using [LON-CAPA](#). The assignments are due at 11:59 PM on the day shown on the schedule below. Strategies for solving these problems will be discussed in the recitations. The winning approach is to try to solve all the problems **before** your recitation. Then you will get maximum benefit from the recitation, especially for the problems you were not able to solve successfully. Remember that the major goal of the homework is not just to get the correct answers to specific problems. Rather it is to learn how to work those types of problems so you are prepared to solve related problems on the exams.

Examinations: There will be 6 **miniexams**, a **midterm exam**, and a **final exam** as shown in the schedule below. The subject of the exams may be *any* previously assigned material. The miniexams will be given in the first 20 minutes of class on the Thursdays as indicated in the class schedule. Only your highest 5 scores on the miniexams will be used to calculate your total course grade. You will have an entire class period to work on the midterm exam. The final exam will be given in accordance with the university final exam schedule. It will be cumulative over the entire semester's work. All students must turn in their exams at the announced time in order to be counted, regardless of whether they arrived late. Discuss any compelling issues which would lead you to miss an exam with Dr. ___ **prior to the exam.**

Laboratories: The purpose of the laboratories is to give you hands-on experience with simple laboratory equipment, to develop skill in performing experiments and to learn the basics of scientific data analysis. You must complete, before the end of the lab session, a brief legible lab report following the format prescribed by the lab instructor. ***A badly written report will not be graded.*** **Attendance** at each lab session is **mandatory**. If you fail to attend a lab, **5% will be subtracted** from your overall course grade. If you *miss more than two labs* you will receive a grade of **F** for the course. The lab manual is available on [LON-CAPA](#).

Academic Honor Code: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>.)

Tutors: In addition to the 3 professors working with this course, the Physics Department provides a **free** tutor. If you would like to hire a private tutor, check with the Physics Undergraduate Office in room 307 of the Keen Building.

Syllabus Change Policy: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.

University Attendance Policy: Excused absences include documented illness, deaths in the family, and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Liberal Studies for the 21st Century: This course has been approved to meet FSU's Liberal Studies **Natural Sciences** requirement and is designed to help you become an effective interpreter of scientific results and a critical analyst of claims about the natural world. As required by Florida State University, the student must earn a course grade of "C-" or higher in order to meet the Liberal Studies 1-credit laboratory requirement.

Americans with Disabilities Act: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type.

Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>

Points to Note:

1. Any grading questions you have must be resolved within **2 weeks** of the exam.
2. Do the homework assignments: they provide **essential** practice for the exams.
3. For every **missed lab, 5% will be deducted** from your overall course grade.
4. If you miss more than **2** labs you will receive a grade of **F** for the course.
5. If you miss the final exam you will receive a grade of **F** for the course.
6. Using someone else's iClicker in class is cheating.
7. If you cheat in any part of the course, you will get an **F** for the course, a permanently damaged reputation, and be reported to the university Honor Board.

Grading: Your course grade will be calculated using the guide below. A look at the following table shows that 60% of your grade will be determined by your individual work on exams. What you learn doing the homework, participating in classes, and performing laboratory experiments will have an effect far beyond the remaining 40% of your grade, because it will really help you to perform better on the exams!

Homework	10%
Best 5 of 6 Miniexams	25%
Mid-Term Exam	15%
Final Exam	20%
Lecture & Recitation Participation	12%
Laboratory	18%
Total	100%

Final Grades

Grade	Percentage	Grade	Percentage
A	100 – 90	C+	74.9 – 71
A–	89.9 – 87	C	70.9 – 67
B+	86.9 – 83	C–	66.9 – 62
B	82.9 – 79	D	61.9 – 55
B–	78.9 – 75	F	< 55

Professors

Faculty	Room	Phone	Office Hours	Email Address
*				
**				

* Course Coordinator, ** Laboratory Coordinator

Recitation Sections

Section	Time	Room	Faculty	TAs
3				
4				
5				

Recitation Teaching Assistants

Name	Room	Office Hours

Laboratory Sections

Section	Time	Room	Faculty	TA
1				
2				
3				
4				
5				
6				
7				
8				
9				

Class Schedule

Week	Date	Topic	Laboratory
Week 1		Hand out syllabi and explain organization 20. Electric charge, Force, and Field Discuss CAPA 1 20. Electric charge, Force, and Field	No labs this week
Week 2		21. Gauss's Law ; CAPA 1 due CAPA 2 due MINIEXAM 1 ; 21. Gauss's Law	No labs this week
Week 3		CAPA 3 due 22. Electric Potential CAPA 4 due 22. Electric Potential	Distribution Functions
Week 4		CAPA 5 due 23. Electrostatic Energy and Capacitors CAPA 6 due MINIEXAM 2 ; 23. Capacitors	Electrostatics
Week 5		CAPA 7 due 24. Electric Current CAPA 8 due 24. Electric Current	Electric Fields
Week 6		CAPA 9 due 25. Electric Circuits CAPA 10 due MINIEXAM 3 ; 25. Electric Circuits	Ohm's Law
Week 7		CAPA 11 due 26. Magnetism: Force and Field Review for mid-term exam MID-TERM EXAM	No Labs this Week
Week 8		CAPA 12 due 26. Magnetism: Force and Field CAPA 13 due 26. Magnetism: Force and Field	Circuits in Series and Parallel
Week 9		CAPA 14 due 27. Electromagnetic Induction CAPA 15 due MINIEXAM 4 ; 27. Induction	Magnetic Fields

Week	Date	Topic	Laboratory
Week 10		CAPA 16 due 28. AC Circuits CAPA 17 due 28. AC Circuits	Faraday Induction
Week 11		CAPA 18 due 28. AC Circuits CAPA 19 due MINIEXAM 5 ; 29. Maxwell's Equations	RL and RC Circuits
Week 12		CAPA 20 due 30. Reflection and Refraction CAPA 21 due 31. Images and Optical Instruments	RLC Circuits
Week 13		CAPA 22 due 31. Images and Optical Instruments CAPA 23 due 31. Images and Optical Instruments	Light and Lasers
Week 14		CAPA 24 due 32. Interference and Diffraction CAPA 25 due MINIEXAM 6 ; 32. Interference	Optical Instruments
Week 15		CAPA 26 due 32. Interference and Diffraction CAPA 27 due 32. Interference and Diffraction	No labs scheduled this week

Final Exam:

When:

Location: