Winter Quarter 2015 courses

Please note: class times, locations, fees, and course descriptions may change. Check the time schedule for updates.

**Astronomy**  
http://www.washington.edu/students/timeschd/WIN2015/astro.html

**ASTR 101 – Astronomy (5 credits)**  
MWF 11:30 – 12:20  
Quiz TTh, times vary  
Instructor: Oliver Fraser  
Open to all majors. $10 course fee  
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 105 – Exploring the Moon (5 credits)**  
MWF 10:00-11:20  
Instructor: Toby Smith  
Examines the questions why did we go to the moon, what did we learn, and why do we want to go back.

**ASTR 150 – The Planets (5 credits)**  
TTh 10:00 – 11:20  
Quiz MW, times vary  
Instructor: Nicole Kelly  
$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 190 – Topics in Astronomy for Non-Science Majors (3 credits)**  
MW 1:30-2:50  
Instructor: Bruce Balick  
Prerequisite: either one 100- or one 200-level ASTR course.  
Topics of current interest, such as origin of chemical elements, novae and supernovae, white dwarfs, neutron stars, black holes, active galaxies, quasars, or interstellar medium and astrochemistry. Choice of topics depends on instructor and class interest. Prerequisite: either one 100- or one 200-level ASTR course.

**ASTR 211 – Universe and Change (5 credits)**  
MTWThF 11:30-12:20  
Instructor: Ana Larson  
We will start with our own observations of the night sky and relate those to the theories of Ptolemy and others, reproducing and understanding the universe from a geocentric point of view. We then move to Galileo's and Newton's time periods and the definition of gravity. We investigate the steps that led to the acceptance of the heliocentric universe, and then a universe
with no center. We investigate large scale structure, the expansion and possible acceleration of
the universe, and such ideas as superstrings. A course in introductory astronomy and/or
physics will help, but is not necessary.

Atmospheric Sciences
http://www.washington.edu/students/timeschd/WIN 2015/atmos.html

ATM S 101 – Weather (5 credits)
MTWTh 10:30 – 11:20
Quiz Th/F, times vary
Instructor: Darren Wilton
Open to all majors.
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)
MTWTh 11:30 – 12:20
Quiz on Th/F, times vary
Instructor: Dennis Hartmann
Open to all majors.
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 Change (5 credits)
MTWTh 10:30-11:20
Quiz F, times vary
Instructor: Qiang Fu
The nature of the global climate system. Factors influencing climate including interactions among
the atmosphere, oceans, solid earth, and biosphere. Stability and sensitivity of climate system.
Global warming, ozone depletion, and other human influences. Intended for nonmajors.

ATM S 220 – Exploring the Atmospheric Sciences (1 credit)
M 1:30-2:20
Instructor: TBA
Focuses on current research in the atmospheric sciences ant the related implications for public
health, business, and environmental policy. Credit/no-credit only.

Biocultural Anthropology
http://www.washington.edu/students/timeschd/WIN2015/bioanth.html

BIO A 201 – Principles of Biological Anthropology (5 credits)
MTWTh 9:30-10:20
Quiz T/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/WIN2015/biology.html

BIOL 118 – Survey of Physiology (5 credits)
MTWThF 10:30-11:20
Instructor: Amy Oakley
Human physiology, for nonmajors and health sciences students.

BIOL 180 – Intro to Biology (5 credits)
MTWThF 1:30-2:20
Labs T/W/Th, times vary
Instructor: Janneke Hille Ris Lambers
$70 course 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).

Earth and Space Sciences
http://www.washington.edu/students/timeschd/WIN2015/ess.html

ESS 100 – Dinosaurs (2 credits)
MW 12:30-1:20
Instructor: Ruth Martin
No pre-reqs, open to non-science majors
Biology, behavior, ecology, evolution, and extinction of dinosaurs, and a history of their exploration. With dinosaurs as focal point, course also introduces the student to how hypotheses in geological and paleobiological science are formulated and tested.

ESS 101 – Intro to Geological Sciences (5 credits)
MWF 2:30-3:20
Lab M/T/W/Th, times vary
Instructor: Terry Swanson
$30 course fee required.
No pre-reqs, open to non-science majors.
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. Field trips.

