

Course: SSO 102 **Section:** 1

Course Title: *Positive Psychology*

Instructor: Anne Moyer

Day: Tuesday

Time: 10:00AM - 10:53AM

Location: SSO Center, Room 103

Description: Positive Psychology is the scientific study of the strengths and virtues that enable individuals and communities to thrive. Positive Psychology focuses on how to live a meaningful and fulfilling life, cultivate what is best within people, and enhance people's experiences of love, work, and play. Students will engage in exercises developed to enhance mental well-being by leaders in the field of Positive Psychology will learn about the scientific roots of these exercises.

Course: SSO 102 **Section:** 2

Course Title: *Environmental Psychology*

Instructor: John Robinson

Day: Wednesday

Time: 10:00AM - 11:50AM

Location: SSO Center, Room 103

Special Meeting Pattern: 2 hours / week for 7 weeks (March 18 to May 10)

Class Notes: This course will meet starting March 18 - May 10 for 2- hours per week.

Description: This course will introduce environmental psychology, an interdisciplinary field that looks at many aspects of the interaction between humans and their environment. Topics will range from discussions of human views of nature to perceptual processes and human-designed environments. Our discussions will be integrative and pragmatic, drawing upon the resources of many related disciplines, including neuroscience, sociology, architecture, ecology, and urban planning.

Course: SSO 102 **Section:** 3

Course Title: *Earths Climate System*

Instructor: Troy Rasbury

Day: Friday

Time: 10:00AM - 10:53AM

Location: TBA

Description: In this course we will focus on historical, Recent, and deep time climate records. We will use Google Earth maps to examine changes in the Arctic Ice Sheets, to examine predictions for climate change in the future, and we'll talk about the application of proxy records for Earth's deep past. The main goal is to examine the variety

of data that exists, what the holes are in this data, with the idea of thinking through the Global Climate Change issue more critically.

Course: SSO 102 **Section:** 4

Course Title: *Exploring Contemporary Issues in Environmental Health*

Instructor: Anne McElroy

Day: Thursday

Time: 2:30PM- 4:20PM

Location: TBA

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to March 15)

Description: The purpose of this seminar will be to introduce freshman to contemporary issues in environmental health through reading and discussion of recent newspaper articles on the topic. Students will be asked to conduct internet based research on specific issues raised in each article, and share their findings with the rest of the class. Critical thinking will be emphasized.

Course: SSO 102 **Section:** 5

Course Title: *Where Science and Politics Collide*

Instructor: David Black

Day: Thursday

Time: 9:00AM- 9:53AM

Location: SSO Center, Room 103

Description: Science and politics initially appear to be very different subjects but they frequently run into one another at the legislative/policy level. This class discusses a variety of issues where science and politics overlap. Possible topics include stem cell research, global warming, evolution, endangered species and land use, energy resources, and science's role in government. By the end of this course you will hopefully have a better understanding of the science behind some of the more contentious issues at present, develop confidence and respect in debate, understand the importance of skepticism and logic in acquiring knowledge, improve research and evaluative skills, and learn tools to move from emotional to informed analyses.

Course: SSO 102 **Section:** 6

Course Title: *Topics in Modern Dentistry*

Instructor: Hugh Finch

Day: Monday

Time: 10:00AM - 11:50AM

Location: SSO Center, Room 121

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to March 15)

Description: These interactive sessions are designed to introduce the participant to the world of Dental Medicine, and Dental Education through a survey of diverse materials related to the profession and the practice of dentistry. By the end of this seminar the student will be able to discuss topics in modern dentistry ranging from issues affecting access to care in underserved areas to the latest technical advances in modern dentistry, and everything in between.

Course: SSO 102 **Section:** 7

Course Title: *The Eye of the Storm: Devastating Weather Events of the Past and Future*

Instructor: Brian Colle

Day: Tuesday

Time: 10:00AM - 11:50AM

Location: SSO Center, Room 121

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to May 10)

Class Notes: This course will meet every other week starting January 28 until May 10 for 2-hours.

