

Florida Agricultural & Mechanical University
COLLEGE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF PHYSICS
Tallahassee, Florida 32307

Syllabus for
PHY2048 GENERAL PHYSICS I Section: 002
Term: FALL 2022 Credit Hours: 4,

Modality:

In-person classes

Classroom: School of Business SBIS 0216

M, W, F – 10:10 am - 11 am

Recitation: M – 1:25 pm - 2:15 pm

Instructor Information

Name: Dr. Komalavalli Thirunavukkuarasu

Email: Komalavalli.thirunav@famu.edu

Office: 308B Humphries Science Research Building.

Office Hours:

Every Monday: 11 am to 12 pm, Wednesday: 1-2 pm

Only with appointments: virtual Hours via Zoom

Course Description

This course is an introductory level physics course designed to give students a thorough understanding of physics concepts from mechanics, gravitation, waves, and oscillations. The course is designed as the first part of a two-part, one-year physics course based on calculus for students majoring in physics, engineering, chemistry and other STEM disciplines. By the end of this course, students will be able to extract information from physics text through analytical reading to calculate and interpret a range of real-world physics problems as well as create new models to solve a variety of physics application problems.

Course Objectives

At the end of the course, student will be able to:

- Demonstrate the ability to think critically and employ critical thinking skills.
- Read and interpret graphs and data.
- Demonstrate the quantitative skills needed to succeed in Introductory Physics.
- Demonstrate an understanding of the impact of science on society.
- Demonstrate the ability to make connections between concepts across physics.
- Communicate effectively in writing.
- Apply the scientific method in lab experiences to interpret information and draw conclusions.

Course Requirements

Co-requisites: PHY 2048L, MAC 3311 Calculus I

Required Textbook

Fundamentals of physics for scientists and engineers, 10th ed. Serway

Additional Textbook

Fundamentals of Physics: Resnick and Halliday 10th Edition by Jean Walker

Required Technology (For virtual office hours, online exams etc.)

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to [Canvas](#)
- Web Camera
- Headset with microphone

Course Structure

This course will be delivered in-person. However, the course materials, assignments, and exams will be delivered through the course management system Canvas. You will use your FAMNet username and password to login to the course from the FAMU [Canvas login](#) page.

In Canvas, you will access online lessons, course materials, and resources. At designated times throughout the semester, we will participate in a blend of self-paced and group-paced activities using Canvas and alternative Internet-based technologies. Activities will consist of chat, discussion forums, email, and web posting.

FAMU Canvas Access

To access this course on FAMU Canvas you will need access to the Internet and a supported Web browser (Internet Explorer, Firefox, Safari, and Google Chrome). To ensure that you are using a supported browser and have required plug-ins please run the [Check Browser](#) from your Canvas course.

Technical Assistance

If you need technical assistance at any time during the course or to report a problem with Canvas you can:

- Visit the [Office of Instructional Technology](#) page.
- Contact the Office of Instructional Technology at 850-599-3460 or oit@famuedu.
- View [tutorials](#) to learn more about using Canvas.

Course Outline/Schedule**Important Note:**

This is a tentative schedule for the course, and the instructor may change it during the course of the semester based on circumstances. Refer to the course calendar on Canvas for specific meeting dates and times. Additional activities and assignments details will be explained within corresponding learning modules. If you have any questions, please contact your instructor.

Week	Date	Module	Readings	Assessments
1	Aug 22 - 26	Module 1: Physics and Measurement	Chapter (Ch) 1	HW
		Module 2: Motion in 1D	Ch 2	HW1
2	Aug 29 – Sep 2	Module 3: Vectors	Ch 3	HW2
3	Sep 5 – 9	Module 4: Motion in 2D	Ch 4	HW3
4	Sep 12 – 16	Module 5: The Laws of Motion	Ch 5	HW4
5	Sep 19 – 23	Module 6: Circular Motion and Other Applications of Newton's Laws	Ch 6	HW5
	Mo, Sep 26 th 2022	EXAM I	Chapters 1-6	
6	Sep 26 – 30	Module 7: Energy of a System	Ch 7	HW6
		Module 8: Conservation of Energy	Ch 8	HW7
7	Oct 3 – 7	Module 9: Linear Momentum and Collisions	Ch 9	HW8
8	Oct 10 – 14	Module 10: Rotation of a Rigid Object about a Fixed Axis	Ch 10	HW9
9	Oct 17 – 21	Module 11: Angular Momentum	Ch 11	HW10
10	Oct 24 – 28	Module 12: Static Equilibrium and Elasticity 13: Universal Gravitation	Ch 12 and Ch 13	HW11
	Mo, Oct 31 st 2022	EXAM II	Chapters 7-13	
11	Oct 31 – Nov 4	Module 14: Fluid Mechanics	Ch 14	HW12
12	Nov 7 – 11	Module 15: Oscillatory Motion	Ch 15	HW13
13	Nov 14 – 18	Module 16: Wave Motion	Ch 16	HW14
14	Nov 28 – Dec 2	Module 17: Superposition and Standing Waves	Ch 17	HW15
	As scheduled by Registrar's office	Final Exam	Comprehensive	