ESS 102 – Space and Space Travel (5 credits)
MWF 11:30-12:20
Quiz TTh, times vary
Instructor: Erika Harnett
$20 course fee required.
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 2:30-3:20
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 203 – Glaciers and Global Change (5 credits)
MWF 12:30-1:20
Lab T/Th, times vary
Instructor: Edwin Waddington
$12 course fee
Earth's glaciers are changing. This course examines the role that glaciers and polar ice sheets play in altering climate, landscape and sea level, locally and globally, and the role that glaciers play in teaching us about past climate and environmental changes, both natural and human-caused. Glaciers slowly advance and retreat in response to past and present climate changes, and their weight can push down the earth's crust; as a result, changes in Earth's glacial environment today can tell us about climate in the past. Layers of buried glacier ice from earlier climate periods also contain a rich and detailed history of the atmosphere and the climate in the past, unlike the records found anywhere else. We examine theories of the Ice Ages, and look at evidence for glaciers that covered Puget Sound. Finally, we consider how glaciers might change in the future, with accompanying impacts on our society.

Environmental Studies
http://www.washington.edu/students/timeschd/WIN2015/envst.html

ENVIR 100 – Environmental Studies: Interdisciplinary Foundations (5 credits)
MWF 9:30-10:20
Quiz T/Th, times vary
Instructor: Yen-Chu Weng
Service Learning option
Introduces environmental studies through interdisciplinary examination of the ethical, political, social, and scientific dimensions of current and historical environmental issues. Integrates material from different disciplines, and applies insights and methods to actual problems and situations at scales from the local to the global.

ENVIR 239 – Sustainable Choices (3 or 5 credits – see time schedule)
MWF 1:30-2:20
Instructor: Kristina Straus and Megan Horst
Presents frameworks of sustainability via exploration of key pillars of sustainability, the history of sustainability movements, and sustainability in action. Students examine personal and global aspects of sustainability through issues such as smart growth, environmental and natural building, green business and energy, ecotourism, and international policy.

ENVIR 250 – Environmental Studies: Data Types and Collection Methods (5 credits)
MWF 11:30-12:20
Quiz M/W, times vary
Instructor: Timothy Billo and Yen-Chu Weng
$10 course fee
Introduction to the diversity of methods for collecting and analyzing data used to understand complex environmental issues. Case studies help to illustrate research design processes, and introduce key methods of data collection and analysis relevant to the problem. **Prerequisite:** minimum grade of 2.0 in ENVIR 100.

**Environmental Science and Resource Management**  

**ESRM 200 – Society and Sustainable Environments (5 credits)**  
MW 2:30-4:20  
Quiz W, times vary  
**Instructor:** Stanley Asah  
**Registration open to all majors starting Nov. 24th.**  
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.

**ESRM 300 – Sustainability Seminar (2 credits)**  
T 1:30-3:20  
**Instructor:** Jerry Franklin  
Cr/NC only  
Overview of principles of sustainability, including discussion of current literature, presentation, and discussion with practitioners, and methods for balancing social, economic, and ecological consequences of proposed policies and actions. Students develop a plan to further their studies in natural resources and environmental sustainability. **Credit/ no credit only.**  
**Recommended:** ESRM 200; ESRM 201.

**ESRM 429 – ESRM Management Seminar (1 credit)**  
T 8:30-9:20  
**Instructor:** Darlene Zabowski  
Cr/NC only  
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:** Aaron Wirsing  
Discussion of current research and application in wildlife biology and conservation. Credit/no credit only.

**Fisheries**  

**FISH 101: Water and Society (5 credits)**  
MWF 10:30-11:20  
Quiz T/Th, times vary  
**Instructors:** Daniel Schindler  
**No prerequisites. Open to all majors**  
FRESHWATER is:
*Essential for life.
*The oil of the 21st century.
*Breeding ground of the most dangerous human diseases.
*Losing species faster than any other ecosystem.
*A reason to launch a war?

Come learn about how, despite the abundance of water on Earth, freshwater is coming under increasing pressure as human populations increase and climates warm. These changes affect not only those ecosystems, but also human health and how we interact with each other both politically and socially. Come learn about how social changes might reduce human impacts on fresh water systems, locally, nationally and internationally. You’ll also learn how to calculate your own personal water footprint and explore ways to reduce consumption of this valuable resource!

