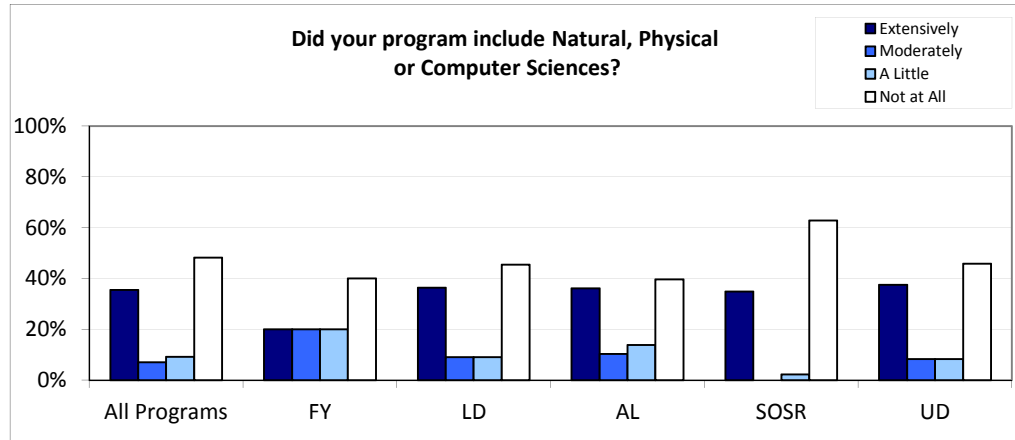
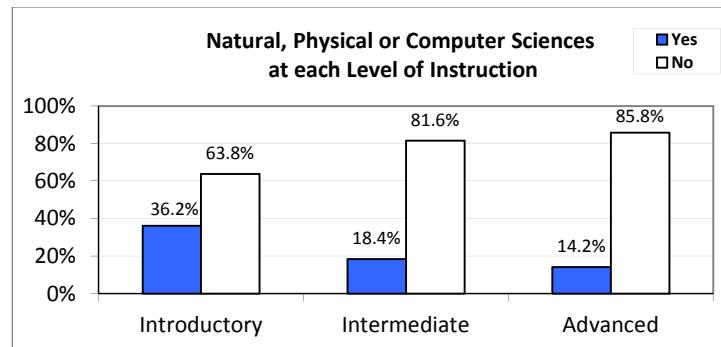


End-of-Program Review 2012-13

Natural, Physical or Computer Sciences in all Programs



	Extensively	Moderately	A Little	Not at All	Percent of Programs with any Natural, Physical or Computer Sciences	Programs with any Natural, Physical or Computer Sciences (N)	Programs responded (N)
All Programs	35.5%	7.1%	9.2%	48.2%	51.8%	73	141
First-year (FY only)	20.0%	20.0%	20.0%	40.0%	60.0%	3	5
Lower Division (LD) FY-SO	36.4%	9.1%	9.1%	45.5%	54.6%	6	11
All Level (AL) FR-SR	36.2%	10.3%	13.8%	39.7%	60.3%	35	58
Sophomore-Senior (SOSR)	34.9%	0.0%	2.3%	62.8%	37.2%	16	43
Upper Division (UD) JR-SR	37.5%	8.3%	8.3%	45.8%	54.1%	13	24



