Autumn Quarter 2014 NW courses

Class times, locations, fees, and course descriptions may change. Check the time schedule for updates. If a course is full keep checking the time schedule for an opening.

For more NW courses, see the Time Schedule search page at: http://www.washington.edu/students/timeschd/genedinq.html.

Astronomy

ASTR 101 – Astronomy (5 credits)
MWF 10:30 – 11:20
Lab TTh, times vary
Instructor: Ana Larson
Intended for non-majors. $10 course fee. Also counts as QSR credit.
We start with the fundamentals needed to grasp astronomy and what astronomers do today: our place in the Universe, gravity and the other 4 forces, light and telescopes. We then move onto a study of our Sun and an appreciation for the power that drives its life-giving energy. Stars are viewed in the context of objects that are born, live, and die. Their characteristics, classification, and unique populations are examined closely, and students will learn why the mass of a star determines everything about its life. When we move ontos galaxies, the students will find out that there are many different kinds of galaxies and will examine the various theories that attempt to explain why there is such a variety. As the course closes, the students will learn how the expansion of the Universe leads to the concept of a violent beginning, a start. We examine newly forming galaxies observed at the edge of the observable universe and how we use "look-back time" to trace the evolution of galaxies. The quarter ends with a bang -- the "Big Bang" -- and a discussion of astrobiology and the probability of life elsewhere in the Milky Way.

ASTR 102 – Introduction to Astronomy (5 credits)
TTh 9:00-10:20
Lab MW, times vary
Instructor: Eric Agol
$10 course fee. Also counts as QSR credit.
Emphasis on mathematical and physical comprehension of nature, the sun, stars, galaxies, and cosmology. Designed for students who have had algebra and trigonometry and high school or introductory level college physics. Cannot be taken for credit in combination with ASTR 101 or ASTR 301.

ASTR 115 – Intro to Astrobiology (5 credits)
MWF 1:30-2:20
Labs TTh, times vary
Instructor: Roger Buick
No Seniors

ASTR 150 – The Planets (5 credits)
TTh 10:00 – 11:20
Lab MW, times vary
Instructor: Toby Smith
$10 course fee. Also counts as QSR credit.
For liberal arts and beginning science students. Survey of the planets of the solar system, with emphases on recent space exploration of the planets and on the comparative evolution of the Earth and the other planets.

Atmospheric Sciences
http://www.washington.edu/students/timeschd/AUT2014/atmos.html

ATM S 101 – Weather (5 credits)
MTWTh 10:30-11:20
Labs Th or F, times vary
Instructor: Darren Wilton
The earth's atmosphere, with emphasis on weather observations and forecasting. Daily weather map discussions. Highs, lows, fronts, clouds, storms, jet streams, air pollution, and other features of the atmosphere. Physical processes involved in weather phenomena. Intended for nonmajors.

ATM S 111 – Global Warming (5 credits)
TTh 11:30-1:20
Labs Th or F, times vary
Instructor: Lyatt Jaegle
Includes a broad overview of the science of global warming. Discusses the causes, evidence, future projections, societal and environmental impacts, and potential solutions. Introduces the debate on global warming with a focus on scientific issues.

ATM S 211 – Climate and Climate Change (5 credits)
MTWTh 10:30-11:20
Labs F, times vary
Instructor: Qiang Fu

ATM S 220 – Exploring Atmospheric Science (1 credit)
Th 12:30-1:20
Instructor: Becky Suess
Focuses on current research in the atmospheric sciences and the related implications for public health, business, and environmental policy. Credit/no credit only.

Biocultural Anthropology
http://www.washington.edu/students/timeschd/AUT2014/bioanth.html

BIO A 101 – Human Biological Diversity (5 credits)
TTh 9:00-10:20
Quiz M/W/F, times vary
Instructor: Patricia Kramer
Exploration of human biological variation, including skin color, body form, blood groups, genetics, and reproductive strategies. Introduction to the theory of evolution through natural selection.
BIO A 201 – Principles of Biological Anthropology (5 credits)
MTWTh 9:30-10:20
Quiz T or Th, times vary
Instructor: Matthew Taylor
Evolution and adaptation of the human species. Evidence from fossil record and living populations of monkeys, apes, and humans. Interrelationships between human physical and cultural variation and environment; role of natural selection in shaping our evolutionary past, present, and future.

