

Community Science Scholars
SPRING 2018 CLASS SCHEDULE

Instructor Name	Subject Code	Course Title	Credit Hours	Course Description	Meeting Time	Days	Room Name
Donald McCarthy	ASTR 201	Cosmology	3	Extragalactic astronomy and cosmology are among the fastest developing fields in astronomy. This course presents cosmology as a modern, quantitative science. It describes what we know about galaxies, the large-scale structure of the universe and the beginnings and evolution of the Universe. We know quite a bit, assume a lot and have a great deal to learn. The course critically examines our picture of the universe using lectures, a hands-on project, and discussion groups.	9:30 AM – 10:45 AM	TTh	M Pacheco ILC Rm 141
Laird Close	ASTR 202	Life in the Universe	3	The main goal for students in this course is to have fun learning about the possibilities for life in the Universe and, in the process, gain an appreciation for the methods used in science. To achieve this goal, we will study such seemingly diverse topics as the origin of the Universe, heavy element production, the formation of stars and planets, the nature of planets and their atmospheres, basic chemistry, geological and atmospheric evolution, biological evolution, cultural and technological evolution, interstellar travel, and communication techniques.	2:00 PM – 2:50 PM	MWF	Social Sciences Rm 222
Tom Fleming	ASTR 203	Stars	3	This course, intended for non-science majors, provides an in-depth and comprehensive study of the stars. Topics to be covered may include: the naming of stars and constellations, the classification and properties of stars, star formation and evolution, nuclear fusion, black holes, Einstein's theories of relativity, and the demographics of the stars in our Galaxy. The basic principles of physics which are needed to understand the stars (e.g. gravity, light, structure of the atom) will also be reviewed.	2:00 PM - 3:15 PM	MW	Flandrau Science Center & Planetarium Flandrau Theater
Feryal Ozel	ASTR 208	Energy, Society, and Environment	3	This course will cover the methods, tools and perspectives to understand energy generation and use, focusing on traditional and alternative energy sources. The goal is to develop scientific and critical thinking in issues related to the technical and economic aspects, as well as policy decisions.	11:00 AM- 12:15 PM	TTh	Steward Observatory Rm 204



Richard Poss	ASTR 325	Science and Science Fiction	3	As science and technology advance at an accelerating rate, the role they play in our lives becomes more central. The science fiction genre allows us to project future scenarios of scientific and technological development, and explore the way in which society might deal with these advances. This course will use a variety of science fiction texts to study the projected scenario, the change brought about by science and technology, and explore possible strategies we have for dealing with changes caused by science. We will explore the difficulties of trying to imagine the future, and study notable failures of the past in predicting future developments in science.	2:00 PM – 2:50 PM	MWF	Steward Observatory Rom 202
Richard Poss	ASTR 333	Astronomy and the Arts	3	Course examines astronomical ideas in works of literature, art, and music. It then contextualizes each work as a bridge between the history of astronomy and the history of the arts. A diverse assortment of cultural works from different periods will be examined, both for their astronomy and for their art. These include novels, philosophical tales, poetry, painting, music and operas. Classroom sessions will be a combination of lecture and discussion. There will be mid-term, a final exam, several short papers and a research project.	11:00 AM – 12:15 PM	TTh	Steward Observatory Rm 202
Donald McCarthy	ASTR 337	Connecting with the Sky	3	Observation and measurement are essential parts of scientific exploration. Tucson's world-renown sky conditions allow the exploration of natural phenomena, both astronomical and atmospheric. Students will be engaged in hands-on construction, measurement, error analysis, interpretation, and presentation as a means of appreciating and understanding the sky, day and night. Starting with the construction of simple tools, each student will build a new measuring device and use it on a continuing basis to document, interpret, and react to natural phenomena. Instructional language emphasizes quantitative thinking, resourcefulness, creativity, the scientific method, and communication skills. Sessions on Monday and Wednesday allow time for outdoor nighttime observing, including sunsets. Friday's session allows daytime observing.	6:00 PM- 6:50 PM	MW	M Pacheco ILC Rm 119



