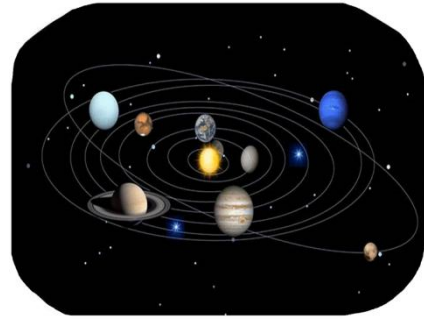




Astronomy 10 Syllabus

Reedley College – Spring 2023



Course Description:

An introduction to the astrophysics of the solar system, stars, the interstellar medium, the galaxy, and the universe, as determined from a variety of astronomical observations and models. This will include a look at the history of our understanding of the cosmos, and a description of the relevant physics laws involved. The focus will be conceptual, but occasionally some quantitative aspects will be covered.

Lectures: Monday 4:00 PM – 6:50 PM

Wednesday 5:00 PM – 6:50 PM

... in PHY 70 at Reedley College

Audio recording of many lectures will be uploaded to Canvass.

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

Labs: will be held during part of the class time on some Mondays

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 – Astronomy,
ISBN-10: 1-938168-28-3, ISBN-13: 978-1-938168-28-4
 - **THIS TEXTBOOK IS AVAILABLE FREE ONLINE:**
<https://openstax.org/details/books/astronomy>

Prerequisites: none

Advisories: English 1A or 1AH

Student Learning Outcomes:

In this course, students will become familiar with the following phenomena:

- Solar system
- Stars
- Galaxies
- Cosmology
- Telescopes
- Radiation & optics

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 two midterm exams (each worth **20%** 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 **65%** 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 **15%** 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 exercises that are **mandatory**. The lab scores make up **20%** 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.

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. Near the end of the semester, I will offer some means of making up some points if a student has done poorly on some item (exams, homework, labs).

Category	% of Class Grade
Midterm Exams	40% (20% each)
Homework	15%
Labs, incl. quizzes	20%
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

This schedule *may* be too ambitious! We may go slower.

I have NOT listed homework assignments. I will add these as the course goes on.

Week		Lecture #	Date	Chapter	Subject	LAB
1	M	1	Jan. 9	1	Survey of the cosmos	
1	W	2	Jan. 11	1,2	Celestial sphere, constellations	
2	M	--	Jan. 16	--	HOLIDAY MLK B-day	
2	W	3	Jan. 18	2,3	Ptolemy, Copernicus, Kepler	
3	M	4	Jan. 23	3,4	Newton, tides	1 Measurement
3	W	5	Jan. 25	4	Earth, Moon, and Sky	
4	M	6	Jan. 30	5	Radiation and Spectra	2 Observations
4	W	7	Feb. 1	6	Astronomical Instruments	
5	M	8	Feb. 6		REVIEW Chs. 1-6	
5	W		Feb. 8		Midterm EXAM #1	
6	M	9	Feb. 13	7,8	Solar System, Geophysics	3 Math Practice
6	W	10	Feb. 15	8,9	Moon & Mercury	
7	M	11	Feb. 20	10	Venus & Mars	4 Mystery Constellations
7	W	12	Feb. 22	11	Jovian worlds	
8	M	13	Feb. 27	12	Rings, Moons and Pluto	5 Motion of the Moon
8	W	14	Mar. 1	13	Comets & Asteroids	
9	M	15	Mar. 6	14	Origin of the Solar System	6 Solar System Scale
9	W	16	Mar. 8	15	The Sun	
10	M	17	Mar. 13	16	Nuclear processes in the Sun	7 Solar system – online
10	W	18	Mar. 15	17,18	Stellar phenomena, H-R Diagram	
11	M	19	Mar. 20		REVIEW Chs. 7-16	
11	W		Mar. 22		Midterm EXAM #2	
12	M	20	Mar. 27	19,20	Distances, interstellar medium	8 Kepler's Laws
12	W	21	Mar. 29	21	Baby stars, exoplanets	
13	M	22	Apr. 10	22	Old stars	9 Chemical Fingerprints
13	W	23	Apr. 12	23	Novae, supernovae	
14	M	24	Apr. 17	24	Black holes	10 Observation of Sun
14	W	25	Apr. 19	25	Milky Way	
15	M	26	Apr. 24	26	Galaxies	11 H-R Diagram & blackbody
15	W	27	Apr. 26	27	Active Galaxies & Quasars	
16	M	28	May 1	28	Dark Matter	
16	W	29	May 3	29	Big Bang	
17	M	30	May 8	30	Life in the Universe	
17	W		May 10		REVIEW	
18	M		May 15	--	FINALS WEEK	
18	W		May 17	--	FINALS WEEK	

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.