Informatics
http://www.washington.edu/students/timeschd/WIN2015/info.html

INFO 101 – Social Networking (5 credits)
F 1:30-2:20
Lab MW, times vary
Instructor: Robert Boiko
Freshman, Sophomores only Period I registration (11/7-11/23).
Explores today's most popular social networks, gaming applications, and messaging applications. Examines technologies, social implications, and information structure. Focuses on logic, databases, networked delivery, identity, access privacy, ecommerce, organization, and retrieval.

Nutrition
http://www.washington.edu/students/timeschd/WIN2015/nutrit.html

NUTR 300 – Nutrition (3 credits)
MWF 10:30-11:20
Instructor: Michelle Averill
Science of nutrition as it relates to individual food choices, health behaviors, public health. Health topics include wellness, obesity, eating disorders, sports nutrition, prevention of chronic disease. Nutrients and nutritional needs across the lifespan. Issues facing society including food safety, biotechnology, use of supplements and botanicals.

NUTR 303 – Neighborhood Nutrition (3 credits)
TTh 2:00-3:20
Instructor: Adam Drewnowski
Examines the food environment in the local community from the public health perspective. Explores where people get their food, what influences this decision and various aspects of the local food movement including access to healthy food, urban agriculture, farmers markets, and farm-to-school programs. Prerequisite: NUTR 300.

Oceanography
http://www.washington.edu/students/timeschd/WIN2015/ocean.html

OCEAN 102 – The Changing Oceans (5 credits)
MTWF 1:30-2:20
Quiz Th, times vary
Instructor: Mikelle Nuwer
Intended for nonmajors.
Case studies of research on how the ocean drives our planet's climate system and how humans have altered marine and coastal environments. Students consider societal factors affecting progress in marine science, changing popular attitudes toward the oceans, and key current policy implications of marine science. Intended for nonmajors.

OCEAN 121 – Deep Sea Vents: Volcanoes and Life in the Deep Sea (2 credits)
W 2:30-4:20
Instructor: Deborah Kelley
Examines the dynamic marine processes that shape the planet and cutting-edge oceanographic technologies used to explore the deepest oceans. Includes imagery of rarely seen submarine volcanic eruptions, hot springs, and novel life forms highlighting the interconnected geological-biological processes creating the most extreme environments on Earth.

OCEAN 240 – Issues in Oceanography (5 credits)
MTWF 2:30-3:20
Quiz Th, times vary
Instructor: TBA
NOTE: will be listed as OCEAN 285 – Ocean Physics.
Selected topics of contemporary interest in oceanography such as hydrothermal vents, planetary volcanism, biogeochemical cycling, the ecology of Puget Sound, and the ocean's role in climate.

Philosophy
http://www.washington.edu/students/timeschd/WIN2015/phil.html

PHIL 120 – Intro to Logic (5 credits)
MWF 1:30-2:20
Quiz TTh, times vary
Instructor: Cass Weller
Also counts as 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/WIN2015/psych.html

PSYCH 200 – Comparative Animal Behavior (5 credits)
MTWThF 11:30-12:20
Instructor: Michael Beecher
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 – Biopsych (5 credits)
MTWTh 9:30-10:20
Quiz F, times vary
Instructor: Lauren Graham
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.

Statistics

**STAT 220 – Principles of Statistical Reasoning (5 credits)**
MWF 8:30-9:20
Quiz TTh, times vary
Instructor: Ranjini Grove
QSR credit
Introduces statistical reasoning. Focuses primarily on the “what” and “why” rather than the “how”. Helps students gain an understanding of the rationale behind many statistical methods, as well as an appreciation of the use and misuse of statistics. Encourages and requires critical thinking. **Students may receive credit for only one of STAT 220, STAT 311, STAT/CS&SS/SOC 221, and ECON 311.**

**STAT 221 – Statistics for the Social Sciences (5 credits)**
MWF 9:30-10:20
Quiz TTh, times vary
Instructor: Arnold Jeffrey
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/CS&SS/SOC 221, and ECON 311.**

**STATS 311 – Elements of Statistical Methods (5 credits)**
MWF 2:30-3:20
Quiz TTh, times vary
Instructor: Elizabeth Thompson
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 STAT 220, STAT 311, STAT/CS&SS/SOC 221, and ECON 311.** Prerequisite: either MATH 111, MATH 120, MATH 124, MATH 127, or MATH 144.