Donald McCarthy	ASTR 337	Connecting with the Sky	0	<p>Observation and measurement are essential parts of scientific exploration. Tucson's world-renown sky conditions allow the exploration of natural phenomena, both astronomical and atmospheric. Students will be engaged in hands-on construction, measurement, error analysis, interpretation, and presentation as a means of appreciating and understanding the sky, day and night. Starting with the construction of simple tools, each student will build a new measuring device and use it on a continuing basis to document, interpret, and react to natural phenomena. Instructional language emphasizes quantitative thinking, resourcefulness, creativity, the scientific method, and communication skills. Sessions on Monday and Wednesday allow time for outdoor nighttime observing, including sunsets. Friday's session allows daytime observing.</p>	12:00 PM-12:50 PM	F	Modern Languages Rm 202
Charles Weidman	ATMO 170A1	Introduction to Weather and Climate	3	<p>An introduction to the science of weather processes and climate, including the genesis of fronts and cyclones, precipitation processes, the wind systems of the world, severe storms, and weather forecasting. Special emphasis will be given to natural phenomena which have strong impacts on human activities including tornadoes, hurricanes, El Nino, global warming, ozone depletion, and air pollution. The fundamental importance of physics, chemistry, and mathematics to atmospheric science will be stressed.</p>	8:00 AM - 9:15 AM	TTh	Aero & Mech Engr Rm S202
Dale Ward	ATMO 336	Weather, Climate and Society	3	<p>The course examines basic weather phenomena, climate and climate change, and the associated effects on individuals and societies in the past and present. The possibility and effects of human-caused changes in the climate system are also discussed.</p>	9:30 AM - 10:45 AM	TTh	R P Harvill Bldg Rm 415
Roger Miesfeld	BIOC 385	Metabolic Biochemistry	3	<p>Fundamentals of metabolism and nucleic acid biochemistry at the cellular and organismal levels, with a focus on key pathways and regulatory mechanisms.</p>	12:30 PM - 1:45 PM	TTh	Environment and Natural Resources 2 Rm N120



Benjamin Dicken	CSC 101	Introduction to Computer Science	4	This course introduces students to some of the big ideas in computer science. It will excite students about the application of computer science to various disciplines, and show the social impact possible through the use of technology in developing regions, politics, medicine, and other fields.	9:00 AM - 9:50 AM	MWF	Ctr for ESL Rm 102
	CSC 101 (discussion)	Introduction to Computer Science (discussion)	0	This course introduces students to some of the big ideas in computer science. It will excite students about the application of computer science to various disciplines, and show the social impact possible through the use of technology in developing regions, politics, medicine, and other fields.	10:00 AM - 10:50 AM	W	Gould-Simpson Rm 930
William Schaffer	ECOL 182R	Introductory Biology II	3	Origin, diversity and evolution of life; physiology of plants, animals and organ systems; processes of micro and macroevolution; animal behavior and ecology of populations and communities emphasizing biotic interactions and biogeography. Designed for biology majors.	11:00 AM - 11:50 AM	MWF	R P Harvill Bldg Rm 150
George Gehrels	GEOS 212	Introduction to Oceanography	3	Introduces the oceans and their geological, physical, chemical and biological processes with emphasis on their history and formation and the interactions of humans with the marine environment.	11:00 AM - 12:15 PM	TTh	Environment and Natural Resources 2 Rm N120
Thomas Meixner	HWRS 170A1 (7 Wk2 – Starts in March)	Earth: Our Watery Home	3	An introduction to the science of water and its movement in and through the earth system and interactions with people and ecosystems. Special emphasis will be given to how the physical properties of water and the complexity of the earth system interact with human societies and ecosystems to create the challenges and opportunities of water resources. The fundamental importance of physics, chemistry, and mathematics to water science will be stressed.	4:00 PM - 5:15 PM	MTWTTh	Meinel Optical Sci Rm 410
Angel Pimentel	MCB 170C1	Evolution of Modern Biology	3	This course is designed to introduce students to concepts in modern biology, with an emphasis on the processes that created the current status of life on earth. Students should leave the course with the understanding of the relationship between DNA, RNA, proteins, genes the phenotypes. They will be introduced to basic metabolism, and the kinds of regulatory networks that control our cells. Students also will look at the ways that different	2:00 PM - 3:15 PM	TTh	Chemistry Rm 134