All programs with Natural, Physical or Computer Sciences	Program Type	Faculty	Extent	Fields/areas of Natural, Physical or Computer Sciences		
				Introductory	Intermediate	Advanced
Algebra to Algorithms	AL	*Brian Walter, Sara Sunshine Campbell	Extensively	Computer Programming in Logo		
Biology Through Darwin's Lens	AL	Jennifer Calkins	Extensively	Biology	Biology	Biology
Botany: Plants and People	AL	Frederica Bowcutt	Extensively	Botany	Economic Botany Independent Research in Botany	
Computer Science Foundations	AL	Sheryl Shulman, *Neal Nelson, Aaron Skomra	Extensively	Computer Science	Computer Science	
Dance: Body, Culture and Behavior	AL	*Amy Cook, Kabby Mitchell	Extensively	Anatomy and Physiology		
Dancing Molecules	AL	*Rebecca Sunderman, Kabby Mitchell	Extensively	Chemistry		
Drawing from the Sea	AL	*Gerardo Chin-Leo, Lucia Harrison	Extensively	Marine Biology and Ecology		
Food, Health and Sustainability	AL	*Donald Morisato, Martha Rosemeyer	Extensively	Biology, Biochemistry, Nutrition, Microbiology	Genetics, Molecular Biology, Neurobiology, Immunology, Agroecology, Botany	
General Chemistry	AL	*Lydia McKinstry, Paula Schofield	Extensively	General Chemistry		
General Chemistry	AL	Peter Pessiki	Extensively	General Chemistry		
Green Nature, Human Nature	AL	*Karen Hogan, Emily Lardner	Extensively	Plant Biology	Plant Biology	
Introduction to Natural Science: Navigating Observation and Theory	AL	Benjamin Simon, *Dharshi Bopegedera, Rachel Hastings(F,W)	Extensively	Chemistry, Biology, Pre-calculus, Calculus		
Landscapes of Change: Writing & Mapping the Future	AL	*Anne de Marcken (Forbes), Peter Impara	Extensively	Climate Science, Geography, Earth Sciences (Oceans, Atmosphere, Ecology)		
Mount Rainier: The Place and its People	AL	*Jeff Antonelis-Lapp, Lucia Harrison	Extensively	Natural History		

Ornithology	AL	*Alison Styring, Dina Roberts	Extensively	Introduction to nature journaling. Introduction to field identification of birds.	Introductory topics in Ornithology (intro Ornithology is typically considered upper division content). Anatomy, physiology, evolutionary history, adaptations for flight, behavior, and population/community ecology and conservation.	Students learned the scientific names of 100 common species found around Puget Sound in the fall/winter. They also wrote a species account for one species of focus using scientific research and writing methods. This species account contributed to a website focused on the birds of Evergreen's campus. Students also learned feather and skeletal anatomy birds. Field recording and identification of bird vocalizations.
Picturing Plants	AL	*Ruth Hayes, Frederica Bowcutt	Extensively	Botany, Washington State geology	Field Taxonomy	
Science Seminar: The Universe and Beyond	AL	EJ Zita	Extensively		Cosmology, physics, astrophysics, astronomy, climate change	
The Biological and Sociological Foundations of Health	AL	*Carolyn Prouty, Wenhong Wang	Extensively	Biology, Anatomy, and Physiology		
The Nisqually River: From Mountain Goats to Geoducks	AL	Jeff Antonelis-Lapp	Extensively	Natural History		
Trajectories in Animation, Mathematics, and Physics	AL	Ruth Hayes, *Krishna Chowdary	Extensively	Introductory Physics (Mechanics, Special Relativity) at three levels: Conceptual, Algebra-based, Calculus-based		
Trajectories in Electromagnetism and Calculus	AL	Mario Gadea	Extensively		Physics	
Evolution of Human Language	FY	*Rachel Hastings, Bret Weinstein	Extensively	Biology		
Biology of Ecotones and Extreme Environments: Living on the Edge	LD	*Amy Cook, Gerardo Chin-Leo	Extensively	Biology and Ecology		
Earth and Life	LD	*Clarissa Dirks, Abir Biswas	Extensively	Biology, Earth Sciences	Biology, Earth Sciences	
Music, Math and Cybernetics: Things + Relations = Systems	LD	*Arun Chandra, Richard Weiss	Extensively	Programming in C	Programming in C	
Transmutation: The Alchemy of Scientific Thought	LD	*Joseph Tougas, Rebecca	Extensively		Chemistry	