Biology
http://www.washington.edu/students/timeschd/AUT2014/biology.html

BIOL 118 – Survey of Physiology (5 credits)
MTWThF 9:30-10:20
Instructor: Amy Oakley
Human physiology, for nonmajors and health sciences students.

BIOL 119 – Elementary Physiology Laboratory (1 credit)
T or Th, times vary
Prerequisite: BIOL 118 which may be taken concurrently. $25 fee required.

BIOL 180 – Introductory Biology (5 credits)
MTWThF 1:30-2:20
Labs T/W/Th, times vary
Instructor: Scott Freeman
$70 fee required
Mendelian genetics, evolution, biodiversity of life forms, ecology, and conservation biology. Open to all students interested in biology whether intending to major in the biological sciences, enroll in preprofessional programs, or fulfill a Natural World requirement. First course in a three-quarter series (BIOL 180, BIOL 200, BIOL 220).

Chemistry
http://www.washington.edu/students/timeschd/AUT2014/chem.html

CHEM 110 – Introduction to General Chemistry (3 credits)
MWF 11:30-12:20
Labs T, times vary
Instructor: TBA
Credit/no credit only.
Introduction to general chemistry with an emphasis on developing problem solving skills. Covers basic concepts of chemistry along with the mathematics required for quantitative problem solving. For students without high school chemistry or with limited mathematics background. Successful completion of CHEM 110 prepares students to enroll in CHEM 142.

CHEM 120 – Principles of Chemistry I (5 credits)
MTWTh 8:30-9:20
Labs twice a week, days and times vary
Instructor: TBA
$60 course fee
First course in a three-quarter overview of chemistry. Not for students majoring in biochemistry, chemistry, or engineering. Includes matter and energy, chemical nomenclature, chemical reactions, stoichiometry, modern atomic theory, chemical bonding. Laboratory.

**Comparative History of Ideas**

**CHID 222 – Biofutures (5 credits)**
 MTW 1:30-2:20
 Quiz F, times vary
 Instructor: Phillip Thurtle
 This class explores key legal, ethical, cultural, scientific, and commercial aspects of the rapidly changing world of biotechnology and bioinformatics. It specifically asks how new discoveries in biology encourage us to rethink issues of ownership, communication, geography, identity, and artistic practice. The class will be structured around six specific case studies that students will use to understand some of the major themes of BioFutures. Come find out about the often exhilarating and frequently frightening scenarios for the future of your body. Students will be specifically encouraged to ask the following questions: What are the ethical and legal issues involved in patenting human cell lines? How are recent biotechnologies portrayed in science fiction films? What can we learn by studying these portrayals? What does it mean to suggest that biotechnology is part of "an information society"? How are race, class, gender, and disability mapped onto or intersect with biomedicine? How are artists using live organisms in their art work? What can we learn about art, ethics, and scientific practice by studying this work? How do scientists manipulate space and time in the laboratory? This class is designed to appeal to all. No prerequisites needed!

**Earth and Space Sciences**

**ESS 101 – Introduction to Geological Sciences (5 credits)**
 MWF 1:30-2:20
 Lab M/T/W/ Th, times vary
 Instructor: Terry Swanson
 No pre-reqs, open to non-science majors.
 $30 course fee
 Survey of the physical systems that give the earth its form. Emphasizes the dynamic nature of interior and surface processes and their relevance to mankind and stresses the value of rocks and earth forms in the understanding of past events. A course with laboratory for non-science majors. Not open for credit to students who have taken ESS 105, or ESS 210.

