

Valencia College Syllabus
Astronomy
AST 1002-20912
Online
Spring 2024

Instructor: Dr. Ivan Padron

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Engagement (Office) Hours

Monday, Tuesday, and Wednesday: 9:30 am to 11:00 am (Building 3, Room 250)

Monday, Tuesday, and Wednesday 8:00 pm to 9:30 pm, Online (Zoom Meeting by appointment)

Thursday and Friday: 8:00 am to 9:30 am, Online (Zoom Meeting by appointment)

Note:

- You can email me or text me at any time. I will answer you as soon as possible.
- Office hours require a 24-hour previous notification to set up the meeting and confirm my availability.

Course Description

This course is designed to teach the basic concepts of Astronomy and assumes no prior knowledge of astronomy or physics. It suits students who do not intend to major in mathematics or science. The course offers a broad survey of modern understanding of the cosmos and how we have gained that understanding. Topics include a general overview of our cosmic address and origins, the scale of space and time, the motion in the universe, an introduction to the major phenomena of the sky, the study of the Earth as an astronomical body, and the physical processes governing the evolution of planetary systems, stars, galaxies, and the universe in general. Much emphasis is on observational evidence, historical tests, and the scientific method. This course fulfills the core requirement of general education science.

Prerequisites: High-school algebra II with a grade of C or better. (or college equivalent)

Course Materials

This course uses Open Education Resources (OpenStax)

<https://openstax.org/details/books/astronomy-2e>

You can find all the information about the course, syllabus, homework assignments, lecture notes, and projects on the **Canvas** class site.

Important Dates

- No-show reporting period: **January 18 to January 27**
- Withdrawal Deadline “W” Grade: **March 15, 11:59 pm.**

Attendance

You must respond to at least one academic activity (for example, assignment, homework, quiz) during the first two weeks to avoid being reported as a no-show. You must be aware that logging into the course **does NOT count as attendance**.

“Students must use a computer with reliable internet access because excuses or failure to complete assessments due to computer error will not be permitted.”

You must access the course every week to complete some weekly activities.

Valencia College Core Competencies

“The faculty of Valencia College has identified four core competencies that define the learning outcomes for a successful Valencia graduate. These competencies are at the heart of the Valencia experience and provide the context for learning and assessment at Valencia College. You will be given opportunities to develop and practice these competencies in this class. The four competencies are:

1. **Think** - think clearly and creatively, analyze, synthesize, integrate, and evaluate in the many domains of human inquiry.
2. **Value** - make reasoned judgments and responsible commitments
3. **Communicate** - communicate with different audiences using varied means
4. **Act** - act purposefully, effectively, and responsibly.”

“Valencia College is committed to providing each student with a quality educational experience. Faculty members have set high standards of instruction for themselves and you. If you have a problem in a class, your first step is to talk to your instructor. If you are still dissatisfied, you may talk with the academic dean of the division for your class. We will work together to resolve any issues that arise.”

Policies and Procedures

This course will follow the College policies and procedures described in the College Catalog at

<https://catalog.valenciacollege.edu/academicpoliciesprocedures/>

Learning Support Services

Valencia offers free services outside of the classroom to assist your learning. The Tutoring Center (7-240) provides math tutoring on a walk-in basis and tutoring for languages, science, business, and many other subjects by appointment. Study rooms are open for reservations, and math materials are available for checkout with your Valencia ID card.

West Campus tutoring schedule:

<https://valenciacollege.edu/students/learning-support/west/tutoring/>.

Valencia College offers a variety of SkillShops seminars covering various topics that deal with student success, goals, and purpose. To check out Valencia’s Skillshop offerings, go to:

<https://valenciacollege.edu/students/student-services/skillshops.php>

Course Design and Organization:

This is a module-based course, meaning that all the information and course activities, such as lecture notes, assignments, homework, quizzes, tests, etc., will be available in each module.

The front page will provide weekly links to the corresponding module and a general information module where you can find important information about the course.

you must complete the modules in sequential order, which means that each module has as a prerequisite the previous module (You cannot open Module 2 without finishing Module 1. Also, each module is designed sequentially, meaning you must open/complete each requirement before moving to the next. Example:

In Module One, you must

- 1- Watch the Introduction video, then:
- 2- Open student introduction assignment (To earn full credit, you need to make one original post and reply to at least two of your classmates); after submitting it, you can:
- 3- Open the lecture notes. After reading it, you can:
- 4- Open the module assignment, after you submit it, you can:
- 5- Open the homework, after you submit it, you can:
- 6- Open and submit the project.

Important information: In homework, tests, and final exam, you can open them many times before the deadline, but you will not be able to go back and change your answer after you submit it. Also, please do not skip questions because the system will take them as blank responses and assign you a zero for that question. If you do not know one particular solution or want to look for the answer, close the assignment and open it again when ready.

The tests and final exams will be time-limited.

Each module will include the following:

- **Lecture note:** covering the main module concepts will include illustrations, graphs, and, in some cases, some problems with solutions.
- **Module assignment:** It will ask you to read lecture notes and textbooks, watch the videos (if available), and write a few paragraphs to summarize the main concepts, definitions, and a list of all formulas with the meaning of each variable. **(This assignment must be handwritten, and if you take pictures with your phone, all photos should be included in a Word or PDF format; individual images will not be accepted)**
- **Homework:** multiple choice, true and false questions.
- **Project:** include class discussions or video analysis about the module topics **(This assignment can be handwritten or typed, but you must submit one document in Word or PDF format.**

Some modules will include videos (when available)

There will be three tests and one final exam. They will include multiple-choice, true and false questions.

