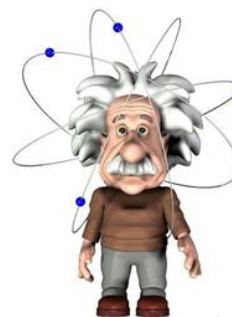


Physics 2A: General Physics I Syllabus

Reedley College – Spring 2023



Course Description:

This physics course covers Newtonian mechanics, properties of fluids & solids, harmonic (spring) motion, thermodynamics, and waves including sound.

Lectures: Mondays & Wednesdays 1:00 PM – 2:15PM in PHY 75 at Reedley College

Audio recording of many lectures will be uploaded to Canvas.

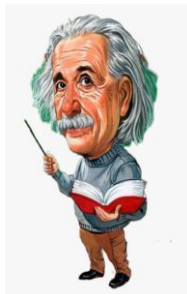
.pdf files for all lecture material will be uploaded to Canvas AFTER the lecture is given.

Labs: Fridays 1:00 PM – 3:50PM in PHY 70 at Reedley College

Contact Information:

Instructor Name: Mike Bisset

Email: mike.bisset@reedleycollege.edu



Office Hours:

Wednesdays 4:10PM - 4:50pm in PHY 70 or 75

Fridays 4:10am - 4:50pm in PHY 70 or 75

Tuesday, Thursday 11:00am - 12:00pm via Zoom – more info TBA

I am also available to meet with you, either in person or on-line by appointment.

You need to reach out to me, and then we will definitely schedule time.

Required Course Materials:

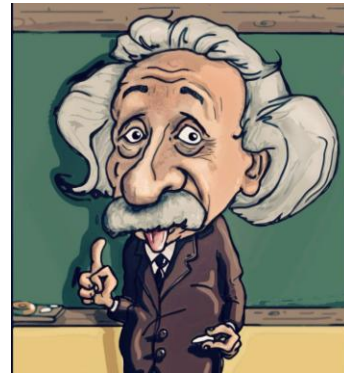
- TEXTBOOK: Open Stax – College Physics,
ISBN-10: 1-947172-01-8, ISBN-13: 978-1-947172-01-2
 - **THIS TEXTBOOK IS AVAILABLE FREE ONLINE:** [College Physics - OpenStax](https://openstax.org/r/college-physics)
- Calculator (graphing or non graphing)

Prerequisites: Math 4A

Advisories: English 1A or 1AH

Student Learning Outcomes:

In this course, students will -



- Apply algebra and trigonometry to solve physical problems in topics such as:
 - Kinematics
 - Vector quantities
 - Newton's laws
 - Conservation of energy and momentum
 - Mechanical waves
 - Thermodynamics
- Apply knowledge in the areas of mechanics, properties of matter, heat, sound and waves in other science-related courses.

Calendar:

- January 16th – Martin Luther King, Jr. Day, no classes held
- January 20th – Last day to drop a Fall 2022 full-term class for full refund
- January 27th – Last day to drop a Fall 2022 full-term class in person to avoid a "W"
- February 17th – Presidents' Day, no classes held
- March 10th – Last day to drop a full-term class
- April 3rd - 7th – Spring Recess, no classes held
- May 15th - 19th – Finals week

Exams:

There will be three midterm exams (each worth **10%** of the overall grade) and one final exam (worth **25%** of the overall grade).

The exams will be held during lab hours.

The exams contribute **55%** of your semester grade, so they are very important to prepare for.

Makeup exams will be given **with pre-approval only**.

Further details will be given during the semester.

Homework:

Homework is **20%** of your semester grade.

Homework assignments with due dates will be posted on Canvas.

Completed assignments will be turned in on due dates at the start of lab.

Late homework will be accepted with a 30% reduction in score.

Laboratory:

This class has a lab that is **mandatory**. The lab scores make up **25%** of your grade.

There will be one online make-up lab available at the end of the semester.

I will drop your lowest lab score.

Missing 2 or more labs will significantly reduce your grade. Make plans to attend every lab session if possible!

There will be quizzes given at the start of **some** labs related to topics covered in the previous lab experiment. Scores of these quizzes are included in your lab score.

Grading Policy:

I do curve-grade, so the scores on the exams may not tell you exactly what your final score will be.

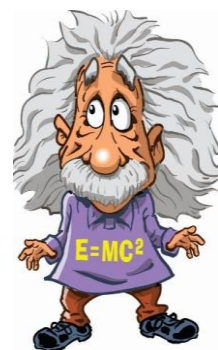
After each test, I will display a score distribution for that exam, and tell you what it means.

Basically, things only go up, not down.

