

Anticipated Demand

Requirements

Minor in Sustainability	
Cr. Hrs.	
3	SOS 100 (online)
Choose courses from two themes	Earth Systems Human Transformation of the Earth Coupled Human-Environment Systems Social, Political, and Economic Treatment of Natural Resources and Environment
6	
3	SOS 300 (new course)
Courses commensurate with major	300/400 level Electives 300/400 level Electives
6	
18	

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The minor is designed to draw from existing resources and expertise across the university while providing some common course experiences in sustainability (figure 1). All students are required to take SOS 100, which introduces fundamental principles and approaches in sustainability. This is a 3 credit hour online course. The course has already been developed and will be offered for the second 7-week session in spring 2010. At the 100/200-level, students must take a total of two courses from two of the four sustainability themes. The four sustainability themes are: 1. Earth systems; 2. Human transformation of the Earth; 3. Coupled Human-Environment Systems; 4. Social, Political, and Economic Treatment of Natural Resources and Environment. These are existing courses and were categorized by the committee. Many also meet general studies distributions (table 1).

Table 1: 100/200-level courses by sustainability theme (CHE=Coupled Human-Environment; ES=Earth Systems; HTE=Human Transformation of the Earth; SPE=Social, Political, and Economic Treatment of Natural Resources and Environment)

Institute/School	Department	Course	Credits	Pre-/Co-requisites	Classes Last Offered	Campus	Gen. Studies	Description	Cluster
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 222	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	HU or SB, G, H	Buried Cities and Lost Tribes: Our Human Heritage: Archaeology through its most important discoveries: human origins, Pompeii, King Tut, the Holy Land, Southwest Indians, and methods of field archaeology.	CHE
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 210	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	G	Society and Environment: Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales.	CHE
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 110	3	None	Fall 2009/Fall 2008	T	G	Geologic Disasters and the Environment: Geological studies as they apply to interactions between humans and Earth. Includes geological processes and hazards, resources, and global change. Both GLG 110 and 111 must be taken to secure SG General Studies credit.	CHE
School of Letters and Sciences		STS 294	3	None	Spring 2010/Fall 2009	O		Society and Global Warming	CHE

School of Letters and Sciences		CHM 107	3 (4 -- Spring 2009 and prior)	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	D / O / T	SQ, G	Chemistry and Society: General chemical principles and concepts presented in context of social and technological issues, e.g., energy, pollution, global warming, and others. This is a lecture course which may be combined with the laboratory CHM 108 for those interested in lab course credit. Recommended for General Studies credit. Cannot be used for major credit in chemical or biochemical sciences. Credit earned for CHM 101 and any combination of CHM 107 and 108 cannot be used simultaneously. General Studies: SQ (if taken with CHM 108) & G	CHE
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ALA 102	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	G	Architecture, Landscape Architecture, and Society: Examines interrelationship between society and the landscape with emphasis on human involvement in shaping the landscape	CHE
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 211	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	L or SQ	Landform Processes: Laboratory science class on earth-surface processes, with exercises emphasizing how erosion, transportation, and deposition modifies landforms. Fee.	ES
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 101	3	None	Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T/O	SQ, G	Introduction to Geology I (Physical): Basic principles of geology, geochemistry, and geophysics. Rocks, minerals, weathering, earthquakes, mountain building, volcanoes, water, and glaciers. Students must complete both GLG 101 and GLG 103 to receive an SQ (general studies).	ES
College of Liberal Arts and Sciences	School of Life Sciences	BIO 100	4	None	Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	P / T / W / D	SQ	The Living World: Principles of biology. Cannot be used for major credit in the biological sciences.	ES
College of Liberal Arts and Sciences	School of Life Sciences	BIO 187	4	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T / W / P	SG	General Biology I: Biological concepts emphasizing principles and the interplay of structure and function at the organismal, population, and community	ES

								levels. Intended for life sciences, biology, and health-related science majors. Fee.	
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 225	3	None	Fall 2009/Fall 2008	P	SQ	Soils: Fundamental properties of soils and their relations to plant growth, nutrition of man and animals, and environmental quality. Fee. Both ABS 225 and ABS 226 (lab) must be taken to secure SQ credit.	ES
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 270	3	None	Spring 2010/Spring 2009	P		Sustainable Biological Systems: Ecological foundations of sustainable biological systems, anthropogenic impacts on ecosystem structure and function, and ecological risk assessment.	ES
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ALA 100 PUP 100	3	None	Fall 2009/Spring 2009/Fall 2008	T	HU, G, H	Introduction to Environmental Design: Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them. *Fulfills GS Requirement (HU, G, H)	HTE
Herberger Institute for Design and the Arts	School of Design Innovation	IND 243	3	None	Spring 2010/Spring 2009	T		Design for Ecology and Social Equity: Explores the role of design in the ecological crisis; materials, processes, strategies and methods to design more ecologically friendly and socially equitable products.	HTE
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 100 ALA 100	3	None	Fall 2009/Spring 2009/Fall 2008	T	HU, H, G	Introduction to Environmental Design: Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them.	HTE
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 190 SOS 111	3	None	Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T		Sustainable Cities: Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. *Fulfills GS Requirement (HU/SB, G)	HTE
Ira A. Fulton School of Engineering	Dean's Office Engineering	FSE 194	3		Spring 2010/Fall 2009	T		Topic - Technology, Society and Sustainability	HTE