Grading Policy

- 1) Module Assignments **20%** of your class grade.
- 2) Homework – **20%** of your class grade.
- 3) Projects – **20%** of your class grade.
- 4) Tests – **25%** of your class grade
- 5) Final Exam – **15%** of your class grade.
- 6) Extra Credit up to **5%**

Grading Scale

- 90 – 100% = A
80 – 89% = B
70 – 79% = C
60 – 69% = D
Below 60% = F

The final grade is the sum of module assignments, homework, quizzes, projects, tests (average of three tests), and final exam categories.

Students who have earned 90% or higher in each grade category by the end of the semester will be exempt from taking the final exam, and a final grade of **A** will be reported.

The grade average for projects, quizzes, homework, and tests will exclude the lower grade. There will be **NO CURVE** for homework, quizzes, projects, tests, or final exams. Neither for the overall grade.

Students can earn extra credit points by completing the course evaluation and class discussions at the end of the semester.

Make-Up Policy for Examinations and All Other Assignments

You are allowed to submit late assignments like Module Assignments, homework, and quizzes, but be aware that you will have a penalty of 5% of the grade every day, so if you wait more than 20 days, the grade will become zero automatically. Students who missed a test due to an excused reason (sickness, death in the family, and other serious reasons) may be allowed to make up and submit them after the deadline. The instructor may request a doctor's note or other documentation to decide whether to enable make-up. ***There will not be make-up for the final exam.***

Expectations and Recommendations

- “Learning is an action verb.” Spend at least one hour every day actively writing or discussing concepts to make them a part of your memory. Then, use the words you learn and associate each idea with your everyday activities.
- Access the course multiple times during the week.
- Read each lecture notes and/or the textbook and watch each available video.
- Try to write each module assignment in your own words and review it during the week.
- Create flashcards related to the main concepts and definitions to help you to master each module.
- Answer each module assignment (module assignment, homework, quiz)
- Make lists of confusing topics from your studying or any homework and quiz questions and email, text, or set up a Zoom meeting with your professor to discuss them.

Your success in this course will depend on your effort and dedication.

Course Schedule

Week 01/08 to 01/14 Module 1

- Student Introduction (Quiz)
- Lecture Notes 1 (**Modern View of the Universe: Basic Astronomical Definitions**)
- Module Assignment 1
- Homework 1
- Quiz 1
- Project 1

January 15 Martin Luther King No classes.

Week 01/16 to 01/21 Module 2

- Lecture Notes 3 (**The Ancient and Modern Astronomy**)
- Module Assignment 2
- Homework 2
- Quiz 2
- Project 2

Week 01/22 to 01/28 Module 3

- Lecture Notes 3 (**Cycle Understanding Motion, Energy, and Gravity. The Motion of the Planets**)
- Module Assignment 3
- Homework 3
- Quiz 3
- Project 3

Week 01/29 to 02/04 Module 4

- Lecture Notes 4 (**Earth's Motions and Moon**)
- Module Assignment 4
- Homework 4
- Quiz 4
- Project 4

Week 02/05 to 02/11 Module 5

- Lecture Notes 5 (**Light, Matter, and Spectra. Telescopes**)
- Module Assignment 5
- Homework 5
- Quiz 5
- Project 5
- **Test 1 (Module 1 to 4) (Wednesday, February 07)**

Week 02/12 to 02/18 Module 6

- Lecture Notes 6 (**Formation of the Solar System**)
- Video (**Formation of the Solar System**)
- Modulo Assignment 6
- Homework 6
- Quiz 6
- Project 6

Week 02/19 to 02/25 Module 7

- Lecture Notes 7 (**The Terrestrial Planes**)
- Video 1 (**Earth**)
- Video 2 (**Mars**)
- Video 3 (**Mercury and Venus**)
- Module Assignment 7
- Homework 7
- Quiz 7
- Project 7

Week 02/26 to 03/03 Module 8

- Lecture Notes 8 (**The Jovian Planets**)
- Video 1 (**Jupiter**)
- Video 2 (**Saturn**)
- Video 3 (**Uranus and Neptune**)
- Module Assignment 8
- Homework 8
- Quiz 8
- Project 8

Week 03/04 to 03/10 Module 9

- Lecture Notes 9 (**Asteroids, Comets, and Pluto**)
- Video 1 (**Asteroids and Comets**)
- Video 2 (**A True Story About Planet Pluto**)
- Module Assignment 9
- Homework 9
- Quiz 9
- Project 9

Week 03/11 to 03/17

- **Test 2 Module 5 to 9 (Wednesday, March 13)**

Week 03/18 to 03/24

- **Spring Break**

Week 03/25 to 03/31 Module 10

- Lecture Notes 10 (**The Sun, Our Star**)
- Video 1 (**The Sun**)
- Module Assignment 10
- Homework 10
- Quiz 10
- Project 10

Week 04/01 to 04/07 Module 11

- Lecture Notes 11 (**Formation and Structures of Stars. The Lives and Deaths of Stars**)
- Module Assignment 11
- Homework 11
- Quiz 11
- Project 11

Week 04/08 to 04/14 Module 12

- Lecture Notes 12 (**Galaxies. The Milky Way Galaxy**)
- Module Assignment 12
- Homework 12
- Quiz 12
- Project 12

Week 04/15 to 04/21

- **Test 3 (Module 10 to 12) (Wednesday, April 17)**
- **Class Discussions (Extra Credits)**

Final Exam (Wednesday, April 24)

Disclaimer Statement

The course syllabus and schedule are subject to change. Students will be informed on Canvas about syllabus and schedule changes. Students are responsible for checking announcements on Canvas.

Your continued participation in this course after the drop-add deadline period is in agreement with and an acceptance of the conditions in this syllabus.