

High School Summer Scholars Program

2017 Course Listings

Session C (June 11-August 5)

Please note the following:

1. These course listings are subject to change and cancellation without notice.
2. Students are permitted to enroll in a maximum of 7 units.
3. Students must meet all prerequisites listed in order to enroll in a course.
4. Session C includes both 5-week and 8-week courses. Students may enroll in two 8-week courses or one 5-week course and one 8-week course. If students wish to enroll in two 5-week courses they must attend Session A.

AMERICAN CULTURE STUDIES

SOCIAL PROBLEMS AND SOCIAL ISSUES

Through a sociological lens, this course examines the causes and consequences of pressing social problems in America, including drug abuse, crime, poverty, racism and sexism, the health care crisis, globalization and inequality, and environmental degradation. Interventions guided by sociology and other social sciences will be offered. This course will be of special interest to those with career goals in medicine and health care, social service, law, and public policy. Attendance mandatory during the first week.

Prerequisite: None

Session C
L98 120 (3 units)
MTuWThF 1:00p-2:45p
5-week course

ANTHROPOLOGY

INTRODUCTION TO HUMAN EVOLUTION

This course is a survey of the fossil evidence for human evolution. The course includes discussion of the genetics of human variation and evolution, the study of living nonhuman primates, and the fossil record and its interpretation. An evolutionary perspective is used in an attempt to understand modern humans from the naturalistic point of view. This course may include off-campus field trips.

Prerequisite: None

Session C
L48 150A (3 units)
MTuWThF 11:00a-12:45p
5-week course

INTRODUCTION TO CULTURAL ANTHROPOLOGY

This course covers the basic concepts and theoretical principles of sociocultural anthropology. Course material is presented from Asia, Africa, Melanesia, Latin America, and North America.

Prerequisite: None

Session C
L48 160B (3 units)
MTuWThF 3:00p-4:45p
5-week course

ART

DRAWING

This course teaches basic drawing skills and techniques by drawing from observation. Through sighting and measuring three-dimensional forms and creating the illusion of volume, space, and light on two-dimensional surfaces, students will develop visual language skills. We will work with a variety of black-and-white media to create compositions. Historic references will broaden the student's understanding of drawing as a visual language.

Prerequisite: None

Session C
U79 101 (3 units)
TuTh 6:00p-8:45p
8-week course

WATERCOLOR

This course teaches students the fundamentals of the watercolor through the use of a small portable sketchbook and pan watercolor set. The class is designed for all skill levels, and no previous experience is necessary. The goal is to explore properties of color and value by creating a sketchbook of studies that explore technical processes of watercolor, such as washes, glazes, and resists, through a variety of subject matter such as still life, land/urbanscapes, self-portrait, and figure studies. We also investigate historical research and artistic vocabulary through class critiques and written papers.

Prerequisite: None

Session C
U79 124 (3 units)
MW 6:00p-8:45p
8-week course (**this course is currently full**)

ART HISTORY

HISTORY OF WESTERN ART, ARCHITECTURE & DESIGN

A history of the visual arts, including architecture, sculpture, painting, and design, from the ancient world to the present with emphasis on the relationship of art to society and to political and cultural events.

Prerequisite: None

Session C
L01 113 (3 units)
MTuWThF 1:00p-2:45p
5-week course

BIOLOGY

INTRODUCTION TO PROBLEM-BASED LEARNING IN BIOLOGY

Have you ever wondered how doctors and scientists diagnose and discover cures to modern human afflictions? In this course, students will be given a general topic and break up into small groups to research questions related to that topic. We will all report back to the group each week with what we've found, and provide each other with interesting facts about our topic, as well as hints for conducting inquiry-based research. The instructor will guide students on how to conduct in-depth research on problems of current biological importance using a variety of web-based search engines and library tools, with a strong emphasis on learning how to read and interpret primary research articles. Weekly topics from previous years have included psychological disorders, genetics of sleep regulation, reproductive therapies, alternative medicine, and human evolution. Students should have broad interests and background in general biology and chemistry and should be curious, exploratory, interactive, and willing to try an active, nontraditional educational experience. There are no exams, so grades will be based on class participation, weekly group presentations, written outlines, and a final iSearch paper on a topic of their choice.