		CON 101	3	None		T	HU & H & G	Construction and Culture: a Built Environment: Analyzes the cultural context of construction, emphasizing its centrality in the evolution and expansion of built environments as expressions of ethical and historical value systems.	HTE
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 141	3	None	Fall 2009/Fall 2008	T		Introduction to Economic Geography: Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of humans.	SPE
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	SGS 103	3	None	Spring 2010/Fall 2009/Spring 2009	T	SB, G	Contemporary Global Trends: Gives a grounding in patterns of international politics and global social change.	SPE
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 100 SSH 100	3	None	Spring 2010/Winter 2009/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T / O	SB, G	Introduction to Global Health: Current global health crises, challenges; tools for describing health and disease; ecological, cultural, social, historical, political-economic factors; comparative health systems. Fee.	SPE
W.P. Carey School of Business	Department of Economics	ECN 212	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	P / T / W / O / D	SB	Microeconomic Principles: Basic microeconomic analysis. Theory of exchange and production, including the theory of the firm.	SPE
		STS 101	3		Spring 2010	P	SB	Introduction to Science, Technology, and Society: Overview of the basic issues, definitions, and literature involved in the study of science, technology, and human systems. Credit is given for only STS 304 or 101.	SPE
		STS110	3	None	Fall 2009	P	SB&G	Global Technology and Development: Introduces awareness and understanding of how technology, processes of globalization, and society influence one another. Credit is given for only STS 317 or 110.	SPE
	School of Sustainability	SOS 110	3		Spring 2010	T		Sustainable World: Lays the groundwork for understanding the fundamental geological, biological, and social processes that gave rise to the world we live in and continue to maintain its	SPE

The array of courses at the 100/200-level were chosen to provide enough flexibility to ensure that there is adequate space for students to enroll in courses while the committee maintains some control in monitoring the appropriateness of the course content.

After completing the 100-200/level requirements, students must enroll in SOS 300, a new course designed to bridge disciplinary perspectives on sustainability. The course will be taught by a single instructor but will incorporate modules from visiting faculty that highlight disciplinary contributions to sustainability. Students will thus be exposed to the breadth of perspectives necessary to identify and solve pressing sustainability challenges, and highlight the existing sustainability research and talent at ASU. Breakout sessions will provide an opportunity for students to discuss the content delivered in the modules and reflect on how training from their own majors can contribute to sustainability. Initially the course will be taught in-class, but, depending on demand, a hybrid course that combines some web-based and in-class instruction may be developed. A course syllabus is attached to this document.

Courses at the 300/400 level will be a broader array of electives (table 2). The reasoning behind a broad selection of 300/400-level electives is to allow students to “take back” and apply a sustainability perspective to their majors. At this time, students may not double-count courses towards a major and a minor, so the committee envisions that students enrolled in the minor will take courses commensurate with their major.

SOS courses at the 300/400-level will be included as electives. This inclusion of SOS courses is especially important for SOS majors who elect to switch to the sustainability minor. In that regard, for students who switch from the SOS major to a minor in Sustainability, SOS 110 or SOS 111 will substitute for SOS 100. If SOS majors have completed SOS 110 and 110, they may count 110 as a substitute for SOS 100 and count SOS 111 as the “Human transformation of the earth” 100/200-level theme requirement. Current high demand for SOS courses means that Sustainability majors and students in the Business in Sustainability concentration will have priority enrollment in SOS courses (except SOS 100 and SOS 300).

Advising

Advising for the minor will occur in the student’s major or home unit. However, the advising staff in SOS will provide occasional training on the minor to advising staff in other units and will serve as a “last resort” if any problems with advising should arise. The committee felt strongly that advising on the minor would assist greatly in helping students find appropriate courses especially from the list of electives at the 300/400-level. A distributed system of advising will also help to ensure that sustainability is viewed as a university-wide endeavor and not particular to the School of Sustainability.

