

ASTR 1010 Syllabus
Astronomy of the Solar System
CRN 25816
University of Georgia, Fall 2017

Instructor Information:

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Basic Class Information

- MWF 11:15-12:05 PM (Period 4) : Room 202
- Final Exam: Mon., Dec. 11 12:00 - 3:00 pm
- Office Hours: Thursdays 3:00-5:00 PM (otherwise TBD)

Introduction

Welcome to ASTR 1010. This course is a general introduction to solar system astronomy for non-science majors. The principal goals of the course are to give you an idea of how a physical science like astronomy works and to introduce you to some of the latest discoveries about the solar system. Some of the topics we will cover are: our place in the Universe, the celestial sphere, the calendar, the physics of motion and gravity, the formation of the solar system, basic geology of the terrestrial planets, terrestrial planet atmospheres, the Jovian planets, and the smaller objects in the solar system. We will examine these things at an introductory level, but in enough detail to give you an understanding of each topic at a level that a well-educated person in the 21st century should have.

Note: Astronomy is a quantitative science. As such, we will treat many of the topics quantitatively using mathematics at the level of high-school algebra. We will also use a little bit of trigonometry but no calculus. I will expect you to be able to handle numerical problems involving simple algebraic equations and scientific notation, both on the homework and on the exams. Thus, you will need a scientific calculator for this course.

Required Course Materials

- *21st Century Astronomy: The Solar System*, 5th Ed., Kay, Palen, and Blumenthal, Norton, 2016.
 - You can use the e-text version
- A *simple scientific calculator* for exams, which must be *non-programmable and non-graphing*. Calculator graphing, algebra solving, or programming functions will NOT be permitted on the exams. Cellphones will not be allowed during exams.
- Homework assignments will be performed online using *SmartWork* (Accessible once you have the registration code in the book)
- Please check your *UGA email* daily. The UGA email system will be used (infrequently) for announcements.

Optional Course Resources

- The eLearning Commons (<http://www.elc.uga.edu/>) will serve as a repository for homework solutions, grades, practice problems, and tutorials.
- *Tutoring*: Department of Physics and Astronomy has a list of tutors available (<http://www.physast.uga.edu/tutors/>), otherwise visit the UGA Tutorial Program in Milledge Hall.
- If you cannot come to my regular office hours, or need additional help, please set up an appointment (by email, by phone, or in person) to see me outside of class. For email correspondence, include your class and time in the subject line.

Grading Policy

Your overall grade will be weighted as follows:

25%	Cumulative final exam grade
50%	Three in-class exams (best 3 out of 4)
25%	Homework grade

Letter grades will be assigned following:

A	93.0 – 100.0
A-	90.0 – 92.99
B+	86.0 – 89.99
B	83.0 – 85.99
B-	80.0 – 82.99
C+	76.0 – 79.99
C	73.0 – 75.99
C-	70.0 – 72.99
D	60.0 – 69.99
F	less than 60.0

Re-grade requests:

Any requests for a re-grade of an assignment or an exam must be made no later than one week after the item is returned. Keep in mind that for me to perform a re-grade I will look at the entire assignment/exam, not just one problem, and it may raise *or lower* your score. Arithmetic errors in adding up points will be handled separately. Re-grade requests should be accompanied by all your work.

Make-up Exams:

If you must miss an exam for a serious, documentable reason, then you must notify me in advance either in person or via email. You must also provide documentation for your absence within one week of the date of the missed exam. These rules *do not* apply to the Final Exam. If you have not notified me in advance or you have not provided documentation of your reason for missing the exam, then your score for the missed exam will be a zero.

Withdrawal and Incomplete:

The Undergraduate Bulletin and the Registrar's Office website describe the University policies regarding withdrawals and incomplete (<http://reg.uga.edu/policies/withdrawals>). If you don't complete

the initial required administrative tasks of the course (e.g. the questionnaire), or are demonstrably not attending class and completing work, you may be withdrawn from the class for “excessive absence”.

A grade of Incomplete is not appropriate for a student who has missed a large portion of the course assessments, for whatever reason.

The *Withdrawal Deadline* is October 19, 2017.

Exam Policy

There will be four exams and a cumulative final exam. The best three out of four scores will be used towards your final grade in addition to the cumulative final exam grade. Exams will be closed-book and closed-notes. The format for exams will be multiple-choice and true-false with a few short answer questions. Occasionally, exam questions will require a quantitative answer and so an algebraic calculation means simple, scientific calculators will be allowed (as documented in the required course materials section). A programmable calculator will not be allowed during an exam. Calculator applications on cell phones will also not be allowed.