Description: This class will investigate some of the biggest weather storm events (hurricanes, blizzards, tornado outbreaks, nor-easters, etc...) during the past century, and how society has been impacted from the local to the global scale. Some of the inner-workings of these storms will be discussed using some of the latest tools and technology available. Finally, how these storms may change in the future will be reviewed.

Course: SSO 102 **Section:** 8

Course Title: *Talking Hands*

Instructor: Mark Aronoff

Day: Wednesday

Time: 3:30PM- 4:23PM

Location: SSO Center, Room 103

Description: The people of the Bedouin village of Al-Sayyid in the Negev desert in Israel have created a sign language with little outside influence. We will read the book *Talking Hands*, which describes this sign language and sign languages in general, and which tracks the instructor's visit to the village to do research on the language.

Course: SSO 102 **Section:** 9

Course Title: *Ethics in Scientific Research*

Instructor: Peter Stephens

Day: Monday

Time: 2:30PM - 3:50PM

Location: SSO Center, Room 103

Special Meeting Pattern: 1 hour 20 mins/ week for 11 weeks (January 28 to April 19)

Description: Scientific research raises numerous ethical issues, such as informed consent of research subjects and conflicts of interest. There are also many clearly documented cases of scientific fraud. We will discuss examples based on readings and presentations. Grading will be based on participation and a few short written assignments.

Course: SSO 102 **Section:** 10

Course Title: *Anesthesiology - My World and Welcome to it!*

Instructor: Stephen Vitkun

Day: Tuesday

Time: 1:00PM -2:50PM

Location: TBA

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to March 15)

Description: During the 7 weeks, students will discuss principles some general medical principles and be introduced to pharmacology as it relates to anesthetic medications. Sessions using a medial simulator will give students the opportunity to start IV lines and perform various airway management procedures routinely used in anesthesia and other areas of medical practice. Students will also gain an understanding of medical terminology and the seminar will conclude with a discussion of how to prepare a competitive application for medical school or other graduate health professional career.

Course: SSO 102 **Section:** 11

Course Title: *What is Personalized Medicine?*

Instructor: John True

Day: Tuesday

Time: 2:30PM - 3:23PM

Location: SSO Center, Room 103

Description: In this seminar we will study the ongoing trend toward personalized and genome-based medicine. We will read and discuss "The Language of Life: DNA and the Revolution in Personalized Medicine" by Francis Collins.

Course: SSO 102 **Section:** 12

Course Title: *The Science of Happiness*

Instructor: Dylan Smith

Day: Thursday

Time: 1:00PM- 2:20PM

Location: SSO Center, Room 103

Special Meeting Pattern: 1 hour 20 mins/ week for 11 weeks (January 28 to April 19)

Description: Some argue that a slippery concept like “happiness” is not even a proper scientific topic—that its study is best left to philosophers and novelists. But many behavioral scientists argue that happiness is quantifiable, and readily subjected to systematic inquiry. Some have even suggested that the time has come for measures of “well-being” to be incorporated into national statistics, right along with economic measures such as the GDP (gross domestic product). In this course, we will examine the current state of the art in research on happiness, and discuss questions such as: How should happiness be defined? Do we know what makes us happy? What does research tell us about what does (and does not) lead to happiness? Should these research findings be used to influence social policy?

Students will engage in discussion of these issues, informed by readings and audiovisual materials. We will also examine some of the state of the art methods for measuring happiness, and see how they do at measuring our own.

Course: SSO 102 **Section:** 13

Course Title: *The Science and Society Cookbook*

Instructor: Glenn Lopez

Day: Tuesday

Time: 11:30AM -12:23PM

Location: SSO Center, Room 103

Description: This class will explore many aspects of food—where ingredients originated and how they migrated; how our ancestors solved the fundamental problem of food storage; why certain foods and meals have particular cultural and social meanings; and our evolving understanding of the role of food in medicine and health. These topics by focusing on meals that have great personal meaning to students in the class. In addition to the short written and oral reports described below, students will read occasional papers and be encouraged to participate in class discussion.