				types of reproductive strategies are utilized by populations of organisms. Finally, we will talk about the ways that humans are changing the rules-the impact of recombinant DNA technology on present and future human life.			
Angel Pimentel	MCB 404	Bioethics	3	Advances in biomedical research will be reviewed and their ethical, social and legal implications discussed. (Writing Emphasis Course)	4:30 PM - 5:45PM	W + Online	Steward Observatory Rm N210
Alan Nighorn	NROS 310	Molecular and Cellular Biology of Neurons	3	Molecular and cellular functions and structures with emphasis on how macromolecules assemble and cooperate to carry out common cellular processes including molecular genetics, movement, signal transduction, organelle assembly & cell division. Focus on the use and interpretation of experimental data using neurons as model cells.	3:00 PM - 3:50 PM	MWF	Chavez Building Rm 111
	NROS 310 Discussion	Molecular and Cellular Biology of Neurons	0	Molecular and cellular functions and structures with emphasis on how macromolecules assemble and cooperate to carry out common cellular processes including molecular genetics, movement, signal transduction, organelle assembly & cell division. Focus on the use and interpretation of experimental data using neurons as model cells.	12:00PM - 12:50 PM	Fr	Education Rm 316
Dana Narter	PSY 101	Introduction to Psychology	3	Only for students who have not taken the psychology section of INDV 101 . (The Structure of Mind and Behavior) or PSY 150A1. In the absence of INDV 101 or PSY 150A1, this course is required for admission to all other psychology courses. See University General Education, Tier One. Survey of psychology including history, systems, and methods; structure and functions of the nervous and endocrine systems; learning; motivation and emotion; perception; memory; thought and language; personality; development; social cognition and behavior; psychopathology and psychotherapy.	12:00PM - 12:50 PM	MWF	Education Rm 211
Tzu Yin Lai	PSY 300	Cognitive Neuroscience: A Guide to Mind and Brain	3	In this core CNS class, students will learn the core principles of cognitive neuroscience and cognitive psychology.	9:30 AM- 10:45 AM	TTh	M Pacheco ILC Rm 150



Stephen Cowen	PSY 313	Drugs and the Brain	3	Humans have used mind-altering drugs for thousands of years. These mind altering drugs come in many forms, ranging from common drugs such as caffeine, Adderall, and alcohol, to illicit drugs such as LSD and heroin. Advances in neuroscience and psychology have greatly expanded our capacity to understand how drugs alter neural circuits and how these alterations affect decision-making, perception, and memory. This course will explore the connection between drugs, brains, and cognition and incorporate recent discoveries in neuroscience, biochemistry, and psychology. The course will be a combination of lectures and discussion of recent brain and behavior related science news and readings from instructors and students.	9:30 AM-10:45 AM	TTh	Ctr for ESL Rm 102
David Sbarra	PSY 383	Health Psychology	3	The relationship of health to mental and behavioral processes. Illnesses and medical treatment from the standpoint of psychology.	2:00 PM-3:15 PM	TTh	M Pacheco ILC Rm 120
Joseph Spitale	PTYS 214	Astrobiology: A Planetary Perspective	3	We will explore questions about the origin, evolution, and future of life on Earth and the possibility of life arising independently elsewhere in the Universe. We will examine what it means for a planet to be habitable, both in terms of basic necessities for living organisms to function and environmental limits to their ability to survive. Finally, we will review different approaches for searching for life within the Solar System and beyond using direct and remote sensing techniques.	2:00 PM - 3:15 PM	TTh	Kuiper Space Sciences Rm 308
Timothy Swindle	PTYS 342	Life on Mars in Fact and Fiction	3	This course will combine an exploration of the scientific searches for life on Mars, from the 19th Century to present, with an exploration of science fiction based on Mars. As well as providing a background for students to understand past, present and future searches for life on Mars, this course will also provide a framework for students to understand how science fiction about Mars fits in with both the science of the day and with previous science fiction. PTYS 342 may not be used to satisfy requirements for the PTYS undergraduate minor.	12:30 PM-1:45 PM	WF	Kuiper Space Sciences Rm 312