Sustainability - Related Undergraduate Courses at ASU

Institute/School	Department	Course	Credits	Pre/Co-requisites	Reserved Capacity	Classes Last Offered	Campus	General Studies	Instructor	Description
HERBERGER INSTITUTE FOR DESIGN AND THE ARTS										
SCHOOL OF ARCHITECTURE & LANDSCAPE ARCHITECTURE										
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ALA 100 PUP 100	3	None		Fall 2009/Spring 2009/Fall 2008	T	HU, G, H	Underwood, M	Introduction to Environmental Design: Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them. *Fulfills GS Requirement (HU, G, H)
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ALA 102	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	G	Cook, E.	Architecture, Landscape Architecture, and Society: Examines interrelationship between society and the landscape with emphasis on human involvement in shaping the landscape
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ALA 122	3	Architecture or Landscape Architecture student; ALA 121 with a C or better; Co-requisite: ALA 124		Spring 2010/Spring 2009	T		Various	Design Fundamentals II: Exercises in basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design.
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ALA 240	3	Must be either Pre-Architectural Studies or Pre-Landscape Architecture student; Co-requisites: ALA 222 and ALA 224		Spring 2010/Spring 2009	T		Sleers, M. Hartman, T. Brenes-Garcia, J.	Building Construction: Fundamentals of building construction through digital simulation of case study buildings. Construction systems, detailing, and conventions by building 3-dimensional digital model.
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ATE 451	3	Co-requisites: ADE 421		Fall 2009/Fall 2008	T		Lerum, V. Webster, D.	Building Systems I: Principles of solar radiation, heat and moisture transfer, and environmental control systems as form influences. Energy-conscious design.
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	ATE 452	3	ATE 451 with a C or better; Co-requisite: ADE 422		Spring 2010/Spring 2009	T		Bryan, H. Reddy, A.	Building Systems II: Architectural design implications of heating, ventilation, and air conditioning systems. Principles of lighting, daylighting, and acoustics, and their applications.
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	LPH 310	3	Department Consent		Fall 2009/Fall 2008	T	HU, H	Fish Ewan, R.	History of Landscape Architecture: Physical record of human attitudes toward the land. Ancient through contemporary landscape planning and design.
Herberger Institute for Design and the Arts	School of Architecture & Landscape Architecture	LPH 311	3	Department Consent		Spring 2010/Spring 2009	T	HU	Fish Ewan, R.	Contemporary Landscape Architecture: Explores concerns, projects, and movements in landscape architecture of late 20th-century understanding; social, ecological, regional, and historical influences.
SCHOOL OF DESIGN INNOVATION										
Herberger Institute for Design and the Arts	School of Design Innovation	IND 243	3	None		Spring 2010/Spring 2009	T		White, P	Design for Ecology and Social Equity: Explores the role of design in the ecological crisis; materials, processes, strategies and methods to design more ecologically friendly and socially equitable products.
COLLEGE OF LIBERAL ARTS AND SCIENCES										
SCHOOL OF GEOGRAPHICAL SCIENCES AND URBAN PLANNING										
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	HUD 201	3	None		Spring 2010/Spring 2009	T		Lai, R. Stapp, M	Introduction to Housing and Urban Development: Perspectives and issues concerning HUD. Guest lectures by interdisciplinary faculty and private, public, and non-profit practitioners.

Sustainability - Related Undergraduate Courses at ASU

College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	HUD 402	3	None	Spring 2010/Spring 2009	T	Adhikari, A	Community Revitalization: Problems and Strategies: Public policy and strategies for neighborhood revitalization and community renewal. Preservation and adaptive reuse, gentrification, neighborhood safety, and related socioeconomic concerns.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	HUD 403	3	None	Spring 2010/Spring 2009	T	Boushko, M	Advanced Topics in Housing and Urban Development: Varying topics, such as manufactured housing, homelessness, mortgage and finance in housing, housing abroad, marketing housing, and sustainable community development.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 100 ALA 100	3	None	Fall 2009/Spring 2009/Fall 2008	T	Meunier, J. Underwood, M.	Introduction to Environmental Design: Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 190 SOS 111	3	None	Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T	Pijawka, D Golden, J. Redman, C. Kelley, J.	Sustainable Cities: Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. *Fulfills GS Requirement (HUSB, G)
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 200		None	Fall 2009/Fall 2008	T	Kim, J.	Planned Environment: Cities in Cinema: Environmental, aesthetic, social, economic, political cultural, and other factors influencing global cities seen through films from around the world.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 301	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Kim, J. Balsas, C. Cronarty, R.	Introduction to Urban Planning: Theoretical and practical aspects of city planning. Interrelationships among physical planning, environment, government, and society.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 412	3	Pre-requisites: Must be either: Urban/Environmental Planning MUEP, Pre Urban Planning, Urban Planning, BSD, Pre-Housing & Urban Development, Housing & Urban Development BSD, Design Studies BA, Landscape Architecture BSLA or Architectural Studies BSD	Fall 2009/Fall 2008	L or HU & H	Kamel	History of the City: The city from its ancient origins to the present day. Emphasizes European and American cities during the last five centuries.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 425 PUP 525	3	Pre-requisites: Must be one of the following students: Urban Planning BA, Landscape Architecture BSLA, Architectural Studies BSD or Housing & Urban Development BSD	Spring 2009	T	Yabes, R.	Urban Housing Analysis: Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 430	3	None	Spring 2010/Spring 2009	T	Golub, A. Kelley, J.	Transportation Planning and the Environment: Overview of transportation planning from the perspective of land use planning, economic development, environmental planning, and social needs.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 434	3	Pre-requisites: Urban Planning undergraduate student	Spring 2010/Spring 2009	T	Kim, J.	Urban Land Economics: Interaction between space and economic behavior. Examines the use and value of land through economic theories.

