Spring Quarter 2012 NW courses

Class times, locations, fees, and course descriptions may change. Check the time schedule for updates before enrolling in any course.

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

Astronomy

http://www.washington.edu/students/timeschd/SPR2012/astro.html

ASTR 101 – Astronomy (5 credits)
MW 10:00 – 11:20
Quiz sections on TTh, times vary
Instructor: Christopher Laws
$10 course fee
Open to all majors.
Introduction to the universe, with emphasis on conceptual, as contrasted with mathematical, comprehension. Modern theories, observations; ideas concerning nature, evolution of galaxies; quasars, stars, black holes, planets, solar system. Not open for credit to students who have taken 102 or 201; not open to upper-division students majoring in physical sciences or engineering. **Also counts as QSR credit.**

ASTR 150 – The Planets (5 credits)
TTh 10:00 – 11:20
Quiz sections on MW, times vary
Instructor: Toby Smith
$10 course fee
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. **Also counts as QSR credit.**

ASTR 270 – Public Outreach in Astronomy (3 credits)
TTh 10:30-11:50
Instructor: Ana Larson
Prerequisite: one astronomy course at either the 100-, 200-, or 300-level.
Emphasis is on giving effective scientific presentations, developing and giving educational programs to school-age groups, and communicating your knowledge of astronomy to others. Give talks at the Jacobsen Observatory on campus and presentations in the Astronomy Department's planetarium. Learn to operate a telescope and the planetarium equipment. **Counts for VLPA OR NW credit.**

ASTR 313 – Science in Civilization: Physics and Astrophysics Since 1850 (5 credits)
MTWThF 12:30-1:20
Instructor: Woodruff Sullivan
Organization and pursuit of the physical and astrophysical sciences, focusing on the major unifying principles of physics and astronomy and the social and cultural settings in which they were created. **Offered jointly with HIST 313.**

Atmospheric Sciences
http://www.washington.edu/students/timeschd/SPR2012/atmos.html

ATM S 101 – Weather (5 credits)
MTWTh 10:30 – 11:20
Quiz sections on Th or F, times vary
Instructor: Gregory Hakim
Intended for nonmajors.
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.

ATM S 111 – Global Warming (5 credits)
TTh 11:30 – 1:20
Quiz sections on Th or F, times vary
Instructor: Dargan Frierson
Intended for nonmajors.
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.

Biocultural Anthropology
http://www.washington.edu/students/timeschd/SPR2012/bioanth.html

BIO A 201 – Principles of Biological Anthropology (5 credits)
MTWTh 8:30-9:20
Quiz sections on T or Th, times vary
Instructor: Geoffrey Kushnick
This course is a survey of biological anthropology. As such, you will learn about basic genetic and evolutionary processes, and how they have shaped the anatomical and behavioral adaptations of humans and their closest relatives, including living primates and fossil human ancestors. Emphases are placed on: (a) the interrelationships among human physical and cultural variation, and the environment; and, (b) how natural selection shapes our past, present, and future. You will explore these topics by attending lectures, reading, watching documentary films, and gaining hands-on experience in the laboratory.

Biology
http://www.washington.edu/students/timeschd/SPR 2012/biology.html

BIOL 118 – Survey of Physiology (5 credits)
MTWThF 9:30-10:20
Instructor: Tolga Bilgen
Human physiology, for non-Biology majors and health sciences students.

BIOL 180 – Introductory Biology (5 credits)
MTWF 1:30-2:20
Quiz T or W or Th, times vary
Instructor: Kerry-Ann Naish
$55 course fee
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).

BIOL 240 – The Urban Farm (3 credits)
TTh 2:30-3:50
Instructor: Elizabeth Wheat
$30 course fee
In this course students will learn the essential skills for maintaining soil health and turning urban spaces into productive landscapes. We will cover: crop rotation, soils, urban farm planning, composting and cover cropping. There will be a hands on component at the UW farm as well as field trips to some local farms (both inside and out of the city limits). If the course is full when you are able to register, please add your name to the wait list - we are currently checking on how to get some more students in the course.