Course: SSO 102 **Section:** 14

Course Title: *Music and Science*

Instructor: Judith Lochhead

Day: Wednesday

Time: 2:30PM- 3:23PM

Location: Staller, Room 2314

Class Notes: We will meet approximately every other week (a class schedule will be circulated before the beginning of the term).

Description: Study of music was an essential part of the curriculum in Antiquity, constituting the Quadrivium along with geometry, arithmetic, and astronomy. But while the association between music and the scientific disciplines is a long-standing one, the nature of this association has undergone various changes over the centuries. During this class, we will consider the nature of the relation between music and science, focusing on the relation of music to: mathematics, the physics of sound, neuroscience, DNA, data sonification, and perception studies. Participants will be required 1) to attend 4 on-campus concerts and complete assignments related to those concerts, 2) to complete short bi-weekly assignments, and 3) to make an in-class presentation as a final project.

Course: SSO 102 **Section:** 15

Course Title: *When the Rivers Run Dry*

Instructor: Kamazima Lwiza

Day: Monday

Time: 12:00PM - 12:53PM

Location: SSO Center, Room 121

Description: Participants in this seminar will explore the science and politics behind global water crisis by reading Fred Pearce's book and discuss assigned readings in class. Discussion leaders will use 15-minute powerpoint presentations followed by general discussion. The book, 'When the rivers run dry', provides some of the most interesting, nerve-wracking, disappointing, and infuriating stories and statistics on water politics worldwide. The author brings depth to the subject and approaches the issues facing water management (and rather more often the appalling mismanagement) from several angles that make this book a joy to read.

Course: SSO 102 **Section:** 16

Course Title: *Drugs for the 21st Century*

Instructor: Paul Fisher

Day: Friday

Time: 1:00PM - 1:53PM

Location: SSO Center, Room 121

Description: This course is intended as an introduction to the study of pharmacology and how it impacts society, how existing drugs were identified, how new drugs are identified and developed for the market now, and how this may change in the future. During the first four (4) sessions, Professor Fisher will lead discussions on career choices in biomedicine, basic principles of modern pharmacology, the US drug approval process including the impact of

pharmaceutical company sponsored research, and the impact of genetics/human genome sequencing on drug identification and development for the individual (pharmacogenomics). Through student-led discussions, we will then consider several specific pharmaceutical agents, how they were identified, characterized and in many cases modified.

Course: SSO 102 **Section:** 17

Course Title: *Is chocolate good for you?*

Instructor: Howard Sirotkin

Day: Thursday

Time: 2:30PM - 3:50PM

Location: SSO Center, Room 103

Special Meeting Pattern: 1 hour 20 mins/ week for 11 weeks (January 28 to April 19)

Description: This class is not about chocolate, but about evaluating the never-ending stream of health claims we encounter in the media. Is chocolate good for you? Do cell phones cause brain tumors? Will drinking red wine help you live longer? Do herbal supplements work? Do vaccines cause autism? In this class, we will focus on methods to evaluate these kinds of claims and determine which withstand scrutiny.

Course: SSO 102 **Section:** 18

Course Title: *Science Times: The Science Behind the News*

Instructor: Kirk Cochran

Day: Wednesday

Time: 5:30PM - 6:23PM

Location: TBA

Description: This seminar will involve discussion of current science news as presented weekly (Tuesdays) in the New York Times Science section. Each week we will read and discuss the articles in the science section (and other science news sources as appropriate). Emphasis will be placed on understanding the basics behind each story and why it is newsworthy. Occasionally we will read the original journal articles (such as those published in the journals Science and Nature) on which many science news stories are based.