After taking this course students will never look at the Earth the same! Students will learn about how the Earth evolved from primordial dust to form the compositionally zoned planet upon which life now exists. Students will learn about the unifying concept of plate tectonics, which will provide them with a framework to understand the why and where of earthquakes, volcanoes, mountain belts, ocean basins and rock types in their surrounding world. Students will become amateur geologists and drive their friends and families crazy with their new-found knowledge. Students will also learn about time and its importance to the geologic record. This course will provide students with important information about geologic hazards, which will perhaps one day save lives or personal property.
ESS 102 – Space and Space Travel (5 credits)
MWF 11:30-12:20
Lab TTh, times vary
Instructor:  Erika Harnett
$20 course fee
Explores powering the sun, making of space weather conditions, observations from space and from Earth, Earth's space environment, radiation belts and hazards, plasma storms and auroras, electron beams, spacecraft requirements, tooling up for manned exploration. **Open to non-science majors.**

ESS 106 – Living With Volcanoes (3 credits)
MWF 11:30-12:20
Instructor:  Michael Harrell
Explores volcanoes and volcanic eruptions on Earth and in the solar system. Examines how volcanoes work and how they affect the environment, life, and human societies. Illustrates principles using local examples of recent volcanism and ancient examples of mega-eruptions. Evaluates the possibility of predicting future eruptions.

ESS 230A – Rivers and Beaches (3 credits)
MWF 1:30-2:20
Instructor:  David Montgomery
$30 course fee
Introduction to Earth surface environments, the processes that shape them, how humans affect them and are affected by them. Weekend field trips examine mountains, rivers, deltas/estuaries, beaches, and environments beyond. Focus on linkages between these environments to illustrate coupling between landscapes and seascapes. **Offered jointly with OCEAN 230.**

Also offered as 5 credit course under ESS 230B. See time schedule for details.

ESS 302 – Great Ice Age (5 credits)
MWF 1:30-2:20
W 9:30-11:20
Lab M 9:30-12:20
Instructor:  Terry Swanson
$20 course fee required.
Growth of mile-thick ice sheets, worldwide lowering of sea level, and other geological and paleoclimatological changes that accompany the harsh environments of a global glaciation. Geology of the last three million years, focusing on the causes and effects of global glaciation and future climate change. **Prerequisite: either ESS 101, ESS 105, ESS 210, ESS 211.**

**Environmental Health**

ENV H 311 – Introduction to Environmental Health (3 credits)
MWF 8:30-9:20
Instructor:  Charles Tresor
This course is a survey course intended to introduce students to Environmental Health -- the study of how environmental factors and conditions impact the health of people and their community, and of the efforts made to prevent or control the negative impacts. The course is designed to acquaint students with the scientific and technical foundations of the field well and the social,
economic, legal and political complexities involved with the major issues and problems faced by environmental health practitioners.

Environmental Science and Resource Management
http://www.washington.edu/students/timeschd/AUT2014/esrm.html

**ESRM 101 – Forests and Society (5 credits)**
MTWThF 1:30-2:20
Instructor: Kristiina Vogt
$5 course fee required.
Forests have and continue to play important roles in providing environmental services, human values and natural resources to societies around the world. Historically those groups who successfully dominated access to forests and their resources had considerable political, economic and social power. During the last three decades, highly polarized conflicts over resource uses and conservation have played out in forest landscapes because they are embedded in human landscapes. This course provides a ‘road map’ of factors that need to be considered when making decisions in forests and uses case studies to explore these issues.

**ESRM 150 – Wildlife in the Modern World (5 credits)**
MTWTh 8:30 – 9:20
Quiz M/W/Th, times vary
Instructor: TBA
Open to majors and nonmajors
Covers major wildlife conservation issues in North America. Some global issues are also treated. Examples of topics include the conservation of large predators, effects of toxic chemicals on wildlife, old-growth wildlife, conservation of marine wildlife, recovery of the bald eagle, and gray wolf.

**ESRM 201 – Sustaining Pacific Northwest Ecosystems (5 credits)**
TTh 9:30-10:50, Th 1:30-4:20
Instructor: Susan Bolton
$33 course fee, field trips required
Open to all majors starting Sept. 24th.
Introduces the principles of ecology across an urban to wild land gradient and discusses how these landscapes can be sustainably managed. Explores basic ecological theories, plant communities, soil, climate, pollution, hydrology, and wildlife in classroom, labs, and field trips.