Category	% of Class Grade
Midterm Exams	30% (10% each)
Homework	20%
Labs, incl. quizzes	25%
Final Exam	25%

STUDENT SUCCESS:

- Technology Support:
<https://www.reedleycollege.edu/campus-life/technology-help.html>
- Tutoring Services:
<https://www.reedleycollege.edu/academics/tutoring-services/index.html>
- COVID-19 information is uploaded to the Reedley College site:
<https://www.reedleycollege.edu/covid-19/index.html>
- DSPS contact information:
 - Hours: Monday – Friday 8:00 am – 5:00 pm
 - Phone: 559-638-0332
 - See more DSPS information here: <https://www.reedleycollege.edu/student-services/disabled-student-programs-and-services/index.html>



Very special thanks to Kurt Shults

who provided me with the template upon which this syllabus is based!

Tentative Schedule for Physics 2A Spring 2023

Week		Date	Chapter	Lecture #	Subject	Homework
1	M	Jan. 9	1	1	What are science & physics?	
1	W	Jan. 11	1	2	Units, accuracy & precision	
1	F	Jan. 13	--		No lab 1 st week	
2	M	Jan. 17	--		HOLIDAY MLK B-day	
2	W	Jan. 19	2	3	1-D kinematics	
2	F	Jan. 21	--		LAB 1 Measurements	
3	M	Jan. 24	2	4	Falling objects	
3	W	Jan. 26	3	5	2-D kinematics, vectors	
3	F	Jan. 28	--		LAB 2 Graphing	
4	M	Jan. 30	3	6	Projectile motion	
4	W	Feb. 1	4	7	Newton's 3 Laws	SET #1 due
4	F	Feb. 3	--		LAB 3 Projectile motion	
5	M	Feb. 6	4	8	Forces	
5	W	Feb. 8	1-4	9	REVIEW	
5	F	Feb. 10	1-4		*** EXAM #1 ***	
6	M	Feb. 13	5	10	Friction, drag	
6	W	Feb. 15	5	11	Elasticity	
6	F	Feb. 17	--		HOLIDAY Prez Day	
7	M	Feb. 20	6	12	Circular motion, fictitious forces	
7	W	Feb. 22	6	13	Gravity	
7	F	Feb. 24	--		LAB 4 Vector addition	
8	M	Feb. 27	7	14	Work-energy	
8	W	Mar. 1	7	15	Conservation of energy	SET #2 due
8	F	Mar. 3	--		LAB 5 measuring friction	
9	M	Mar. 6	8	16	Momentum	
9	W	Mar. 8	8	17	Rockets	
9	F	Mar. 10	--		LAB 6 ballistic pendulum	
10	M	Mar. 13	9	18	Statics	
10	W	Mar. 15	9	19	Torques	
10	F	Mar. 17	--		LAB 7 determine g w/inclined plane	

Tentative Schedule (continued)

Week		Date	Chapter	Lecture #	Subject	Homework
11	M	Mar. 20	10	20	Rotational motion	
11	W	Mar. 22	10	21	Angular momentum	
11	F	Mar. 24	7-10		LAB 8 Center of Mass	
12	M	Mar. 27	16	22	Harmonic Motion	
12	W	Mar. 29	7-10	23	REVIEW	SET #3 due
12	F	Mar. 31	7-10		*** EXAM #2 ***	
13	M	Apr. 10	16	24	Waves	
13	W	Apr. 12	17	25	Sound, Doppler, Hearing	
13	F	Apr. 14	--		LAB 9 Simple harmonic motion	
14	M	Apr. 17	17	26	Music	
14	W	Apr. 19	11	27	Fluids, hydrostatics	
14	F	Apr. 21	11,12	28	lecture, hydrodynamics, NO LAB	
15	M	Apr. 24	13	29		
15	W	Apr. 26	16,17,11, 12	30	REVIEW	
15	F	Apr. 28	16,17,11, 12		*** EXAM #3 ***	
16	M	May 1	13	31	Temperature, gas laws	
16	W	May 3	14	32	Heat	
16	F	May 5	--		LAB 10 Calorimetry	
17	M	May 8	14-15	33	Heat, thermodynamics	
17	W	May 10	15	34	Thermodynamics	SET #4 due
17	F	May 12	15 + review		Lecture, NO LAB	
18	M	May 15	--		FINALS WEEK	
18	W	May 17	--		FINALS WEEK	
18	F	May 19	--		FINALS WEEK	

I strongly suspect that we may fall behind this somewhat ambitious schedule.

This view is based on part on discussion with other professors who have taught here before me.

Then I will scale back the schedule accordingly.

Academic Dishonesty

Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.

CHEATING

Warning: I am strongly disturbed by cheating. It is simply NOT worth it!!!!

Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely. 48 Administrative Policies 2022-2023 Reedley College Catalog

PLAGIARISM

Plagiarism is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on the particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents

Important Notes:

- Any student needing accommodations should inform the instructor. Students with disabilities who may need accommodations for this class are encouraged to notify the instructor and contact DSPS early in the semester so that reasonable accommodations may be implemented as soon as possible. All information will remain confidential.