Prerequisite: high school honors or AP biology

Session C
L41 112 (3 units)
MWF 9:00a-12:00p
5-week course

GENERAL BIOLOGY I

First part of a two-semester rigorous introduction to basic biological principles and concepts. This course covers the molecular and cellular basis of life, bioenergetics, signal transduction, DNA and protein synthesis, and the function of whole organisms (physiology). Laboratories include traditional wet labs as well as inquiry-based, on-line labs.

Prerequisite: high school honors or AP chemistry

Session C
U29 101 (4 units)
MWF 6:00p-8:30p and TuTh 5:00p-9:00p
5-week course

INTRODUCTION TO ANATOMY AND PHYSIOLOGY I

This is the first of a two-semester sequence that examines all major organ systems in the human/mammalian body. The emphasis is on understanding normal function and processes at the gross, cellular, and molecular levels. The course also addresses pathology and disease. Course covers histology, bone, muscle, and nervous systems, including sensory function and the special senses.

Prerequisite: None

Session C
U29 322 (5 units)
TuTh 9:00a-12:00p and TuWTh 5:30p-9:20p
5-week course

BUSINESS

DESIGN THINKING: HUMAN-CENTERED APPROACHES TO MAKING THE WORLD

This course provides an overview of approaches to design thinking: a process of identifying, creating, and implementing solutions. Through an experiential approach, students learn methods for understanding users' needs, synthesizing complex information, identifying directives for design, generating ideas, prototyping, and communicating solutions. Methodologies will reflect multiple areas, including design, engineering, business, and anthropology. The class operates collaboratively tackling a locally relevant problem, such as active transportation or waste management. Students also explore the role of this process in business, organizations promoting social change, and education through readings, case studies, lectures, guest speakers, discussion, and written exercises. No previous experience in design is required. Limited space available in this course.

Prerequisite: None

Session C
U44 290 (3 units)
MTuWThF 3:00p-4:45p
5-week course (**this course is currently full**)

CHEMISTRY

GENERAL CHEMISTRY I

Fundamental chemical principles and their applications. Atomic and molecular theories. Law of chemical combination. Periodic classification of the elements. Properties of gases, liquids, solids, and solutions.

Prerequisite: AP chemistry, honors or AP physics, and two years of high school mathematics (AP Calculus AB preferred)

Session C

L07 111A (3 units)

MTuWThF 9:00a-10:45a

5-week course

CLASSICS

GREEK AND ROMAN MYTHOLOGY

This course surveys the major myths of the Greek and Roman worlds. Topics include the uses and interpretations of myth, historical and cultural context, gods and goddesses, heroes, gender roles, the development of specific myths, and the relationship between literary and artistic representations of myths. We will also examine the influence of classical mythology in the medieval and modern periods.

Prerequisite: None

Session C

U02 321 (3 units)

MW 5:30p-8:15p

8-week course

COMMUNICATIONS

INTRODUCTION TO PUBLIC SPEAKING

Public speaking is a skill essential for success in most professional careers. The focus of this class is to develop the basic ability and confidence necessary to speak effectively in public. The presentation skills we will work on are proper diction, projection, breath control, effective use of the voice and body, writing to be heard not read, oral critiques, and informative and persuasive speaking. Critical listening and group work will also be emphasized.

Prerequisite: None

Session C

U48 2111 (3 units)

TuTh 6:00p-8:45p

8-week course

MARKETING COMMUNICATIONS

An introduction to advertising, public relations, and promotions and how they influence communications, journalism, and mass media. Students explore each of the "three sisters" of marketing and how they are used to build integrated marketing programs. Specific tools, including special events, direct mail, sponsorship, and press materials, will be discussed. In addition, the class will examine current and memorable marketing campaigns, view new technologies, and learn techniques and trends from professionals in the marketing field.