Adaptation: Evolutionary Patterns in Biological Space-Time	SOSR	Bret Weinstein	Extensively			Biology Evolutionary Ecology Anthropology
Climate Solutions	SOSR	Rob Cole	Extensively			Climate Science; Energy Flow & Budgets; Proxy Measures
Computability and Language Theory	SOSR	*Sheryl Shulman, Neal Nelson, Aaron Skomra	Extensively			Formal language theory, computability, advanced functional programming, program language design
Computing Practice and Theory	SOSR	*Richard Weiss, Judith Cushing, Aaron Skomra	Extensively	Mathematical Modeling, Systems	Computer Science, Statistics	Computer Science
Environmental Analysis	SOSR	*Andrew Brabban, Kenneth Tabbutt, Clyde Barlow	Extensively			Environmental Microbiology, Microbial Ecology, Hydrogeology, Aqueous Geochemistry, Applied GIS, Analytical Chemistry and Instrumental Analysis, Undergraduate Research, Chromatography and Toxicology
Landscape Ecology and Ecosystem Management	SOSR	Peter Impara	Extensively			Landscape Ecology, Ecology
Methods of Mathematical Physics	SOSR	Brian Walter(F), *John Schaub, Gary Howell(F)	Extensively	Astronomy	Astronomy	Physics
Physics and Calculus: Finding Order in the Physical World	SOSR	Mario Gadea	Extensively		Physics	
Practice of Sustainable Agriculture: Fall	SOSR	*David Muehleisen, Stephen Bramwell, Melissa Barker	Extensively	Biology, Chemistry, earth science and computer science	Biology, Chemistry	Some biology
The Chemistry of Living Systems	SOSR	*Paula Schofield, Lydia McKinstry	Extensively			BIOCHEMISTRY, CHEMISTRY
The Diversity of Life: Explorations in Biology	SOSR	Martin Beagle, *Trisha Towanda	Extensively	Biology Marine Ecology Terrestrial Ecology		
Undergraduate Research in Scientific Inquiry with C. Dirks	SOSR	Clarissa Dirks	Extensively	Microbiology, virology, genetics		Microbiology, virology, genetics
Undergraduate Research in Scientific Inquiry with J. Neitzel	SOSR	James Neitzel	Extensively			Organic synthesis, molecular biology, biochemistry
Undergraduate Research in Scientific Inquiry with L. McKinstry	SOSR	Lydia McKinstry	Extensively			Organic Chemistry, Chemical Instrumentation and Spectroscopy
Undergraduate Research in Scientific Inquiry with P. Schofield	SOSR	Paula Schofield	Extensively			Polymer chemistry, organic chemistry, materials science

Advanced Research of Arid Ecosystems	UD	*Abir Biswas, Clarissa Dirks	Extensively	Biology, Earth Sciences	Biology, Earth Sciences	
Biodiversity Studies in Argentina	UD	Erik Thuesen	Extensively		Natural History	Biodiversity
Field Ecology: Forests	UD	*Dylan Fischer, Alison Styring	Extensively			Ecology, ornithology, plant biology, ecosystem science, plant ecology
Integrative Evolution (...Evolution is for the Birds)	UD	Jennifer Calkins	Extensively			Biology
Memories, Dreams, and Beliefs	UD	*Heesoon Jun, Donald Middendorf	Extensively	Brain anatomy and neural physiology, brief intro to modern physics		
Sea Change: The Science of Climate Change in the Oceans	UD	Trisha Towanda	Extensively	Biogeochemistry	Biogeochemistry	
The Fungal Kingdom	UD	*Noelle Machnicki, Lalita Calabria	Extensively			Biology, ecology, evolutionary biology, taxonomy, mycology, lichenology
Vertebrate Evolution	UD	*Heather Heying, Jennifer Calkins(F)	Extensively			Credits awarded in the following fields (copied from credit equivalencies): *10 Evolutionary biology *10 Vertebrate zoology *3 Phylogenetic systematics lab *3 Molecular biology lab *4 Comparative anatomy lab *6 Anatomy and physiology *8 Scientific literature review *4 Research: TOPIC (different by student)
Washington State Legislative Internships	UD	*Cheri Lucas-Jennings	Extensively	Chemistry	Earth sciences	
Business and Culture Along the Silk Roads	AL	*Thuy Vu, Hirsh Diamant, Bobbie McIntosh	Moderately	Computer Sciences: Web Page Development		
Entrepreneurship with a Purpose: Human, Community, and Economic Development for Sustainability	AL	Brenda Hood	Moderately		Computers were an integral part of the program - a 2-hour computer lab was a required component of the program, after receiving 2 hours of training in a variety of areas from academic research to using excel for developing an intricate set of financial reports	
Global Meltdowns: Finance, Energy and Climate Change	AL	*Larry Geri, Peter Dorman	Moderately	Biology, chemistry, geology, physics pertinent to climate change and energy		