**ESRM 320 – Sustainable Market (5 credits)**
TTh 4:30-6:50pm
Instructor: Dorothy Paun
Introduction to business concepts relating to marketing, human resource management, small businesses and entrepreneurship, and economics in the context of environmental resource management.

**ESRM 403 – Forest and Economic Development in the Developing World (4 credits)**
MW 1:30-2:50
Instructor: Ivan Eastin
Examines the relationship between forests and economic development in tropical countries. Topics include the role of population growth, poverty, land tenure, and international trade on
forest use as well as theories of economic development. Case examples of forest-based economic development in different countries and regions.

ESRM 429 – ESRM Seminar (1 credit)
T 8:30-9:20
Instructor: Joel Baker
Weekly seminars covering water resources and watershed topics with lectures from scientists on and off campus. **Credit/no credit only.**

ESRM 455 – Wildlife Seminar (1 credit)
M 3:30-4:50
Instructor: John Marzluff
Discussion of current research and application in wildlife biology and conservation. **Credit/no credit only.**

**Environmental Studies**

ENVIR 100 –Environmental Studies: Interdisciplinary Foundations (5 credits)
TTh 2:30 – 3:50
Quiz Sections M or W, times vary
Instructor: Elizabeth Wheat
Introduces the interdisciplinary approach to environmental studies. Examines the ethical, political, social and scientific dimensions of current and historical environmental issues, at the local and global scale. First in a three course sequence required of Environmental Studies majors. **Open to non-majors.**

ENVIR 379 – Environmental Sociology (5 credits)
MW 2:30-4:20
Instructor: Stanley Asah
Social processes by which environmental conditions are transformed into environmental problems; scientific claims, popularization of science, issue-framing, problem-amplification, economic opportunism, and institutional sponsorship. Examination of social constructs such as ecosystem, community, and free-market economy. Use of human ecology to assess whether the current framing of environmental problems promotes ecological adaptability. **Offered jointly with ESRM 371/SOC 379.**

**Fisheries**

FISH 250D – Marine Biology (5 credits)
MWF 9:30-10:20
Labs T/W/Th/F, times vary
Instructor: Carolyn Friedman
$75 course fee required.
Lecture-laboratory course in marine biology focusing on physical, biological, and social aspects of the marine environment. Topics include oceanography, ecology, physiology, behavior, conservation, fisheries, exploration, and activism. Weekend field trip. Honors section research project. **Offered jointly with BIOL 250/OCEAN 250.**
Gender, Women and Sexuality
Studies http://www.washington.edu/students/timeschd/AUT2014/gwss.html

GWSS 357 – Psychobiology of Women (5 credits)
TTh 9:30-11:20
Quiz Th/F, times vary
Instructor: Nancy Kenney
Physiological and psychological aspects of women’s lives: determinants of biological sex; physiological and psychological events of puberty, menstruation, and menopause; sexuality; pregnancy, childbirth; the role of culture in determining the psychological response to the physiological events. Offered jointly with PSYCH 357.

Nutritional Science
http://www.washington.edu/students/timeschd/AUT2014/nutrit.html

NUTR 300 – Nutrition (3 credits)
MWF 4:30-5:20
Instructor: Elizabeth Kirk
The landscape of nutritional sciences ranges from interpreting the information on a food label, to understanding how food is used to fuel our bodies, to appreciating the role of foods in preventing or increasing one’s risk of chronic disease. This course is designed to introduce you to these and other aspects of the field of nutrition and to highlight how nutritional knowledge can affect individual food choices, health behaviors, and public health decision-making. Topics to be discussed include nutrients and nutritional needs across the lifespan, nutrition and physical activity, eating disorders, and prevention of chronic disease.

