

Astronomy 100 -- *Principles of Astronomy* -- Spring 2019
Imperial Valley College

Instructor: **Dr. Russell J. Lavery**

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Question Hours: Mondays and Wednesdays: 10:00 AM to 11:00 AM

Tuesdays and Thursdays: 11:30 AM to 12:30 PM

Appointments can also be made if you cannot make these office hours. I am usually in my office when I am not in class. You can always come by and check if I am in.

Class Meetings:

CRN	Meeting Days	Meeting Times	Room
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20020	M-W	11:20a – 12:45p	2727
20021	Tu-Th	9:40a – 11:05a	2727
20022	Tu-Th	1:00p -- 2:25p	2727
20023	M	6:30p – 9:40p	2727

Course Description: This course is an overview of Astronomy from the earliest ideas of the heavens to the modern theories of today. As we study the motions of various celestial objects (Planets, Stars, Galaxies, etc.), we will explore both our geometric and evolutionary place in the Universe.

Course Objectives: Aspects of this course incorporate and are designed to improve the five IVC Institutional Student Learning Outcomes skills of the students in this class:

Communication Skills

Critical Thinking Skills

- * Develop the ability to apply the logic of scientific inquiry
- * Use quantitative reasoning to solve problems and to interpret the results.

Personal Responsibility

- * Attend class regularly
- * Complete assignments by due date
- * Do your own work, not copy another assignment

Information Literacy

Global Awareness.

Student Learning Outcomes: With successful completion of this course, the student will be able to:

- comprehend the workings of the seasons around the Earth and their intrinsic cause.
- determine the phases of the Moon based on its location with respect to the Earth and the Sun.
- conceptualize, both in physical size and in time of formation, the differences between the Solar System and the Universe.

Textbook: *Pathways to Astronomy*, by Stephen Schneider & Thomas Arny. (any edition)
ISBN: 987-1-260-01270-5 (5th edition)

OpenStax: <https://openstax.org/details/books/astronomy> (On-line and PDF)

Course Grading:	3 Mid-term Exams (15% each exam)	45% of final grade
	Final Exam	20% of final grade
	Homework Exercises	25% of final grade
	2 Written Assignments	
	5% each	10% of final grade

	TOTAL	100%

Exam Policy: If you miss an exam without prior approval, you **must** e-mail me and/or call me to leave a message **AS SOON AS POSSIBLE!** If you just wait until the next class meeting to talk with me, you will not be allowed to take the exam.

Homework Policy: Late homework (by next class) is worth half credit. No credit after next class. Do your own work! You can work with others, but **DO NOT COPY ANYONE ELSE'S ASSIGNMENT!** Copied assignments will be given **ZERO!** This will be true for ALL involved in copying.

Extra Credit: The **ONLY** form of extra credit is based on quizzes over constellations presented in the planetarium. You must attend the E-C meetings in the planetarium in order to qualify for the extra credit, not just take the quiz. The total extra credit that can be earned is 5% of the overall grade. There are **no projects or papers** for extra credit!

Attendance Policy: Regular attendance is **REQUIRED**; it does **NOT** earn a passing grade. Poor attendance or regularly missed classes will result in being dropped from class.

For M-W and Tu-Th classes, you will be dropped from this course if you miss **THREE (3) consecutive** class meetings!

For Monday evening classes, you will be dropped from the course if you miss **TWO (2) consecutive** class meetings! Roll will be taken **TWICE!**

Classroom Behavior: Politeness is important!! If you yawn, cover your mouth and keep quiet!

Talking while I am presenting course material should be kept at a minimum!
Talking during group exercises and worksheets is required!

The classroom is NOT a lunch room. Water only! No slurping!

Cell phones should be turned off. If your cell phone goes off during an exam, you will be done with the exam and hand it in. So, turn it off!

Coats, backpacks, purses and other such things will be placed on the floor during class. Note-taking material should be on the desk, that's all.

Boyfriend-girlfriend: Hands to yourself. No squeezing during class.
Expect not to sit next to each other during exams and quizzes.

Outside the Classroom: The general guide for a college level course is that students should spend **TWO HOURS** outside the classroom on the course for each hour in the classroom. As this course meets for 3 hours a week, this is **SIX HOURS** per week. If you are not spending at least 3 to 4 hours each week outside the classroom on this course, you are **not meeting your responsibility** as a student in this course. This is **NOT** just time on homework, but means reading, studying and reviewing!

Course Quotation: "The mind is not a vessel to be filled, but a fire to be kindled (ignited)." - Plutarch

"All hope abandon, ye who enter here." From Dante's *Divine Comedy*.

"Ah gravity, thou art a heartless bitch." Sheldon Cooper (TBBT)

Important Withdrawal Dates: Last day to withdraw without W on transcript: Sunday, Feb. 24th.
Last day to withdraw with W on transcript: Saturday, May 12th.

Any student with a documented disability who may need educational accommodations should notify the Instructor and the Disabled Student Programs and Services (DSP&S) Office as soon as possible. The DSP&S Office is in Room 2117 of the Health Sciences Building (355-6312).

Course Webpage: <http://spaces.imperial.edu/russell.lavery/ASTR100/front100.html>

Astronomy 100 -- Spring 2019 -- Mon-Wed Course Syllabus

DATE	SUBJECT	READINGS
Feb 11 M	Introduction	
13 W	Earth and Sky Coordinates	Unit 5
18 M	<i>Holiday</i>	
20 W	Annual Motion of the Sun	Units 6, 7, and 9
25 M	The Reason for Seasons	Units 6, 7, and 9
27 W	Phases of the Moon	Unit 8
Mar 4 M	Solar and Lunar Eclipses	Unit 8
6 W	Early Astronomy I	Unit 10
11 M	Early Astronomy II	Unit 10
13 W	Astronomical Revolution I	Unit 11
18 M	Astronomical Revolution II	Unit 12
	Solar System Overview	Units 34 and 35
20 W	First Mid-Term Exam	
	Planetarium EC	
25 M	The Earth in Detail	Unit 37
27 W	The Moon in Detail	Unit 39
Apr 1 M	Venus and the Greenhouse Effect	Unit 41
3 W	The Outer Satellites	Units 47 and 48
8 M	Pluto and Charon	Unit 48
10 W	Light and Radiation I	Units 22 and 23
15 M	Light and Radiation II	Units 24 and 25
17 W	Second Mid-Term Exam	
	Planetarium EC	
22 M	<i>Spring Break</i>	
24 W	<i>Spring Break</i>	
29 M	Our Friend, the Sun	Units 51, 52 and 53
May 1 W	Basic Properties of Stars	Units 54, 56, 57 and 58
6 M	The H-R Diagram	Units 59, 60, and 62
8 W	Death of Low-Mass Stars	Units 63 and 65
13 M	Death of High-Mass Stars	Units 67 and 68
15 W	Black Holes	Unit 69
20 M	Our Milky Way Galaxy	Units 71, 72 and 73
22 W	Major Questions in Cosmology	Units 74, 77, 79 to 84
27 M	<i>Holiday</i>	
29 W	Third Mid-Term Exam	
	Planetarium EC	
June 3 M	Final Exam Preparation	
5 W	Final Exam	