UCIrvine Gifted Students Academy Astronomy

Class Schedule (flexible)

Day	1:15 – 1:45 (Lecture)	1:45 – 2:30	2:30-3:00	3:00 – 3:45
Monday	Intro to the Branches of Astronomy:	Q&A – What do you think and what would you like to learn about?	The Scientific Method applied to Astronomy.	Life in the Universe A 3D Presentation by Dr. Neil Campbell
Tuesday	Astronomical Spectroscopy	Spectroscopy laboratory (could go over the scheduled time) Construct Star Wheels & Sundials		Data analysis & report preparation
Wednesday	OPTRICKS Suitcase & other fun Demos		Solar Astronomy Classroom discussion	Solar Astronomy Observations
Thursday	Library Research	Research & Presentation Preparation		Prepare for Evening 6 – 9 pm Viewing using a telescope in Chile (S.A.)
Friday	Presentations – each student ~ 3 min. to present & 3 min. Q&A			

Some words about 'Why' the class is structured this way.

The Intro to Astronomy gives us a chance to briefly outline many of the fields that exists within the broad study of Astronomy. This will give us some time to learn about what interests us within the broad field of Astronomy and may provide us some guidance for your research projects and presentations (which do not need to be on Spectroscopy or Solar Astronomy.)

Learning about the Scientific Method as it is applied to Astronomy and how Theoretical and Experimental aspects are combined to establish scientific facts about our universe will help us understand the role of science in our society and how it differs from many other aspects of human activities.

Astronomical Spectroscopy helps astronomers learn what materials make up the stars and other bodies. The Spectroscopy laboratory will give you hands-on experience in collecting data using real spectroscopes and then analyzing the data and preparing a brief report. We will collect data and report what we find.

The OPTRICKS Suitcase and other fun Demonstrations will provide fun learning with hands-on optical components that bring to life the fascinating world of optics which are the fundamental tools Astronomers use to learn about the universe around us.

Since our Sun is the closest star, we will spend half the afternoon learning about our Sun using a very nice telescope with special filters so we don't hurt our eyes. This will be a brief hands-on introduction application of the scientific method.

The research and presentation sections of the class let you explore the aspects of astronomy that interests you most; and then present your findings to your classmates. This is how scientists communicate their work to each other at regular conferences all around the world.

Instructor – Donn Silberman, Director – The Optics Institute of Southern California http://oisc.net

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Branches of Astronomy

Astrophysics
Solar Physics / Astronomy
Space Physics
UV / IR Astronomy
Lunar and Planetary Studies
Cosmology
Instrumentation
Astrobiology
Cosmic Ray Studies
Stellar Astronomy
Relativity – Special & General
X-Ray Astronomy
Gamma-Ray Astronomy
Radio Astronomy
Optical Astronomy
Amateur Astronomy
History of Astronomy
Archeo Astronomy

From earth to the ends of the universe!!

Humanities
Earth Sciences
Lunar & Planetary Studies
Stellar Astronomy
Interstellar Studies (gases, dust & nebulae)
Galactic Structures
Intergalactic Space Studies
Cosmology

What are your thoughts about Astronomy?

What would you like to learn about in this class and on your own?

How do you think the science of Astronomy affects everyday life?

Start thinking about what you might like to research and share with the class later in the week.