Course: SSO 102 **Section:** 19

Course Title: *The Art and Science of the Brain*

Instructor: Mary Kritzer

Day: Thursday

Time: 10:00AM - 11:20AM

Location: SSO Center, Room 103

Special Meeting Pattern: 1 hour 20 mins/ week for 11 weeks (January 28 to April 19)

Description: The class sessions begin with a brief introduction to the nervous system and those devoted to the ways in which nervous system function can be studied in the living human brain, e.g., fMRI. During the next few sessions, students will meet artists in different disciplines and discuss with them their experiences of talent, improvisation and other factors that are unique to their artistic abilities and creations. In the final few sessions, students will work as teams to develop research proposals that apply the methods of brain study learned about at the beginning of the course to achieve a better understanding of the neurobiological basis for art, talent and art appreciation.

Course: SSO 102 **Section:** 21

Course Title: *Sugar and Fat*

Instructor: Ellen Li

Day: Monday

Time: 7:00PM - 8:20PM

Location: SSO Center, Room 103

Special Meeting Pattern: 1 hour 20 mins/ week for 11 weeks (January 28 to April 19)

Class Notes: Department Consent required. Reserved for EOP/AIM students. Preference one semester of Chemistry

Description: Obesity is increasing at a rapid rate in the USA. Basic concepts in chemistry and biology related to the synthesis, storage and utilization of fat will be reviewed. Students will be asked to read and evaluate various sources (Internet- medical journals) on the epidemiology and treatment of obesity. We will also discuss the implications of policies with respect to consumption of sweets, airline seats, discrimination in the workplace. Students will be asked to present a 5 minute powerpoint to the class that they would use for patient education on obesity, as part of the requirement for completing the course

Course: SSO 102 **Section:** 21

Course Title: *Neuroethics*

Instructor: Turhan Canli

Day: Tuesday

Time: 7:00PM - 8:50PM

Location: TBA

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to March 15)

Description: In this class, we will examine the intersection of neuroscience and ethical, legal, and social issues.

Course: SSO 102 **Section:** 22

Course Title: *Nuclear Power*

Instructor: Linwood Lee

Day: Friday

Time: 9:00AM - 9:53AM

Location: SSO Center, Room 103

Description: The course will discuss the technology, safety, and future of nuclear energy at a level accessible to students with no special expertise except algebra.

Course: SSO 102 **Section:** 23

Course Title: *Big Science and Small Science*

Instructor: Laszlo Mihaly

Day: Thursday

Time: 4:00PM -5:50PM

Location: TBA

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to March 15)

Description: Ever since the Manhattan Project that developed the atomic bomb a number of very large and centrally managed science projects have been proposed and executed. A prominent example is the Large Hadron Collider at CERN, aimed at discovering and studying the Higgs boson. This "Big Science", defined as projects costing many billions of dollars and involving thousands of scientists, is contrasted by "Small Science", defined as the work of one or a few scientists in a laboratory following their own intuition. Many of the great steps forward have been produced by Small Science: the transistor, the double helix and the genetic alphabet are a few examples. We will discuss the relationship between Big Science and Small Science. Are the large projects needed for the advancement of science? Does society need to support small groups of scientists doing "curiosity-driven research without clearly defined goals? How can we predict which scientific discovery leads to tangible benefits?

Course: SSO 102 **Section:** 24

Course Title: *Humans and their Place in Nature*

Instructor: Anja Deppe

Day: Tuesday

Time: 4:00PM -5:50PM

Location: SSO Center, Room 103

Special Meeting Pattern: 2 hours / week for 7 weeks (January 28 to March 15)

Description: This course will examine how humans fit into the natural world. The emphasis will be on human evolution across the past 6 million years and students will learn about the different species of human ancestors and their way of life. Students will examine fossils and archaeological artifacts and will learn how scientists interpret such finds. We will further discuss differences between humans and other animals and how the perception of ourselves and the world we live in is affected by current scientific thought and other belief systems.