Grading Policy

Description	Point / Percentages
Homework Assignments	30%
Midterms (2)	30%
Final (Comprehensive)	30%
Class Participation (+ In-class activities)	10%
Total	100%

Grades will be posted in the Grade Center on Canvas. Class participation is mandatory. No extra credits will be awarded in this course.

Letter Grade Assignment

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Letter Grade	Percentage
A	90-100 %
B	80-89 %
C	70-79 %
D	60-69%
F	0-59%

Viewing Grades in Canvas

Points you receive for graded activities will be posted to the FAMU Canvas Grade Book. Click on the My Grades link on the left navigation to view your points.

Your instructor will update the online grades each time a grading session has been complete-typically 5-7 days following the completion of an activity.

Course Policies

Etiquette (relevant also for online activities including emails to instructor)

1. **Respect others and their opinions.** Students from very different backgrounds come together to learn. It is important to respect their feelings and opinions even when they are quite different from your own.
2. **Watch your language and tone carefully.** When you are communicating online, you must rely solely on words to get your point across. The other person cannot see your facial expression or hear your tone of voice, so things like sarcasm and humor often don't come across very well. That is why it's important to take your time, choose your words carefully, and be as straightforward as you can.

3. **Consider people's privacy.** Always ask for permission before you forward someone's email messages to somebody else, and if you do reuse somebody else's words (with their permission), make sure to acknowledge them appropriately. Keep in mind that all private email mail is considered copyrighted by the original author.
4. **Avoid inappropriate material.** It is tempting to forward messages you find clever or links to websites you find entertaining to classmates. If they are not directly relevant to the course, please do not do this, especially if the material is sexually suggestive, politically sensitive, or otherwise "edgy." Same goes for frivolous "joke" emails and chain messages. This is not the place for it.
5. **Be forgiving.** If someone writes something that you find offensive, mention it directly to the instructor. He or she is best equipped to address the situation. Remember that the person contributing to the discussion might be new to this form of communication. What you find offensive may have been unintended.
6. **Be concise.** When you are contributing to a discussion, be as brief as you can to get your point across. Adding a lot of unnecessary words just makes your message less clear. Try to stick to the point and not go off on irrelevant tangents.
7. **Read first, write later.** Do not add your comments to a discussion before reading the comments that are already there. And if you are responding to a previous comment, always make clear which comment you are responding to.
8. **DON'T TYPE IN ALL CAPS OR USE EXCESSIVE PUNCTUATION!!!!!!** Most people find this annoying, and you may not be communicating your thoughts effectively.
9. **Think before you hit the send button.** Learning to be your own editor is a difficult and important skill. Think carefully about the content of your message before you send or post it. Once you push the button, there is no taking it back. Grammar and spelling errors reflect badly on you, and misspelled words or poorly constructed sentences can make it hard to decipher your meaning accurately.

Attendance/Participation

Attendance is mandatory. It is the University's policy that at four unexcused absences, the student can receive a failing grade. In this course, students learn a lot from their interactions with each other and with me while working collaboratively. However, I know that extenuating circumstances may arise that make it difficult to attend every class. If you cannot attend class or take an exam, please inform via email. If circumstances make you miss more than three (3) classes, you may be overextended and, in that case, you may consider dropping the class in accordance with the University attendance policy.

Students are expected to participate in all class activities as listed on the course calendar. You are required to access this course at minimum of four times a week. Both synchronous (class meetings) and asynchronous (assignments, chats and discussions) have been designed to ensure that your participation within this course is frequent. Please refer to the announcements and Course Calendar for details and updates.

Attendance Holds

The attendance is recorded by Canvas. Also, attendance consists of logging into Canvas regularly and completing your assignments. Your instructor may require completion of certain activities such as quizzes and discussion forums before you can be marked as attending class. A record of class participations will be also kept.

