

# Astronomy 100 -- Principles of Astronomy -- Fall 2016

## Imperial Valley College

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

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**Question Hours:** Monday: 12:50 to 1:50 (Campus Hour)      Tuesday: 11:30 to 12:30  
 (On the Mondays of 9/19, 10/17, and 11/14, hours will be 10:00 to 11:00 am)  
 Wednesday: 12:50 to 1:50 (Campus Hour)      Thursday: 11:30 to 12:30

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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10020	M-W	11:20 – 12:45	2727
10021	Tu-Th	9:40 – 11:05	2727
10022	Tu-Th	2:00 -- 3:25	2727
10023	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: 987-0-07-726311-9 (4<sup>th</sup> edition)

Course Grading:	3 Mid-term Exams (15% each exam)	<b>45%</b> of final grade
	Final Exam	<b>20%</b> of final grade
	Homework Exercises	<b>25%</b> of final grade
	2 Written Assignments	
	5% each	<b>10%</b> of final grade
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	<b>TOTAL</b>	<b>100%</b>

Exam Policy: If you miss an exam without prior approval, you **must** e-mail me or call me and 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, August 28<sup>th</sup>.  
Last day to withdraw with W on transcript: Saturday, November 5<sup>th</sup>.

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 -- Fall 2016 -- Tues-Thursday Course Syllabus

DATE	SUBJECT	READINGS
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Aug 16 Tu	Introduction	
18 Th	Earth and Sky Coordinates	Unit 5
	Annual Motion of the Sun	Units 6, 7, and 9
23 Tu	The Reason for Seasons	Units 6, 7, and 9
25 Th	Phases of the Moon	Unit 8
	Solar and Lunar Eclipses	Unit 8
30 Tu	Early Astronomy	Unit 10
Sep 1 Th	Astronomical Revolution I	Unit 11
6 Tu	Astronomical Revolution II	Unit 12
8 Th	Solar System Overview	Units 32 and 33
<b>13 Tu</b>	<b>First Mid-Term Exam</b>	
	Planetarium EC	
15 Th	The Earth in Detail	Unit 35
20 Tu	The Moon in Detail	Unit 37
22 Th	The Greenhouse Effect	Unit 39
27 Tu	Pluto and Charon	Unit 46
29 Th	The Outer Satellites, Comets	Units 45, 46 and 47
Oct 4 Tu	Light and Radiation I	Units 21 and 22
6 Th	Light and Radiation II	Units 23 and 24
11 Tu	Our Friend, the Sun	Units 49, 50 and 51
13 Th	Basic Properties of Stars	Units 52, 55 and 57
<b>18 Tu</b>	<b>Second Mid-Term Exam</b>	
	Planetarium EC	
20 Th	The H-R Diagram	Units 58, 59, and 61
25 Tu	Death of Low-Mass Stars	Units 62 and 64
27 Th	Death of High-Mass Stars	Units 66 and 67
Nov 1 Tu	Black Holes	Unit 68
3 Th	Our Milky Way Galaxy I	Units 70, 71 and 72
8 Tu	Our Milky Way Galaxy II	Units 70, 71 and 72
10 Th	Dark Matter	Units 73 and 78
15 Tu	Galaxies in the Universe	
17 Th	Cosmology	Units 76, 79, and 80
22 - 24	<i>Thanksgiving Week – No Classes</i>	
29 Tu	Cosmogony	Units 80, 81, and 82
<b>Dec 1 Th</b>	<b>Third Mid-Term Exam</b>	
	Planetarium EC	
6 Tu	Final Exam Preparation	
<b>8 Th</b>	<b>Final Exam</b>	

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