Prerequisite: None

Session C

U48 260 (3 units)

TuTh 6:00p-8:45p

8-week course

DANCE

BODY-MIND BALANCE

This class encourages the calming of the critical mind and the awakening of the physical senses. Employing theories and practices of Yoga, contemporary movement sciences, current body-mind and relaxation techniques, this class emphasizes body awareness and deep mindfulness. Students should wear comfortable clothing and bring a mat or towel. This course is available as Pass/Fail only.

Prerequisite: None

Session C

U31 119 (1 unit)

MW 5:30p-7:15p

5-week course

EARTH AND PLANETARY SCIENCES

GEOLOGY OF NATIONAL PARKS

Survey of geologic processes occurring at the Earth's surface and its interior using national parks and monuments as the prime venue for presentation. Volcanism and mountain-building; the work of streams, glaciers, and wind; lake and coastline development; stratigraphy and sedimentation; and Earth history. Material presented in a geographic context, with emphasis on landforms and landscape evolution, relating geology to the development and settlement of the U.S.

Prerequisite: None

Session C
L19 118A (3 units)
MTuWThF 9:00a-10:45a
5-week course

EAST ASIAN STUDIES

TOPICS: JAPANESE POPULAR CULTURE

This course introduces students to the world of popular culture in contemporary Japan. With an eye upon historical and social contexts, we will explore a wide variety of media—manga (comics), anime (animation), literature, and art—and the role of pop culture in daily life, fashion, film, and music. We will also consider the interplay of Japan's popular culture with that of its East Asian neighbors and Japan's prominence within the global pop-mediandscape. Topics will include Miyazaki Hayao and environmentalism, gender roles and mobility, the self and subjectivities, idealized worlds and character types, disaster and recovery, and the rural-urban divide. Students will have the opportunity to share their own Japanese pop culture 'discoveries' with the class. No Prerequisites.
Prerequisite: None

Session C
L05 221 (3 units)
MTuWThF 9:00a-10:45a
5-week course

ECONOMICS

INTRODUCTION TO MICROECONOMICS

Determination of prices; distribution of national income; theory of production. For a thorough introduction to economics L11 1021 should also be taken, but is not required.

Prerequisite: None

Session C
L11 1011 (3 units)
MTuWThF 9:00a-10:45a
5-week course

INTRODUCTION TO MACROECONOMICS

Business fluctuations: inflation, recession; monetary and fiscal policy; economic development. For a thorough introduction to economics L11 1011 should also be taken, but is not required.

Prerequisite: None

Session C
L11 1021 (3 units)
MTuWThF 1:00p-2:45p
5-week course

ENGLISH LITERATURE

TOPICS IN ENGLISH AND AMERICAN LITERATURE: BANNED BOOKS: FROM THE GIVER TO THE LORD OF THE FLIES

In this course we will read a number of Young Adult novels that have been banned and examine what leads to the banning of a book. Why are YA novels particular targets of censorship, and why does society attempt to sanitize narratives about adolescence? The novels we will cover, by Toni Morrison, Stephen Chbosky, William Golding, and Lois Lowry, among others, have been banned in the United States on political, religious, sexual, or social grounds. We will gain insight into the controversies these novels started and also consider the themes and questions raised by the texts and their moral implications. In written assignments and class discussion, we will explore what, if anything, these novels have in common and what they may contribute to the study of literature. Students will be asked to engage critically with the texts they encounter and to hone their close reading skills while also considering historical and cultural contexts of the novels. Readings: "The Lord of the Flies," William Golding; "The Perks of Being a Wallflower," Stephen Chbosky; "The Bluest Eye," Toni Morrison; "The Giver," Lois Lowry; "The House on Mango Street," Sandra Cisneros.

Prerequisite: None

Session C
L14 245 (3 units)
MTuWThF 1:00p-2:45p
5-week course

GEOGRAPHIC INFORMATION SYSTEMS

INTRODUCTION TO GIS

This course introduces students to the fundamental principles and applications of geographic information systems (GIS) and their underlying geospatial science. Topics include spatial data types, map coordinate systems and projections, basic spatial data analysis, and processing and visualizing data in GIS. Lectures are supplemented with lab sessions to develop problem-solving skills using ESRI ArcGIS software (including ArcView/ArcInfo and its Spatial Analyst extension).