BIOL 305 – Video Storytelling (3 credits)
TTh 9:00-10:20
Instructor: P. Dee Boersma
$110 course fee. Add code required.
Students must have some video experience and access to video equipment. See time schedule for registration survey.
Students make a short film on a biological story, concept, or theory. Includes developing a storyline, getting the shots to make compelling viewing, editing, and producing a short video.
Prerequisite: BIOL 180.

Scientists test hypotheses and communicate their results through peer-reviewed journal articles and scientific meetings. Increasingly, scientists wish to, or must, communicate with the media and the general public. Granting agencies often expect scientists to reach out to a wider audience to demonstrate the educational and scientific value of their work to the public.

Short videos are a source of information used by both scientists and the public to gain information about scientific problems. Storytelling is a communication tool that all scientists need to understand better, and this course is designed to expose students to how to communicate scientific theories, concepts, and stories to a broad audience. The focus of the course will be on storytelling using video.

Comparative History of Ideas
http://www.washington.edu/students/timeschd/SPR2012/chid.html

CHID 444 – Eye + Mind (5 credits)
MW 1:30-3:20
Instructor: Phillip Thurtle
Open to all students starting March 5th.
This class investigates life as an emergent phenomenon across the disciplines of biophilosophy, art, art history, literary criticism, and information studies. Students will read key texts from these disciplines, evaluate recent art commenting on bioinformatics, and design their own creative projects. Throughout the quarter we will ask questions such as: What do art and science have in common? Are “knowing" and “living" necessarily separate? What is an emergent phenomenon? What is special about living organisms? Students should expect to leave this class with knowledge of key issues in phenomenological philosophy, contemporary bioart, and complexity studies.

Earth and Space Sciences

http://www.washington.edu/students/timeschd/SPR2012/ess.html

ESS 101 - Intro to Geological Sciences (5 credits)
MWF 12:30-1:20
Lab sections M or T or W or Th, times vary
Instructor: Terry Swanson
$30 course fee required.
No pre-reqs, open to non-science majors.
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. Students will learn that geologists pay more for their dates than Hollywood's most elite stars! This course will provide students with important information about geologic hazards, which will perhaps one day save lives or personal property. If students love the outdoors, this course will give them many opportunities to visit spectacular geologic sites around Washington state through the ESS 101 optional weekend field trip program. The entire class will be invited to attend a special IMAX viewing of a geologic film at the Seattle Center.

This course is intended for non-major students who have little math or physical science background. No pre-requisites are necessary to take this class. Please come with an open-mind and inquisitiveness about your natural world. The material discussed this course will engage all students, regardless of their respective academic backgrounds.

ESS 102 – Space and Space Travel (5 credits)
MWF 11:30-12:20
Quiz sections TTh, times vary
Instructor: Erika Harnett
$20 course fee
Open to all majors; writing credit optional. Turning point clickers required.
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 1:30-2:20
Instructor: Brittany Brand
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 202 – Earthquakes (5 credits)
TTh 10:30-11:50
Quiz W or F, times vary

Instructor: TBA
Earthquakes of the Pacific Northwest and around the world -- their cause and relationship to plate tectonics; why, where, and when they occur. How earthquakes affect human life: shaping landscape, hazards. Laboratory explores physical processes associated with earthquakes. One field trip. Open to non-science majors.

ESS 205 – Access to Space (5 credits)
MWF 12:30-1:20
Labs TTh, times vary
Instructor: Robert Holzworth
$32 course fee
Open to non-science majors.
This course seeks to provide science majors as well as non-science majors access to space to fully appreciate Earth's upper atmosphere and near space environment and to learn how to accomplish working experiments in these very extreme environments. The course will provide hands-on experience through high-altitude balloon experiments that the students will build and launch. At the same time students will learn basic principles of space sciences as well as basic electronics.