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College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 442 PUP 598	3	Pre-requisites: Urban/Environmental Planning MUEP, Urban Planning BSP or Housing & Urban Development BSD, PUP 301 with C or better		Fall 2009/Fall 2008	T	Piawka, D. Comarty, R.	Environmental Planning: Environmental planning problems, including floodplains, water quality and quantity, solid and hazardous waste, air quality, landslides, and noise. (Field Studies)
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 444	3	Must be one of the following Academic Levels: Junior, Senior, Post-Bacc Undergrad, Graduate or Post-Bacc Graduate including non-degree students		Fall 2008	T	Abele, D	Preservation Planning: History, theory, and principles of historic preservation. Emphasizes legal framework and methods practiced.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	PUP 494	3	Must be one of the following Academic Levels: Junior, Senior, Post-Bacc Undergrad, Graduate or Post-Bacc Graduate including non-degree students		Spring 2010/Fall 2009/Spring 2009	T	Various	Topics: Urban Design Practice (Talen, E. and Ellen, N.), Environmental Planning Economics (Keane, J.), Urban Water Workshop (Talen, E.), Smart Growth and New Urbanism (Talen, E.)
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 102	3	None		Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T/O/P	Various	Introduction to Human Geography: Systematic study of human use of the Earth. Spatial organization of economic, social, political, and perceptual environments. (Fee) (Integrated Lecture/Lab)
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 121	4	None		Spring 2010/Fall 2009	O/P	Shaeffer, J. Hawkinson, C.	World Geography: Description and analysis of areal variations in social, economic, and political phenomena in major world regions.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 141	3	None		Fall 2009/Fall 2008	T	Ohualachain, B	Introduction to Economic Geography: Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of humans.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 350	3	None		Spring 2010/Fall 2009/Spring 2009	T	Larson-Keagy, E.	The Geography of World Crises: Contemporary world crises viewed from a perspective of geographic concepts and techniques.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 351	3	None		Spring 2010/Fall 2009/Fall 2008	T	Larson-Keagy, E.	Population Geography: Demographic patterns: spatial, temporal, and structural investigation of the relationship of demographic variables to cultural, economic, and environmental factors.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 357	3	None	Some	Spring 2009	T	McHugh, K	Social Geography: Environmental perception of individuals and groups. Stresses the spatial aspect of social and physical environments.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 359	3	None	Some	Fall 2009/Fall 2008	O	McTaggart, W	Cities of the World I: Historical evolution of urban patterns and structures in the Middle East, India, Southeast Asia, China, Japan, and Europe.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 360	3	None		Spring 2010/Spring 2009	O	McTaggart, W	Cities of the World II: Historical evolution of urban patterns and structures in Latin America, North America, Sub-Saharan Africa, and Australasia.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 361	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Glavac, S. Luknbeat, C. O'Hualachain, B	Urban Geography: External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 364	3	None		Fall 2009/Fall 2008	T	Pasqualetti, M	Energy in the Global Arena: Production, transportation, and consumption of energy, emphasizing the electric power industry and its environmental problems.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 421	3	None		Spring 2010/Spring 2009	T	Anecia, D	Geography of Arizona and Southwestern United States: Geography of the Southwest with an emphasis on Arizona. Divided into physical geography, history, people, and economy.