Classroom Policy

We would like to have a constructive learning environment and so the atmosphere must be free from distractions and disruptive behavior. Please make a reasonable attempt to arrive on time and refrain from packing up your things and leaving early. If you must leave before class ends, use the exits at the top/back of the lecture hall. Laptops, cell phones, and tablets may be useful for taking notes, however, they can be distracting when used for social media sites, shopping, checking email, or playing games. Be mindful and respectful of those around you.

Homework Policy

You are responsible for the material covered for homework. I cannot emphasize enough the importance of doing the homework. It will not only allow you to work through the material and practice using the ideas, but it will strengthen your understanding of concepts that may prove challenging. Should you get stuck or have difficulty with the problems, I will be happy to discuss them with you during office hours. You are also encouraged to work with your fellow students, but be aware of the difference between teamwork and plagiarism. If you have read this far into the syllabus, enter “*stellar*” in question number 8 (Additional Comments) of the introductory survey for one point extra credit applied to your first homework grade.

Student Responsibilities

- Arrive on time to class and do not distract your fellow classmates. You are responsible for all announcements made during class.
- You are responsible for all topics covered in class, in the book, and on homework assignments. Do all the homework assignments.
- You are strongly encouraged to read the material that is to be covered in class ahead of time. If the schedule changes, then those changes will be announced in class.

- Know the rules concerning withdrawals and incompletes, published in the UGA undergraduate Bulletin.
- Maintain “A Culture of Honesty” (see below).
- Attend laboratory meetings (if you are enrolled).
- Ask me if you don’t understand **anything**. There are no dumb questions. Be curious!

Academic Honesty

The University of Georgia has a comprehensive policy on academic honesty, described in a document entitled A Culture of Honesty. This document is available through the Office of the Vice President for Instruction or online at <https://ovpi.uga.edu/academic-honesty>. This policy covers all academic work.

As a UGA student, you are responsible for knowing and understanding this policy. If you have any question about the appropriateness of your actions or your work, you are obligated to ask me for clarification.

I take the issue of academic honesty very seriously, and it is my responsibility to uphold the University’s policy. This means, among other things, that I won’t hesitate to report my suspicions of dishonesty to the Office of the Vice President for Instruction. Typical consequences of cheating on homework or an exam range from receiving a zero for that grade, to failing the course.

Tentative Class Schedule

Any modifications to this schedule will be announced during class. Be prepared for class by reading the assigned chapter before class.

Date (Day)	Chapter and Topic
Aug. 14, 16, 18 (MWF)	Introduction, Chapter 1, 2 – Celestial Sphere, Eclipses
Aug. 21 (M)	No Class – Try to view the Solar Eclipse
Aug. 23, 25 (WF)	Chapter 2 – Patterns in the Sky
Aug. 28, 30, Sept. 1 (MWF)	Chapter 3, 4 – Motions of Astronomical Bodies
Sept. 4 (M)	No Class – Labor Day
Sept. 6, 8 (WF)	Chapter 4 – Newton’s Laws and Orbits EXAM Friday, September 8, 2017 – Chapters 1-4
Sept. 11, 13, 15 (MWF)	Chapter 4, 5 – Tides, Light
Sept. 18, 20, 22 (MWF)	Chapter 6 – Tools of the Astronomer
Sept. 25, 27, 29 (MWF)	Chapter 7 – The Birth and Evolution of Planetary Systems EXAM Friday, September 29, 2017 – Chapters 4-6
Oct. 2, 4, 6 (MWF)	Chapter 7, 8 – The Terrestrial Planets and Earth’s Moon
Oct. 9, 11, 13 (MWF)	Chapter 9 – Atmospheres of the Terrestrial Planets
Oct. 16, 18, 20 (MWF)	Chapter 10 – The Giant Planets
Oct. 23, 25 (MW)	Chapter 11 – Planetary Moons and Rings EXAM Wednesday, October 25, 2017 – Chapters 7-10
Oct. 27 (F)	No Class – Fall Break
Oct. 30, Nov. 1, 3 (MWF)	Chapter 11, 12 – Dwarf Planets and Small Solar System Bodies
Nov. 6, 8, 10 (MWF)	Chapter 12, 14 – Our Star, The Sun
Nov. 13, 15, 17 (MWF)	Chapter 14 – The Sun
Nov. 20-24 (M-F)	Thanksgiving Break – Have a good holiday!
Nov. 27, 29, Dec. 1 (MWF)	Chapter 24 - Life EXAM Friday, December 1, 2017 – Chapters 11-14, 24
Dec. 4, 5 (MT)	TBD

Cumulative Final Exam: Monday, December 11 12:00 - 3:00 pm