Environmental Studies
http://www.washington.edu/students/timeschd/SPR2012/envst.html

ENVIR 100 –Environmental Studies: Interdisciplinary Foundations (5 credits)
TTh 12:30-1:50
Quiz Sections Th or F, times vary
Instructor: Kristina Straus
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.

ENVIR 235 – Introduction to Environmental Economics (5 credits)
MW 2:30-4:20
Instructor: Sergey Rabotyagov
Open to all majors starting March 5th.
Introduces environmental and natural resource economics. Discusses fundamental economic concepts, including markets and private property. Includes basic tools used in the economic assessment of environmental problems and applies these methods to key environmental issues.
Offered jointly with Econ/ESRM 235.

Envir 280 – Natural History (5 credits)
TTh 1:30-3:20
Instructor: Joshua Tewksbury
Course fee $75
Overnight field trip required, see Time Schedule for information
Introduces natural history, the observation and representation of nature, at biological scales from organisms to landscapes. Emphasizes the natural history of the Pacific Northwest.

ENVIR 330 – Climate Change Impacts on Marine Ecosystems (5 credits)
MWF 10:30-11:20
Quiz M or T, times vary
Instructor: Nathan Mantua

This course provides an in-depth introduction to the role of large-scale to local-scale climate processes as agents of change and structure in marine ecosystems. Students will explore the fundamental physical processes linking changes in the ocean with changes in ecosystems. Once a foundation for understanding the biophysical impacts of climate variations is set, lectures will focus on the impacts of large-scale patterns of climate variability and climate change--including the El Nino-Southern Oscillation, the Pacific Decadal Oscillation, the North Atlantic Oscillation, and human-caused global warming--on marine ecosystems. While the primary focus of the course will be climate impacts on ecosystems, students will also learn the basics of human-caused ocean acidification and its projected impacts on marine ecosystems. Case studies focused on tropical, temperate, upwelling, sub-arctic, and polar marine ecosystems will allow students to apply their understanding for fundamental processes of biophysical interactions to present-day concerns about future climate change impacts on marine ecosystems. Daily ecology vignettes will present a 5 -10 minute overview of the life history of a different marine animal so that by the end of the quarter students will have a collection of material describing a range of habitat requirements and sensitivities for different species that will enrich their understanding of the ecosystem case studies.

Environmental Health
http://www.washington.edu/students/timeschd/SPR2012/envh.html

ENV H 311 – Intro 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/SPR2012/esrm.html

ESRM 100 – Environmental Science (5 credits)
Instructor: Robert Harrison
Additional course fee required - $350
DISTANCE LEARNING – INTERNET-TAUGHT COURSE
GROUP-START ONLINE COURSE: ALL STUDENTS BEGIN AND END COURSE TOGETHER.
FOR COURSE DETAILS, INCLUDING EXAM DATES, SEE: HTTP://SOILSLAB.CFR.WASHINGTON.EDU/ESRM100DL/.
Covers the importance of the environment in society with particular emphasis on worldwide distribution and uses of resources, the role of natural and man-made environments, and causes of environmental degradation. Introduces ethics of conservation and recycling. Cannot be taken for credit if ESC 110 already taken.

ESRM 101 – Forests and Society (5 credits)
MTWThF 1:30-2:20
Instructor: Kristiina Vogt
Course fee required - $15

Survey course covering forest ecosystems of the world, history of forestry and forest conservation, how forest ecosystems function, wildlife in forests, environmental issues in forestry, forest management, economics and products, and new approaches to forest management. **Open to majors and nonmajors.**

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 foret 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 200 – Society and Sustainable Environments (5 credits)
TTh 9:30-11:20
Instructor: Gordon Bradley
$24 course fee
Registration open to all majors starting March 5th.
Introduces the application of social concepts and theories to understanding and managing urban, urbanizing and wildland landscapes in a sustainable manner. Of particular interest are factors that shape patterns on the landscape and resulting social and economic benefits. Explores landscapes across the urban to wildland gradient. **Two weekend field trips are required.**