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College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 425	3	None		Spring 2009	T	L or SB, G	Arreda, D	Geography of the Mexican American Borderland: Geography of a binational and bicultural region. Examines settlement, boundary issues, ethnic subregions, population change, industrial development, and urban growth. Fee.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 441	3	None		Spring 2010	T	SB	Chualachain, B	Economic Geography: Spatial distribution of primary, secondary, and tertiary economic and production activities.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 442	3	None		Fall 2008	T	SB	Kuby, M.	Geographical Analysis of Transportation: Networks, modes, economics, and flows at the urban, national, and international scales. Fee.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 495	3	Must have completed one of the following courses: MAT 119, 170, 210 or 270		Spring 2010/Fall 2009/Spring 2008/Fall 2008	T	CS	Trapido-Lube, B. Gober, P. Lee, D. Lozano, N.	Quantitative Methods in Geography: Statistical techniques applied to the analysis of spatial distributions and relationships. Introduces models and theory in geography. Fee
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GCU 496	3	Must have completed the following courses with a grade of C or greater: GPH 371 and GPH 491 and GCU 495		Spring 2010/Fall 2009/Spring 2008/Fall 2008	T	L	Fall, P. Larson, K.	Geographic Research Methods: Scientific techniques used in geographic research. Fee
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 111	4	None		Spring 2010/Fall 2009/Spring 2008/Fall 2008	T	SQ	Various	Introduction to Physical Geography: Spatial and functional relationships among climates, landforms, soils, water, and plants. Credit is allowed for only GPH 111 or 411. Fee. (Lecture/Lab)
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 210	3	None		Spring 2010/Fall 2009/Spring 2008/Fall 2008	T/O	G	Various	Society and Environment: Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 211	3	None	All	Spring 2010/Fall 2009/Spring 2008/Fall 2008	T	L or SQ	Schneeckle, M. Gubord, E. Dorn, R.	Landform Processes: Laboratory science class on earth-surface processes, with exercises emphasizing how erosion, transportation, and deposition modifies landforms. Fee.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 213	3	None		Spring 2010/Spring 2009	T	SG	Balling, R. Ellis, A.	Introduction to Climatology: Fundamentals of meteorological/climatological analysis, including terminology and symbology. Recommended for meteorology/climatology program students. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 215	1	None		Spring 2010	T	SG	Kalkstein, A. Krahenbuhl, D.	Introduction to Climatology Laboratory: Fundamentals of meteorological/climatological map analysis and interpretation. Recommended for meteorology/climatology program students. May be taken concurrently with GPH 213. *Fulfills GS Requirement (SG) if credit is also earned in GPH 213
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 314	3	None		Spring 2010/Spring 2009	T	HU, G	Chhetri, N. Jenkins, G.	Global Change: Response of Earth's natural systems (atmosphere, hydrosphere, lithosphere, biosphere) to past environmental change, and effects of potential future changes.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 370	3	None		Spring 2010/Spring 2008/Fall 2008	T	CS	Ruddell, D. Wentz, E. Liu, Y.	Geographic Information Technologies: Introduces modern geographic information technologies, including cartography, GIS, remote sensing, global positioning systems, and statistical analyses. Fee
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 381	3	None		Spring 2010/Spring 2009	T	G	Shaeffer, J. Pasqualetti, M.	Geography of Natural Resources: Nature and distribution of natural resources and the problems and principles associated with their use.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 405	3	None		Spring 2010	T		Pasqualetti, M	Energy and Environment: Sources, regulatory and technical controls, distribution, and consequences of the supply and human use of energy. Fee.

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College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 412	3	None		Spring 2010/Fall 2008	T		Bailing, R.	Physical Climatology: Physical processes in the earth-atmosphere system on regional and global scales; concepts and analysis of energy, momentum, and mass balances.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 414	3	None		Spring 2010	T	G	Carver, R.	Climate Change: Surveys three climate research areas: paleoclimatology, theories (e.g., greenhouse warming), numerical modeling.
College of Liberal Arts and Sciences	School of Geographical Sciences and Urban Planning	GPH 422	3	Pre-requisites: GPH 111 or BIO 187 (or both PLB 200 and PLB 201) with C or better; Students who have credit in PLB 422, may not enroll in GPH 422		Spring 2009/Fall 2009	T		Fall, P.	Plant Geography: Plant communities of the world and their interpretation, emphasizing North American plant associations.
SCHOOL OF EARTH AND SPACE EXPLORATION										
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 101	3	None		Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T/O	SQ, G	Various	Introduction to Geology I (Physical): Basic principles of geology, geochemistry, and geophysics. Rocks, minerals, weathering, earthquakes, mountain building, volcanoes, water, and glaciers. Students must complete both GLG 101 and GLG 103 to receive an SQ (general studies).
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 102	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	SG, H	Guggino, S. Smiten, S. Thomas, M. Stump, E. Burt, D.	Introduction to Geology II (Historical): Basic principles of applied geology and the use of these principles in the interpretation of geologic history. fee. Both GLG 102 and 104 must be taken to secure SG General Studies credit
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 103	1	Co-GLG 101	Some	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/W	SQ	Various	Introduction to Geology I—Laboratory: 3 hours lab, some field trips. Fee. Both GLG 101 and 103 must be taken to secure SQ General Studies credit.
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 104	1	Co-GLG 102		Fall 2009/Spring 2009/Fall 2008	T	SG	Smiten, S. Foley, D. Stump, E. Burt, D.	Introduction to Geology II—Laboratory: Lab techniques involving map interpretation, cross sections, and fossils. Both GLG 102 and 104 must be taken to secure SG general Studies credit.
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 110	3	None		Fall 2009/Fall 2008	T	G	Williams, S. Smekeens, J.	Geologic Disasters and the Environment: Geological studies as they apply to interactions between humans and Earth. Includes geological processes and hazards, resources, and global change. Both GLG 110 and 111 must be taken to secure SG General Studies credit.
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 111	1	Co-GLG 110		Fall 2009/Fall 2008	T	SG	Williams, S. Mills, V.	Geologic Disasters Laboratory: Basic geological processes and concepts. Emphasizes geology-related environmental problems concerning Arizona. Both GLG 110 and 111 must be taken to secure SG General Studies credit.
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 310	3	Must have completed GLG 101 AND either MAT 270 or MAT 290 with a grade of D or greater		Fall 2009/Fall 2008	T		Reynolds, S.	Structural Geology: Geologic structures and the mechanical processes involved in their formation. Fee
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 435	3	Must have completed GLG 102 and GLG 321 with a grade of C or greater		Spring 2010/Spring 2009	T		Knauth, L.	Sedimentology: Origin, transport, deposition, and diagenesis of sediments and sedimentary rocks. Physical analysis, hand specimen examination, and interpretation of rocks and sediments. Fee
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 441	3	None		Spring 2010	T		Burt, D.	Ore Deposits: Origin, occurrence, structure, and mineralogy of ore deposits. Fee. (Field Studies)
College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 470	3	None		Spring 2009	T		Yourcz, J.	Hydrogeology: Geology of groundwater occurrence, aquifer and well hydraulics, water chemistry and quality, contaminant transport, remediation. Emphasizes quantitative methods.

