



## **Introduction to Solar Systems Astronomy Spring 2017**

### **Course Overview**

In this introductory 7.5-week, four-credit lecture and laboratory course, we will explore the origins, structure, contents, and evolution of our solar system and other solar systems. We will also cover aspects of the history of astronomy, gravity, light, and telescopes.

### **Course Learning Objectives and Topics**

By the end of this course you will be able to:

- Describe the origins, structure, contents, and evolution of our solar system.
- Use algebra and order-of-magnitude estimates to obtain quantitative, scientific results.
- Give clear explanations of physical phenomena.

Topics:

Week 1

Our View From The Garden  
Patterns in the Dark Night Sky

Week 2

Waltz Of Our Planets  
The Gravity Of The Situation

Week 3

Catching Planets With A Noose of Light  
Tools Of The Trade

Week 4

Family Portraits  
Origins

#### Week 5

Comparative Planetology  
Classical Gases

#### Week 6

Lords Of The Rings  
Vagabonds Of Our Solar System

#### Week 7

Finding Habitable Worlds  
Interstellar Travel

### Recommended Prior Knowledge

To be successful in this course, we recommend English language fluency, computer literacy, and secondary school-level Algebra.

### Online Course Requirements

This is an online course. The content and learning activities will be found within the edX platform. There will be at least two optional live events through Google Hangout. All course interactions will utilize Internet technologies. It is your responsibility to complete the assigned reading, online homework, laboratory exercises, quizzes, watch the recorded lectures, and ask any questions you have in the discussion area.

### Computer Requirements

**Note:** Potential limitations of internet connectivity by some countries are beyond the control of Arizona State University and may limit the ability of an ID Verified student residing in those countries to complete all the assessments, and therefore potentially impede the eligibility to earn college credit. Students impacted by such limitations should contact [gfa@edx.org](mailto:gfa@edx.org).

This course is best accessed by a reasonably modern browser on a laptop or desktop computer. Several course features will not work effectively on a tablet or mobile phone. Course videos can be accessed using the edX App for iPhone and Android. More information on mobile features can be found at the link that follows here: <https://www.edx.org/mobile>

Students who are interested in taking the course for credit must meet additional computer requirements. Information about these requirements can be found at the link that follows here: <http://clientportal.softwaresecure.com/support/index.php?/Knowledgebase/Article/View/252/0/system-requirements-remote-proctor-now>

All students interested in taking this course for credit must take the Practice Proctored Exam in the Before the Course Begins section of the courseware. This helps ensure that your computer system and study room are compatible with the virtual proctoring software and processes.

## **Reading Materials**

All reading materials will be provided digitally.

## **Course Communications**

Communication will take place in discussion boards and announcements.

## **Course Time Commitment**

Class preparation means completing the assigned readings and reviewing all information required for that week. Attendance in an online course means logging into edX on a regular basis and participating in all of the activities that are posted.

This 7.5-week, four-credit course requires 180 hours of student work. Therefore, expect to spend approximately 20-25 hours per week preparing for and actively participating in this course.

## **Submitting Assignments**

All assignments, unless otherwise announced by the instructor, **MUST** be submitted via edX. Each assignment will have a designated place for submission.

## **Assignment Deadlines**

Late assignments will not be accepted at any point during the course. Using the course schedule, establish your work plan for this course during the first two days that the course is open to ensure you will be able to meet all course obligations.

## **Subject to Change Notice**

All material, assignments, and deadlines are subject to change. It is your responsibility to stay in touch with announcements, connect with your instructor through the discussion boards, review the course site regularly, and communicate with other students.

## **Academic Integrity**

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions, and records. The possible sanctions include, but are not limited to,

appropriate grade penalties, or course failure due to academic dishonesty. For more information, please review the links that follow here: <http://provost.asu.edu/academicintegrity> and <https://www.edx.org/edx-terms-service>

## **Student Conduct**

Appropriate online behavior (also known as netiquette) is defined by the instructional staff and includes keeping course discussion posts focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board posts may be redacted or deleted by the instructional staff.