Assignments

Lecture and Recitation

The class meetings consist of lecture, demos, discussion, and group activities. Students are expected to logon to Canvas regularly to view content and complete assignments. You will sometimes be asked to solve problems and you will turn in your solutions online for participation credit. Class attendance and participation count as part of your overall grade (10%).

Reading Assignments

Reading assignments from the textbook via Canvas or Cengage, will be listed in the Schedule. Completion of these assignment count towards the Class Participation grade.

Homework

Homework (HW) is posted on Cengage Webassign. Please ensure access to homework by purchasing the subscription on time at the beginning of the semester. HW assignments are due on the dates as specified in course pages in Cengage as well as Canvas. Students are encouraged to discuss the HW in groups, however, copying the answers directly from other students is not permitted. HW is worth 30% of your final grade. If you experience any problems accessing the online homework, please contact your instructor immediately. Additional exercises may be posted depending on your progress in the course.

Exams

There are two midterm exams and one comprehensive final exam to test the students' comprehension of the course material. Tentative dates for the exams are given in the schedule. Any change of the exam dates will be announced via Canvas announcements. There are no make-up exams for any absences! These include officially excused absences, e.g., illness, bereavement, or school business.

No student can start the exam 20 min after the exam opens on Canvas.

Cheating on an exam will result in a grade of zero for that exam and may lead to further disciplinary actions! You are required to use the Lockdown browser and/or follow any other additional procedure that is stipulated during the exam.

Late Work Policy

Be sure to pay close attention to deadlines—there will be no make-up assignments or quizzes, or late work accepted without a serious and compelling reason and instructor approval. Please note the penalties for late submissions. Typically, 10% of the grade is deducted for the delay of each day until the student's grade reaches 40%.

Dropping This Course

It is the student's responsibility to understand when they need to consider dropping a course. Refer to the FAMU Course Schedule for dates and deadlines for registration. After this period, a

serious and compelling reason is required to drop from the course. Serious and compelling reasons includes: (1) documented and significant change in work hours, leaving student unable to attend class, or (2) documented and severe physical/mental illness/injury to the student or student's family.

Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if supporting documentation is submitted. All incomplete course assignments must be completed within the first five weeks of the next semester.

Academic Honesty/Plagiarism

Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All assignments must be original work, clear and error-free. All ideas/material that are borrowed from other sources must have appropriate references to the original sources.

Students who are found to have cheated by copying, plagiarizing, or utilizing unauthorized sources or external help in any manner in completing any assignments or examinations for this course will receive a grade of zero on that assignment or exam. A second offense will result in a grade of "F" for the entire course.

FAMU's Academic Honesty Policy & Procedures

Florida A&M University is committed to academic honesty and its core values, which include scholarship, excellence, accountability, integrity, fairness, respect, and ethics. These core values are integrated into this academic honesty policy. Being unaware of the Academic Honesty Policy is not a defense for violations of academic honesty. Additional detail on FAMU Academic Honesty Violations are provided in University Policy 2.012 (10.) (s). If you have any questions, please see your Academic Advisor.

Policy Statement on Non-Discrimination

It is the policy of Florida Agricultural and Mechanical University to assure that each member of the University community be permitted to work or attend classes in an environment free from any form of discrimination including race, religion, color, age, disability, sex, marital status, national origin, veteran status and sexual harassment as prohibited by state and federal statutes. This shall include applicants for admission to the University and employment.

University Americans with Disabilities Act (ADA) Statement

The Florida A&M University Americans with Disabilities Act (ADA) Policy Statement states that "Individuals who need a reasonable accommodation must notify the Office of Equal Opportunity Programs at 599-3076." It is the responsibility of the FAMU Equal Opportunity Programs (EOP) Office, through the ADA Coordinator, to ensure the Florida A&M University is in compliance with the Americans with Disabilities Act. If you have any questions, please contact your Academic Advisor or the University EOP Officer, Equal Opportunity Programs, 674 Gamble Street, Tallahassee, FL 32307, (850) 599-3076.

Accommodations

If you have a documented disability and verification from the [Center for Disability Access and Resources](#) (CEDAR) and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to CEDAR and meet with a CEDAR counselor to request special accommodation *before* classes start.

CEDAR is located at 667 Ardelia Court, Tallahassee, FL 32307 and can be contacted by phone at 850.599-3180.

Disclaimer: This syllabus is intended to provide student guidance on the type of content and activities that will be covered in this course throughout the semester. It will be followed to the extent possible. However, modifications may be made to supplement and/or enhance student learning.