Prerequisite: None

Session C
U90 200 (3 units)
MW 5:00p-7:30p
8-week course

ITALIAN

ITALIAN FOOD, ITALIAN CULTURE

This hybrid online course will provide students with an introduction to Italian culture presented through an exploration of one of Italy's most appreciated aspects: its food. We will examine the relationship between Italian food and Italian culture through readings, films, tasting experiences, and interactions with the local Italian food scene. We will look at food in its social and cultural context through a multi-disciplinary approach - history, anthropology, sociology, and literature. A major focus will be on understanding the extraordinary significance of food in the definition of "Italianness" from an Italian, as well as from an American perspective. Texts will include excerpts from literary works (Dante, Boccaccio, Collodi, Camilleri), academic articles, food magazines, cookbooks, Internet blogs and websites. No knowledge of Italian is required: readings and discussions will be in English, but students with prior knowledge of Italian will have multiple opportunities to improve their linguistic skills.

Prerequisite: None

Session C
U40 330 (3 units)
This hybrid online course will meet in class on Monday 6/12 from 6:00-8:45p.
8-week course

JOURNALISM

MAKING THE CUT: EDITING DIGITAL VIDEO

This course introduces students to video editing: reducing hours of recorded video to compelling moments, creatively weaving together the best parts to attract and hold viewers. Students will use supplied video material to learn how to guide the viewer's attention, build suspense, and inform the audience. We will also learn tricks to fix common mistakes made in the field and explore higher-level production methods, such as color-correction and picture in a picture technique, to achieve a professional look. By the end of the course, students will be proficient in simple edits to create the equivalent of a basic short narrated video package or promotional video. Students will also learn to improve videography skills by seeing what works in the editing suite.

Prerequisite: None

Session C
U49 348 (3 units)
MW 6:00p-8:45p
8-week course

LINGUISTICS

INTRODUCTION TO LINGUISTICS

Language is one of the fundamental capacities of the human species, and there are many interesting and meaningful ways in which it can be studied. This course explores the core components of linguistic theory: speech sounds (phonetics and phonology), word formation (morphology), sentence structure (syntax), and meaning (semantics). It also provides an overview of interdisciplinary ideas and research on how language is acquired and processed, its relation to the mind-brain and to society, and the question of whether the essential properties of language can be replicated outside the human mind (specifically, in chimpanzees or computer programs).

Prerequisite: None

Session C
L44 170D (3 units)
MTuWThF 1:00p-2:45p
5-week course

MATHEMATICS

INTRODUCTION TO STATISTICS

Data collection: sampling and designing experiments. Data organization: data, tables, graphs, frequency distributions, numerical summarization of data, and consumer price index. Inference: elementary probability and hypothesis testing.

Prerequisite: None

Session C
L24 1011 (3 units)
MTuWThF 11:00a-12:45p
5-week course

ALGEBRA

The basic rules for operation within the real number system, polynomials, linear and quadratic equations, and inequalities.

Prerequisite: one year of high school algebra

Session C
U20 140 (3 units)
TuTh 6:00p-8:45p
8-week course

CALCULUS I

The first course in the calculus sequence. Topics include differential and integral calculus for algebraic and trigonometric functions.

Prerequisite: high school algebra and trigonometry

Session C

L24 131 (3 units)

MTuWTh 9:00a-10:30a

8-week course

CALCULUS II

The second course in the calculus sequence. Topics include differential and integral calculus for the transcendental functions, advanced methods of integration, Taylor's theorem, and infinite series.

Prerequisite: AP Calculus AB with a grade of B or better

Session C

L24 132 (3 units)

MTuWTh 9:00a-10:30a

8-week course

CALCULUS III

Multivariable calculus. Topics include differential and integral calculus of functions of two or three variables, and a brief introduction to differential equations.

Prerequisite: AP Calculus BC with a B or better and score of 4 or 5 on AP exam

Session C

L24 233 (3 units)

MTuWTh 3:00p-4:30p

8-week course

MATRIX ALGEBRA

Theory of matrices and vector spaces from a concrete, computational point of view. Topics: row reduction (pivot method), rank and dimension, determinants, eigenvalues and eigenvectors, and diagonalization of symmetrical matrices.