Sustainability - Related Undergraduate Courses at ASU

College of Liberal Arts and Sciences	School of Earth and Space Exploration	GLG 481 GLG 598 CHM 598 CHM 481	3	None		Spring 2010/Spring 2009	T	Hartnett, H.	Geochemistry: Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere.
SCHOOL OF GOVERNMENT, POLITICS AND GLOBAL STUDIES									
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	SGS 101	3	None		Fall 2009/Spring 2009/Fall 2008	T	Jacobson, D. Ermi, N. Lundy, C. Tanaka, T. Siyak, H.	Thinking Globally: The Individual and Authority. Examines the changing notions of the individual and authority over history.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	SGS 103	3	None		Spring 2010/Fall 2009/Spring 2009	T	Henn, A. Puleo, T.	Contemporary Global Trends: Gives a grounding in patterns of international politics and global social change.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 160	3	Students may not enroll in POS 160 if they have received a D or better in POL 160, POS 360, or POL 360.		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Ashley, R. McComack, B. Ackroyd, W. Wheatley, E. Liu, W.	Global Politics: Nature of contemporary world politics through the study of both general theoretical topics and specific geographical areas. Credit is allowed for only POS 160 or 362.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 300	3	None		Spring 2010/Winter 2009/Fall 2009/Summer 2009	T/O	Schatzman, C.	Contemporary Global Controversies: Explores key controversies in global politics including security, economic stability, poverty, gender, race, and the environment.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 346	3	None		Spring 2010/Summer 2009/Spring 2009/Fall 2008	T/O	Rudloff, J.	Problems of Democracy: Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 351	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Schatzman, C.	Democratization: Examines the consolidation of democracies in postauthoritarian and postcommunist settings (e.g., Latin America, Eastern Europe, Asia).
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 364	3	None		Spring 2010/Summer 2009/Spring 2009/Fall 2008	T/O	Gortzak, Y.	National Security, Intelligence, and Terrorism: Theoretical and empirical assessment of U.S. national security policy in the post-cold war era.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 368	3	None		Spring 2010/Winter 2009/Fall 2009/Summer 2009/Spring 2009	T/O	Doty, R.	Ethics and Human Rights: Explores issues of ethics, morality, and human rights in the global community.
College of Liberal Arts and Sciences	School of Government, Politics and Global Studies	POS 410	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	Lewis, P. Danilco, M.	Governing American Cities: Reviews modern urban problems, their sources, and potential solutions, including structural and policy alternatives.
SCHOOL OF HUMAN EVOLUTION AND SOCIAL CHANGE									
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASH 100 SSH 100	3	None		Spring 2010/Winter 2009/Fall 2009/Summer 2009/Spring 2009/Fall 2008	T/O	Hurtado, A. Chowell-Puente, G.	Introduction to Global Health: Current global health crises, challenges: tools for describing health and disease; ecological, cultural, social, historical, political-economic factors; comparative health systems. Fee.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASH 102	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	Various	Introduction to Cultural and Social Anthropology: Principles of cultural and social anthropology, with illustrative materials from a variety of cultures. The nature of culture. Social, political, and economic systems; religion, aesthetics, and language.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASH 202 AFS 202	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/P	Tsuda, T. Cuthbertson-Johnson, B.	Immigration and Ethnic Relations in the U.S.: Focuses on the ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities

Sustainability - Related Undergraduate Courses at ASU

College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 211	3	None	Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2009	W	HU or SB, G	Schwartzkopf, S.	Women in Other Cultures: Cross-cultural analysis of the economic, social, political, and religious factors that affect women's status in traditional and modern societies.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 222	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	HU or SB, G, H	Various	Buried Cities and Lost Tribes: Archaeology through its most important discoveries: human origins, Pompeii, King Tut, the Holy Land, Southwest Indians, and methods of field archaeology.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 223	3	None	Spring 2010/Fall 2008	T	HU or SB, G, H	Knudson, K. Wharton, J. Rempel, S. Novotny, A.	Buried Civilizations of the Americas: Archaeology through examination of several ancient civilizations of Meso-, South, and North America.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 311	3	None	Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	W	SB, G, H	Koptluch, K.	Principles of Social Anthropology: Comparative analysis of domestic groups and economic and political organizations in primitive and peasant societies.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 326	3	None	Fall 2009/Spring 2009/Fall 2008	T	SB, H	Arikan, B. Rempel, S. Kruse-Peoples, M.	Human Impacts on Ancient Environments: World survey of successful and unsuccessful ancient societies and their impacts on the environment.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 416	3	None	Fall 2009	T	L or SB	York, A.	Economic Anthropology: Economic behavior and the economy in preindustrial societies; description and classification of exchange systems; relations among production, exchange systems, and other societal subsystems.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 417	3	None	Spring 2010	T	L	Lee, A.	Political Anthropology: Comparative examination of the forms and processes of political organization and activity in primitive, peasant, and complex societies.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 430	3	AML 100 or MAT 142 or 170 or 210 or 285 or 270 with a C or better OR the Unified Placement Test with a score of 75 or higher.	Spring 2010/Spring 2009	T	CS	Janssen, M.	Social Simulation: Introduces computer simulation and agent-based modeling to study social systems. Credit is allowed for only ASB 430 or CPI 430.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 442 SBS 460	3	None	Spring 2010/Spring 2009	W	SB	Koptluch, K.	Urban Anthropology: Issues in understanding urban culture and social space from interdisciplinary anthropological perspective. May involve fieldwork. May be repeated for credit when topics vary.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	ASB 463 TCL 443	3	None	Spring 2010/Fall 2008	T	SB, G	Cruze-Torres, M.	Political Ecology of the Border: Using a political ecology approach, focuses on the creation of border communities of Southwest North America.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	SSH 100 ASB 100	3	None	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	SB, G	Hurtado, A.	Introduction to Global Health: Current global health crises, challenges; tools for describing health and disease; ecological, cultural, social, historical, political-economic factors; comparative health systems.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	SSH 400	3	ASB 100 (or SSH 100) or ASB 102 with D or better	Winter 2009/Summer 2009/Spring 2009	O	L or SB, G	Wulich, A.	Poverty, Social Justice, and Global Health: From perspectives of anthropology and allied fields, explores critical, social justice, and ethical issues in health care, research, and disparities. Focuses on vulnerable and special populations.
College of Liberal Arts and Sciences	School of Human Evolution and Social Change	SSH 494	3	None	Fall 2009	T		Brewis-Slade, A.	Urban and Environmental Health
SCHOOL OF SOCIAL TRANSFORMATION									
College of Liberal Arts and Sciences	School of Social Transformation	JUS 105	3	Open to undergraduate students who have not received credit for JUS 305, Justice Studies students must have 56 or less earned hours	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	SB	Various	Introduction to Justice Studies: Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Credit is allowed for only JUS 105 or 305. Appropriate for freshmen and sophomores.