ESRM 201 – Sustaining Pacific Northwest Ecosystems (5 credits)
T 1:30-2:50
Th 1:30-4:20
Instructor: Thomas Hinckley
$37 course fee
Registration open to all majors starting March 5th.
Introduces the principles of ecology across an urban to wildland 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. **Field trips required.**

ESRM 235 – Introduction to Environmental Economics (5 credits)
MW 2:30-4:20
Instructor: Sergey Rabotyagov
See description under ENVIR 235 above.

ESRM 315 – Natural Resource Issues: Old-Growth and Forest Management (5 credits)
TThF 1:30-3:20
Instructor: Jerry Franklin
$141 course fee
Biological and social elements of current conflicts, especially those associated with old-growth and its disposition. Ecology of Pacific Northwest forests and landscapes, history of forest practices, application of emerging science, proposed alternative practices and policies, including analysis of current proposal and its predecessors and successors. Open to majors and nonmajors. **Two weekend field trips required.**

ESRM 429 – Water Center Seminar (1 credit)
T 8:30-9:20
Instructor: Robert Edmonds
Cr/NC only
Weekly seminars covering water resources and watershed topics with lectures from scientists on and off campus. Students will be exposed to a variety of current issues having to do with water, a precious and increasingly scarce, resource. Many talks present new research, and are of a technical nature, requiring a high level of concentration and attention on the part of the student.Water resource issues are presented from a variety of perspectives and disciplines. Prompt attendance and sign-in by 8:30 is required for full credit for seminar attendance. Sign-ins up to 10 minutes late receive 1/2 credit. No credit for arriving over 10 minutes late to the seminar.

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

Gender, Women, and Sexuality Studies
http://www.washington.edu/students/timeschd/SPR2012/gwss.html

GWSS 357 – Psychobiology of Women (5 credits)
TTh 9:30-11:20
Quiz Th or 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.**

History
http://www.washington.edu/students/timeschd/SPR2012/hist.html

HIST 313 – Science in Civilization: Physics and Astrophysics Since 1850 (5 credits)
MTWThF 12:30-1:20
Instructor: Woodruff Sullivan
Writing credit
Organization and pursuit of the physical and astrophysical sciences, focusing on the major unifying principles of physics and astronomy and the social and cultural settings in which they were created. The history of physics and astronomy from ~1800 to ~1940. The social, intellectual, political, and philosophical aspects of the development of the physical sciences during this period. Biographical aspects of leading scientists during this period. **Offered jointly with ASTR 313.**

International Studies
http://www.washington.edu/students/timeschd/SPR2012/intl

SIS 103 – Society and the Oceans (5 credits)
TTh 2:30-4:20

Quiz on F, times vary
Instructor: Lekelia Jenkins
Explores the social and policy dimensions of the ocean environment and ocean management policy. Attention to how human values, institutions, culture, and history shape environmental issues and policy responses. Examines case studies and influential frameworks, such as the ocean as "tragedy of the commons". Offered jointly with ENVIR103/SMA 103.

SIS 216 – Science and Society (5 credits)
TTh 10:30-12:20
Quiz F, times vary
Instructor: Vladimir Chaloupka
Offered jointly with PHYS 216
This is a course on the issues of Science and Society offered jointly by the Physics Department and Henry M. Jackson School of International Studies. The enrollment is not limited to the students of the two sponsoring Departments - the goal is to achieve a truly transdisciplinary mix of non-science and science students with diverse backgrounds. Students can take SIS 216 or PHYS 216 towards either their NW or towards their I&S requirement.

