Course Syllabus

Course Overview

Course Code and Semester: Astronomy 1, Class Number 30834, Summer 2020

Course Description: Introduction to the universe and insight into its mysteries: Development of modern astronomy, light, astronomical instruments, a brief survey of the solar system, the Sun, the stars, novas and supernovas, neutron stars, black holes, galaxies, and cosmology. (Satisfies CoA AA/AS area 1; CSU area B1; IGETC area 5A. Not open for credit to students who have completed or are currently enrolled in ASTR 10, as the two courses are substantially same.)

Recommended Preparation: Math 201 (elementary algebra) or Math 202 (geometry)

Who should take this course?

- Non-science major students who need to satisfy a physical science *without lab* requirement.
- Students who are interested in science, including history of science as it relates to astronomy and our current knowledge about the universe.

IGETC and CSU GE requirements require one laboratory course between physical and life sciences. If you plan to take a life science course with lab, this lecture-only course can meet your transfer requirements. As always (and especially outside of UCs and CSUs), please check with your transfer institution, to ensure that this course meets the requirements of their program.

Student Learning Outcomes

At the completion of this class, students will be able to:

1. Differentiate between planets, stars, galaxies, and the universe in terms of scale.
2. Explain and discuss basic astronomical phenomena, including the seasons, the phases of the Moon, eclipses, and planetary motion.
3. Explain and discuss the origin, development, and properties of planetary systems, stars, galaxies, and the universe.
4. Explain how theories in astronomy are based on observations.

Instructor Information

Hi! My name is **Andrew Park** (https://alameda.peralta.edu/andrew-park/). The best way to contact me for course-related matters is through Canvas **Conversations** tool (for non-course matters, the best way is by email: **bpark@peralta.edu** (mailto:bpark@peralta.edu)). You will hear from me regularly throughout the semester, usually through the **Course Announcements**. If you need to talk (rather than write) to me, please see office hour information below.

Office Hours

Details to be determined in the first few days of class. I plan to make two different types of online office hours available:

- **Online virtual class session**: this will be held at a regularly scheduled and announced time (connection information available through Canvas). I typically cover some prepared course material; most of the session is recorded and made available to students who could not attend in real-time.
- **Office hours by appointment**: some general availability will be set aside and made available. Students need to sign up for an appointment (with some advance notice, about 12 hours) in order to make use of these office hours.

Course Materials

Great News! Your course material is free! All necessary course materials are provided free of charge digitally. We are using OpenStax *Astronomy*. The access information for the textbook is available on **OpenStax.org** (https://openstax.org/details/books/astronomy).

Your other course materials, including homework assignments and lecture slides, are available on the course Canvas site.

Important Notes

Modules

The course is divided into six modules, briefly described below:

- **Module 1: History of Astronomy** (**OpenStax Astronomy** reference chapters 2 and 3)
- **Module 2: Tools of Astronomy** (**OpenStax Astronomy** reference chapters 1, 3, 4, 5, and 6)
- **Module 3: The Solar System** (**OpenStax Astronomy** reference chapters 7, 8, 9, 10, 11, 12, 13, and 14)
- **Module 4: Life Cycle of a Star** (**OpenStax Astronomy** reference: selected sections from chapters 14 through 24)
- **Module 5: The Milky Way, and other galaxies** (**OpenStax Astronomy** reference: selected sections from Chapters 18 through 28)

- **Module 6: The Big Bang Cosmology** (**OpenStax Astronomy** reference chapters 26, 27, 28, 29, and 30)

The reference chapters and sections may change; inclusion/exclusion of certain topics may vary each semester. While we won't be covering the whole textbook (the textbook is purposefully "overbuilt" and contains too much content to cover in one semester), for the interested students, everything is available.

Lecture slides, assignments, and occasional course activities and projects will guide what the students are expected to learn in the class. Please note that there are no proctored exams for this class, although there are timed quizzes (more details provided in course).

ADA Accommodation

Students who may need accommodation for their disabilities are encouraged to contact **Disabled Students Program and Services (https://alameda.peralta.edu/dsps)** (available in Room D-117 or by phone, 510-748-2328) as soon as possible in the semester so that reasonable (and *legally mandated*) accommodations may be made. Usual accommodations made include extended exam time and/or transcription service. Most students with a diagnosed learning disability (such as ADHD or ADD) are eligible. If you are not sure whether you are eligible, please check with a DSPS counselor. The details regarding the nature of your disability are confidential and not shared with your instructor.

Instructor's personal note: In my experience, many students who SHOULD HAVE utilized DSPS service do not use them and suffer consequences academically. The goal of DSPS (and ADA in general) is that you should be judged on your ABILITY, not disability. For those students who are eligible, DSPS accommodation is what will help you express your full potential (not a special treatment or something to be stigmatized against).

Talk to a DSPS counselor today; the worst that can happen is they will tell you that you are not eligible and you wasted a little bit of time.

Tutoring and Academic Support

Academic support for College of Alameda courses are available through **Learning Resource Center (https://alameda.peralta.edu/student-service/learning-resource-center/)** .

Tips for Success in Astronomy 1 Online

Follow these advices to maximize your chance of success in this class.