Prerequisite: AP Calculus BC with a B or better

Session C

L24 309 (3 units)

MTuWThF 9:00a-10:45a

5-week course

PHILOSOPHY

BIOMEDICAL ETHICS

A critical examination, in light of contemporary moral disagreements and traditional ethical theories, of some of the moral issues arising out of medical practice and experimentation in our society. May include euthanasia, genetic engineering, abortion, medical malpractice, the allocation of medical resources, and the rights of the patient.

Prerequisite: None

Session C

L30 233F (3 units)

MTuWThF 11:00a-12:45p

5-week course

BUSINESS ETHICS

This course covers a wide range of business topics that have ethical elements and consequences. Students will examine various issues and consider what personal and corporate responsibility demands in various situations, as well as what the obligations of justice command. Issues that may be discussed include employment at will, whistleblowers, discrimination, harassment, affirmative action, and business responsibility toward consumers, the environment, and customers, and whether the sole moral obligation of businesses is to make money.

Prerequisite: None

Session C

U22 234 (3 units)

ONLINE

8-week course

INTRODUCTION TO ENVIRONMENTAL ETHICS

A general survey of current issues in environmental ethics, focusing on problems such as the obligation to future generations, protection of endangered species, animal rights, problems of energy and pollution, wilderness, global justice, and business obligations. Students will also learn some ethical and political theory.

Prerequisite: None

Session C

U22 2350 (3 units)

ONLINE

8-week course

PHYSICS

GENERAL PHYSICS I

First semester of a two-semester, calculus-based introductory physics sequence designed to expose students to the concepts, laws, and structure of physics. Topics include kinematics, Newton's laws, energy, linear momentum, angular momentum, conservation laws, gravitational force, harmonic motion, wave motion and interference, sound, and special relativity. Five 2.75-hour lectures and two 3-hour lab sessions each week (all mandatory).

Prerequisite: AP Calculus AB with a grade of B or better

Session C

L31 117A (4 units)

MTuWThF 9:15a-12:00p and MW 1:30p-4:30p

5-week course

POLITICAL SCIENCE

INTERNATIONAL POLITICS

Globalization, the accelerating rate of interaction between people of different countries, creates a qualitative shift in the relationship between nation-states and national economies. Conflict and war is one form of international interaction. Movement of capital, goods, services, production, information, disease, environmental degradation, and people across national boundaries are other forms of international interactions. This course introduces the study of global political-economic relations. We focus upon building a toolkit that will help us understand the micro-foundations of the globalization of material and social relations.

Prerequisite: None

Session C

L32 103B (3 units)

MTuWThF 1:00p-2:45p

5-week course

PSYCHOLOGY

INTRODUCTION TO PSYCHOLOGY

Survey and analysis of concepts, research, and theory covering the areas of learning, memory, motivation, personality, social, abnormal, clinical, and biological psychology. Introduces the diversity of questions, areas, approaches, research, and theories that compose the study of mind and behavior.

Prerequisite: None

Session C

L33 100B (3 units)

MTuWThF 11:00a-12:45p

5-week course

SPANISH

ONLINE INTERMEDIATE SPANISH I

This online approach to intermediate-level reading, speaking, and writing in Spanish includes an introduction to important cultural aspects of Latin American and Spanish culture. We will use the Internet, videos, and traditional textbooks to complete an intermediate level Spanish grammar review.

Prerequisite: two years of high school Spanish

Session C

U27 250 (3 units)

ONLINE

8-week course

WOMEN, GENDER, AND SEXUALITY STUDIES

INTRODUCTION TO WOMEN, GENDER, AND SEXUALITY STUDIES

This course will provide an introduction to the major and concepts in the interdisciplinary field of women, gender and sexuality. We will examine the meanings attached to terms such as "man," "woman," "gay," and "sex." Topics discussed may include the history of feminist movements, masculinity, biological frameworks for understanding gender, intimate violence, sexual identities, and intersectionality.

Prerequisite: None

Session C

L77 100B (3 units)

MTuWThF 11:00a-12:45p

5-week course