Mind-Body Medicine	AL	*Mukti Khanna, Marja Eloheimo, Glenn Landram	Moderately	Plant biology	Botanical Medicine	
Public Health and Economic Development in Sub-Saharan Africa	AL	*Tom Womeldorff, Nancy Anderson	Moderately	Biology		
Student-Originated Studies: Environmental Education, Natural History and Related Fields	AL	Jeff Antonelis-Lapp	Moderately	Natural History: Field observations and record keeping		
Writing Nature, Writing "Race"	FY	Chico Herbison	Moderately	Computer Science, environmental studies		
Business, Personal Finance and Statistics	LD	Glenn Landram	Moderately	Statistics packages.		
Power Play(ers): Actions and Their Consequences	UD	*Tyrus Smith and Tacoma Faculty	Moderately		Human Biology, Environmental Health	
The Reservation Based Community Determined Program - Foundations for Sustainable Tribal Nations -- Peninsula	UD	*Michelle Aguilar-Wells, Chad Uran	Moderately		Interdisciplinary climate change	
A History of "Race" in the U.S.: From Colonial Era to 2013	AL	*Michael Vavrus, Artee Young	A Little	Evolutionary biology and deconstruction of the myth of "race" having a biological		
As Poetry Recycles Neurons: Flocks of Words, Tracks of Letters	AL	*Sarah Williams, Donald Foran(F)	A Little	Botany, Neuroscience	Goetheam Science: relationship of observer and observed; neuroscience lab	
Making Public Health Matter: Reimagining Health-Based Journalism	AL	*Nancy Anderson, Suzanne Simons	A Little	Human Biology		
Movements and Migrations: Sustainable Communities in a Transnational World	AL	Karen Gaul, *Therese Saliba	A Little	Some speakers and lectures on climate change, earth sciences, marine science and fossil fuels		
Orissi Dance and Music of India	AL	*Andrew Buchman, Ratna Roy	A Little	We did study the climate, geography, and environments on the South Asian subcontinent as a part of our historical survey.		

Russia and Eurasia: Empires and Enduring Legacies	AL	*Patricia Krafcik, Robert Smurr	A Little	Frequent discussion of environmental issues in the Former Soviet Union, including extensive focus on the Chernobyl nuclear power plant disaster and its effect on the environment. In addition, geography was also studied, a subject which included treatment of the demography of the Former Soviet Union.		
So You Want to be a Psychologist	AL	Carrie Margolin	A Little	Computer skills for using online research databases		
Tech Dreams: Entrepreneurial Lessons from Silicon Valley	AL	David Shaw	A Little		Entrepreneurship, Innovation and Technology, seminar readings, case studies	
Self and Story: Studies in Psychology, Literature, and Writing	FY	*Steve Blakeslee, Mark Hurst	A Little	Brain chemistry, principles of evolution, experimental design		
Dead People and their Stuff: Introduction to Archaeology	LD	Ulrike Krotscheck	A Little	Earth sciences		
Fiber Arts	SOSR	Gail Tremblay	A Little	Students learned to draft weaving patterns and to design basic weaving patterns for the four harness loom using AVL WeavePoint software. They also learned the formulas needed to design a warp and compute the amount of warp and weft they would need to weave a sampler or project.		
Afrofuturism	UD	*Andrew Buchman, Joye Hardiman, Chico Herbison	A Little	Genetics, Computer Science		
Political Ecology of Land: Planning, Property Rights and Land Stewardship	UD	*Jennifer Gerend, Ralph Murphy	A Little	Geographic Information Systems		

* Program coordinator