First, here's a little bit on my grading approach. My goal in grading is to reward two things: (1) the effort you put into this class, and (2) your understanding and knowledge of astronomy (and physics). For those just wanting to pass this class, I have a good news: *my goal* is to pass every student who stays engaged with the course to the end of the semester, and the course structure is designed to achieve this goal. **But what about those who want to get a B or an A in this class?**

Here's what I recommend for those who want to put in the effort:

- First, realize that this *online* class requires more self-discipline and integrity, as well as a level of comfort with technology, than face-to-face classes do. Set aside a time to regularly work on the assigned readings and problems, and be proactive in contacting me if you have any issues with Canvas, or any other technologies being used for the class.
- Second, make sure the line of communication is open. Most course announcements are made through Canvas announcement. Check your notification settings to make sure you receive timely notifications (this is demonstrated in the course orientation video).
- Lastly, make use of all the resources being made available in the course. To make up for the lack of face-to-face interactions, lecture videos are posted for key topics and exercises, questions may be posed in graded discussions, and peer-graded essay assignments are designed around multimedia learning material.

I believe it is possible not only for every one in the class to pass but also for everyone to do so with a grade of B or better—all that is needed is for you to have a little bit of self-discipline and to put in a consistent effort.

The Fine Print - Course Policies

Please read on for the full listing of course policy. If you would rather skip it, that is fine; I will remind you of anything that is important.

- **Registration**: After the last day to register for class (check on **Peralta website (https://web.peralta.edu/)** for date), you must be registered in the class in order for you to receive credit. No students can be added after this date.
- **Attendance**: This is an online class and no face-to-face class attendance is required (and few-to-no real-time meetings are required). *However*, students who miss assignments due in the first week will be dropped from class as "no show." Also, the instructor may drop a student if the student misses an excessive number of assignments without excuse. (See pg. 30 of **College of Alameda 2020-2021 catalog (https://alameda.peralta.edu/wp-content/uploads/2020/04/CoA_Catalog_2020_optimized.pdf)** for the college policy on attendance for face-to-face classes, which this is modeled after.)
- **Academic Integrity**: Everything you turn in must be your own work. If you use sources other than those provided in the course, please clearly cite it and give credit where it is due. Allowing another student to copy your own work also constitutes academic dishonesty. Please refer to pg. 305-310 of **College of Alameda 2020-2021 catalog (https://alameda.peralta.edu/wp-content/uploads/2020/04/CoA_Catalog_2020_optimized.pdf)** for the college policy on academic dishonesty and possible disciplinary measures.
- **Honor Code Pledge**: You must complete the honor code pledge (to be completed within the first course module) to continue in this class. In addition, participation in certain activities deemed especially to require honor and integrity on the students' part will be limited only to students who honor their pledge (alternate option will be made available to students who have lost their eligibility).

- **Schedule Subject to Change**: Assignment schedules are subject to change. Any changes will be announced through Canvas, and all efforts will be made to accommodate students.
- **Late Assignments**: All assignments are due on the date noted. Canvas will accept late submissions on essay or discussion assignments (the instructor reserves the right to grade late submissions in appropriate cases). MyOpenMath assignments must be extended using a "late pass." Twelve late passes are given at the beginning of the semester, and each late pass extends a MyOpenMath assignment deadline by 72 hours. Satisfactory progress through the course in a timely manner is required to pass the class.
- **Allowed/Prohibited Items During Timed Assessments (open book)**: Certain assessments are timed and are used similarly as "exams" in face-to-face classes. Following is the description of what you may use and what you may not use during these assessments.
  - Allowed: calculators, foreign language dictionaries, any material that is provided in the context of the course (usually thruogh Canvas), and the means used to access the assessment.
  - Prohibited: any outside help, including but not limited to: (a) an individual providing help during the exam, other than the instructor, (b) external websites, unless they are used purely for calculation function, and (c) external references, either in digital or paper-bound format, other than those allowed above.
- **Holistic Grading Rubric**: A holistic grading scale is used on most subjectively graded items in the course. A brief description of the rubric is below.
  - 5 (out of 5 points possible): "Excellent understanding." The student clearly understands underlying concepts; one or two minor reasoning mistakes can appear on a "5" solution, if they don't lead to larger conceptual errors.
  - 4: "Good understanding." The student understands the main concepts and problem-solving approaches but is missing one major concept, or made one major mistake that may involve conceptual misunderstanding.
  - 3: "Fair understanding." The student remembers some basic concepts but needs to include and integrate several additional major concepts in their reasoning.
  - 2: "Poor understanding." The student mentions some facts and principles from memory or notes that may be relevant but shows little understanding of how they are relevant.
  - 1: "No understanding." The student writes down something that may (or may not) be relevant.
  - 0: "Blank." Blank answers.
- **Course Grading Contract**: This course uses **contract grading** (https://en.wikipedia.org/wiki/Contract_grading) . Please review the "default grading contract" and understand what you need to earn an A, B, or C. Please reach out to the instructor with any questions about the default grading contract or if you wish to amend particular provisions for you, by mutual agreement between you and the instructor.