Modern science is an awesome, exciting adventure. Quite inexplicably, we seem able to investigate Nature, from detailed aspects of the Big Bang, through the machinery of our own genome, all the way to the Quantum Mechanics of quarks and neutrinos. The range of potential benefits is mind-boggling. At the same time, many thinkers have pointed out the ever-increasing gap between the cumulative, exponential progress in science and technology on the one hand, and on the other hand, the lack of comparable progress in our ability to use our new technological tools thoughtfully and responsibly. This gap cannot keep increasing forever. Some people think that we might be in the process of acquiring powers that we should not have, and that catastrophic consequences are not only possible, but probable or even inevitable. An informed, educated citizen ought to know enough about science to be able to appreciate the enormous potential benefits as well as the possible dangers which science represents.

In this course, we will explore the current status and developments in Physics, Nanotechnology, Biotechnology and Computer Science, and we will discuss the implications for society at the local, national and international (global) level. First we will learn, from scratch (i.e. without any pre-requisites) but in considerable detail, about the fundamental concepts of Nuclear Physics and Molecular Biology. There will be some numerical calculations and reasoning, but no previous knowledge of physics or math is assumed.

Nutritional Science
http://www.washington.edu/students/timeschd/SPR2012/nutrit.html

NUTR 302 – Food Studies (3 credits)
MWF 2:30-3:20
Instructor: Elizabeth Kirk
This course examines the many facets of the modern food supply from production and processing to distribution, marketing and retail. This systems approach to food studies will consider the impact of agricultural, environmental, social and economic factors along the pathway from harvest to health. **Prereq: NUTR 300.**

Physics
http://www.washington.edu/students/timeschd/SPR2012/phys.html

PHYS 207 – Physics of Music (3 credits)
MWF 2:30-3:20
Instructor: Vladimir Chaloupka
This is a course for anyone who is interested in Music (listening to it, performing it, writing it, hacking it with MIDI, CD-RW, DVD or MP3, building musical instruments or HiFi equipment, evaluating acoustics of your room or of your church, ...) and who wants to learn how it interplays with Physics and with Science in general.

PHYS 216 – Science and Society (5 credits)
See course description under SIS 216.

Psychology
http://www.washington.edu/students/timeschd/SPR2012/psych.html

PSYCH 200 – Comparative Animal Behavior (5 credits)
MTWThF 11:30-12:20
Instructor: David Barash
Research methods and findings of comparative animal behavior, their importance to an understanding of human behavior; rationale for study of behavioral differences/similarities between animal species, behavior viewed as part of adaptation of each species to its natural habitat. **Not open for credit to students who have taken PSYCH 300.**

PSYCH 202 – Biopsychology (5 credits)
MTWTh 9:30-10:20
Quiz on F, times vary
Instructor: Ann Voorhies
Not open to seniors until March 5th
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.

PSYCH 357 – Psychobiology of Women (5 credits)
TTh 9:30-11:20
Quiz Th or F, times vary
Instructor: Nancy Kenney
See course description under GWSS 357 above.

School of Marine and Environmental Affairs
http://www.washington.edu/students/timeschd/SPR2012/smea.html

SMEA 103 – Society and Oceans (5 credits)
See description under ENVIR 103 above.

SMEA 103 – Pacific Tourism (3 credits)
MW 9:30-10:50
Instructor: Marc Miller
Examines how marine tourism links people to one another and to the environment. Utilizes concepts from cultural anthropology, sociology, political science, geography, ecology, conservation biology, and planning. Topics include: ecotourism, ethnic tourism,

marine parks and protected area, fisheries, sustainable development, tourism ethics, and marine environmental education.

Statistics
http://www.washington.edu/students/timeschd/SPR2012/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. (Students may receive credit for only one of 220, 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: Samuel Clark
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/CS&SS 221/SOC 221, and ECON 311.)

STAT 311 – Elements of Statistical Methods (5 credits)
MWF 2:30-3:20
Quiz TTh, times vary
Instructor: Wanda Morris
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. (Students may receive credit for only one of 220, 311, and ECON 311.) **Prerequisite: either MATH 111, MATH 120, MATH 124, MATH 127, OR MATH 144.**