The following link to edX Terms of Service also provides information about Rules for Online Conduct: [edX Terms of Service](#)

## **Homework**

There are 14 homework assignments, each question will be worth one point. Homework assignments count 17% toward your final grade. You may collaborate on homework assignments in groups.

## **Labs**

There are 7 labs for the course, each question will be worth one point. There is a Discovery Lab quiz within each lab and that entire quiz is worth one point. The Discover Lab quizzes offer the opportunity to develop practical, critical thinking, job skills. Labs will count as 15% of your grade.

## **Outdoor Activities**

There are 3 outdoor activities assigned for the course. These will be self-assessed and you should provide a description and photo of your experiences. These are worth 3% of your grade.

## **Cerego Content Review**

There are 14 interactive content review exercises for the course, two per week. They will count as 5% of your grade.

## **Design Project**

There is a design project worth 100 points that will count as 5% of your total course grade. Weekly readings will help you determine a topic for your design. You will pick a topic as the focus for your design related to one of the course learning objectives listed below:

### Course Learning Objectives:

- Describe the origins, structure, contents, and evolution of our solar system.
- Use algebra and order-of-magnitude estimates to obtain quantitative, scientific results.
- Give clear explanations of physical phenomena.

How you design and develop the project will be your choice. Some suggestions include: paintings, illustrations, sculptures, magazine article, blog post, written report, music, podcast, a video, a book report. The project is due the final week of the course. You will submit the project (by link if it is an external audio, video, or large image file), as a self assessment. In addition, if you would like to share your project, you can include it on the discussion board for peer feedback. Additional information will be provided in the course.

### Quizzes and Final Exam

There are three quizzes, one every two weeks. Quizzes 1 and 3 are open book, but must be completed by you (see the Academic Integrity section). For ID Verified students interested in taking the course for credit, Quiz 2 is proctored. For all students, Quiz 2 is timed, and closed book, this means you must not access any of the course materials or your notes in order to answer questions\*. The quizzes have the same style and content level as the homework. These three quizzes count 30% toward your final grade. You may take a quiz at any time during the window when they are available; however, once you start a Quiz, you will have three hours to complete it.

The final exam is also proctored\* for students choosing the credit eligible path, and timed for all students. The final exam counts 25% toward your grade. The final exam will have the same style and content level as the homework and quizzes. You may take the final exam at any time during the open window; however, once you start, you will have three hours to complete it. Proctoring information will be provided.

\*ID verified students will be prompted to take Quiz 2 and the Final Exam in a proctored environment.

### Course Grading

Item (number)	Weight	Proctored
Homework (14)	17%	No
Labs (7)	15%	No
Outdoor Activities	3%	No
Quiz 1	10%	No
Quiz 2 (Timed - 3 hours)	10%	Yes (ID Verified)

Quiz 3	10%	No
Design Project (1)	5%	No
Content Mastery (14)	5%	No
Final Exam (Timed - 3 hours)	25%	Yes (ID Verified)

**Final grades** are based on the number of points you earn on the homework, quizzes, labs, design project, memory practice, and the final exam. There is no extra credit available. You can see your percentage of the total points to date on your edX progress page.

Final scores will be reported as follows:

A = 90% or higher

B = 80% or higher

C = 70% or higher

There will be no + or - added to grades.

Grades above 70% will result in a pass for the purposes of auditing or ID Verified certificate.

**You must achieve a grade of C (70%) or higher in order to receive credit from ASU on your ASU transcript (should you choose this option).**

### **Student Support**

The link that follows here will take you to the edX Student Frequently Asked Questions page:

<https://www.edx.org/about/student-faq>

### **Disclaimer**

This syllabus is to be used as a guideline only. Information contained in this document such as assignments, grading scales, due dates, and other materials are subject to change. Please refer to your instructor for the most recent version of the syllabus.