Oceanography
http://www.washington.edu/students/timeschd/AUT2014/ocean.html

OCEAN 101B – Oceanography of the Pacific Northwest (5 credits)
MWF 11:30-12:20
Lab T or Th, times vary
Instructor: Mikelle Nuwer
$25 course fee
This course will introduce you to the fundamental principles of oceanography by focusing on the waters that surround us - the Washington coast and Puget Sound. Topics including the geologic history of the Pacific Northwest, the physics and chemistry of coastal waters, marine foodwebs and ecology, and environmental concerns will be introduced using relevant and timely case studies. A lab section is run concurrently with the lectures. The lab work is designed to give students hands-on experience with the topics introduced in lecture and in the text.

OCEAN 210A – Integrative Oceans (4 credits)
MWF 12:30-1:20
Quiz sections T/W/Th, times vary
Instructor: Paul Quay
Presents fundamentals of ocean science through regional case studies that illustrate the relationship between interdependent physical, chemical, biological, and geological process. Students apply tools from the major scientific disciplines to understand major changes predicted for future oceanic environments. Prerequisite: either Ocean 200, or OCEAN 250/BIOL 250/FISH 250. Recommended (not required): either PHYS 114 or PHYS 121.
**Philosophy**
http://www.washington.edu/students/timeschd/AUT2014/phil.html

PHIL 120 – Introduction to Logic (5 credits)
MWF 12:30-1:20
Quiz TTh, times vary
Instructor: John Manchak
QSR credit
Elementary symbolic logic. The development, application, and theoretical properties of an artificial symbolic language designed to provide a clear representation of the logical structure of deductive arguments.

**Psychology**
http://www.washington.edu/students/timeschd/AUT2014/psych.html

PSYCH 202 – Biopsychology (5 credits)
MTWTh 9:30-10:20
Quiz F, times vary
Instructor: Jaime Olavarria
Examines the biological basis of behavior, the nervous system, how it works to control behavior and sense the world, and what happens when it malfunctions. Topics include learning and memory, development, sex, drugs, sleep, the senses, emotions, and mental disorders.
Prerequisite: PSYCH 101.

**Speech and Hearing Sciences**
http://www.washington.edu/students/timeschd/AUT2014/sphsc.html

SPHSC 371 – Hearing Disorders (3 credits)
TTh 2:30-3:50
Instructor: Kelly Tremblay
Open to all majors starting June 23rd.
Introduction to abnormal hearing. Pathologies of the ear and their treatments. Audiometric correlates, communicative and social consequences of hearing loss. Overview of management of children and adults. **Required for majors; open to nonmajors.**

**Statistics**
http://www.washington.edu/students/timeschd/AUT2014/stat.html

STAT 220 – Basic Statistics (5 credits)
MWF 8:30-9:20
Quiz TTh, times vary
Instructor: Ranjini Grove
Also counts as QSR credit
Objectives and pitfalls of statistical studies. Structure of data sets, histograms, means, and standard deviations. Correlation and regression. Probability, binomial and normal. Interpretation of estimates, confidence intervals, and significance tests. Note: Stat 220 is a course on statistical reasoning. We do not focus on calculations, but rather on understanding the concepts. **Students may receive credit for only one of STAT 220, 221, 311, and ECON 311.**
STAT 221 – Statistical Concepts and Methods for the Social Sciences (5 credits)
MWF 9:30-10:20
Quiz TTh, times vary
Instructor: Kyle Crowder
Also counts as QSR credit
Develops statistical literacy. Examines objectives and pitfalls of statistical studies; study designs, data analysis, inference; graphical and numerical summaries of numerical and categorical data; correlation and regression; and estimation, confidence intervals, and significance tests. Emphasizes social science examples and cases. (Students may receive credit for only one of STAT 220, STAT 311, STAT 221, and ECON 311.)

STAT 311 – Elements of Statistical Methods (5 credits)
MWF 2:30-3:20
Quiz TTh, times vary
Instructor: Elizabeth Thompson
Also counts as QSR credit
Elementary concepts of probability and sampling; binomial and normal distributions. Basic concepts of hypothesis testing, estimation, and confidence intervals; t-tests and chi-square tests. Linear regression theory and the analysis of variance. **Prerequisite:** either MATH 111, MATH 120, MATH 124, MATH 127, or MATH 144.