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College of Liberal Arts and Sciences	School of Social Transformation	JUS 303	3	ENG 102, 105 or 108 with a C or better; minimum 24 semester hours; minimum 2.00 GPA		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/O	Various	Justice Theory: Examines classic and contemporary philosophies and theories of justice, including legal, social, and criminal justice.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 305	3	ENG 102, 105 or 108 with a C or better; minimum 24 semester hours; minimum 2.00 GPA	Some	Spring 2010/Fall 2009/Spring 2009	T/O	SB	Principles of Justice Studies: Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Credit is allowed for only JUS 305 or 105. Appropriate for Juniors and seniors.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 320	3	56 earned hours; 2.0 GPA; Non-Justice Sids student or specific students determined by Justice Sids Dept. OR a professional undergraduate undergraduate Justice Studies student		Fall 2008	T	SB, C	Community and Social Justice: Discusses and analyzes definitions of community, impact of environment on behavior, promises of community organization for local empowerment.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 321	3	56 earned hours; 2.0 GPA; Non-Justice Sids student or specific students determined by Justice Sids Dept. OR a professional undergraduate undergraduate Justice Studies student		Fall 2009/Fall 2008	T	SB, C	Wealth Distribution and Poverty: Examines wealth and income distribution in the United States and analyzes ideological and political forces producing an increasingly unequal society.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 325	3	ENG 102, 105 or 108 with a C or better; minimum 24 semester hours; minimum 2.00 GPA		Spring 2010	T		Globalization and Socio-Economic Justice: Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 332	3	ENG 102, 105 or 108 with a C or better; minimum 24 semester hours; minimum 2.00 GPA		Spring 2010	T		Politics of Energy Policy and Justice: Examines the social and political dimensions that shape energy and environmental policy. Focuses primarily on the U.S. Introduces elements of regional or global policy where they influence or shape domestic politics and policies.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 352	3	ENG 102, 105 or 108 with a C or better; minimum 24 semester hours; minimum 2.00 GPA		Spring 2010	T		The Global Politics of Human Rights: Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 405	3	ENG 102, 105 or 108 with a C or better; minimum 36 semester hours; minimum 2.50 GPA		Spring 2010/Fall 2008	T	L or SB, G	Economic Justice: Addresses economic issues and justice implications, including the interplay among economic conditions, race-ethnicity, class, and gender worldwide.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 430	3	ENG 102, 105 or 108 with a C or better; minimum 36 semester hours; minimum 2.50 GPA		Spring 2010/Spring 2009/Fall 2008	T	L or SB, C	Social Protest, Conflict, and Change: Analyzes historical and contemporary protest movements advocating equality based on race, gender, and sexual orientation.
College of Liberal Arts and Sciences	School of Social Transformation	JUS 444	3	ENG 102, 105 or 108 with a C or better; minimum 36 semester hours; minimum 2.50 GPA		Spring 2010/Fall 2009	T	L, C	Environment and Justice: Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies.
College of Liberal Arts and Sciences	School of Social Transformation	WST 375	3	WST 100 or WST 300 with C or better		Spring 2010/Spring 2009	T	SB, C	Women and Social Change: Combines research and theory on a contemporary social problem with a community action experience focusing on women's social change initiatives.

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College of Liberal Arts and Sciences	School of Social Transformation	WST 378	3	Must have completed either WST 100 or WST 300 with a grade of C or greater		Spring 2010/Spring 2009	T	L, C, G	Kobitz, A.	Global Feminist Theory: Global feminist theories and exploration of the intersections of gender, race, ethnicity, class, and nation through critical analysis.
College of Liberal Arts and Sciences	School of Social Transformation	WST 380	3	WST 100 or WST 300 with C or better		Spring 2010/Winter 2009/Fall 2009/Summer 2009/Spring 2009/Winter 2009	T/O/W	L or SB, C	Archuleta, E. Gonzalez, R. Elenes, C.	Gender, Race, and Class: Explores the intersections of race, class, and gender in culture and society.
College of Liberal Arts and Sciences	School of Social Transformation	WST 457	3	WST 100 or WST 300 with C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/W	SB, G	Tellez, M.	Women, Cultures, Societies: Examines issues such as poverty, dependency, interdependency, race, class, and gender in different societies of the world.
College of Liberal Arts and Sciences	School of Social Transformation	AFS 210 TCL 210 APA 210	3	None		Fall 2009/Summer 2009/Spring 2009/Fall 2008	O	C	Guevarra Jr, R.	Introduction to Ethnic Studies in the U.S.: Covers diversity of experiences and relations among racial and ethnic groups in the United States.
College of Liberal Arts and Sciences	School of Social Transformation	AFS 370 FAS 370	3	None		Spring 2010/Fall 2009	T	SB, C	Johnson, L.	Family, Ethnic, and Cultural Diversity: Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families.
SCHOOL OF SOCIAL AND FAMILY DYNAMICS										
College of Liberal Arts and Sciences	School of Social and Family Dynamics	SOC 194 STS 294	3	None		Fall 2009/Spring 2009/Fall 2008	O		Hawkinson, C.	Society and Global Warming
College of Liberal Arts and Sciences	School of Social and Family Dynamics	SOC 270	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	O	SB, C	Cobas, J.	Racial and Ethnic Relations: Problems of minorities in heterogeneous societies. Evaluates theories of prejudice and research dealing with discrimination, desegregation, and assimilation.
College of Liberal Arts and Sciences	School of Social and Family Dynamics	SOC 333	3	None		Fall 2008	T	SB, G	Haas, S.	Population: Global trends in population growth, composition, and distribution; theories, policies, and impact of population trends on environmental quality and development.
College of Liberal Arts and Sciences	School of Social and Family Dynamics	SOC 352	3	None		Spring 2010/Fall 2009/Summer 2009/Spring 2009/Winter 2008/Fall 2008	W/T/O	SB, G, H	Schwarzkopf, S. Crowley, P. Whitaker, L. Dacosta, L.	Social Change: Patterns of social change, resistance to change, and change-producing agencies and processes.
College of Liberal Arts and Sciences	School of Social and Family Dynamics	SOC 423	3	None		Fall 2009/Spring 2009	T	L or SB	Cobas, J.	Social Class and Stratification: Classical and contemporary theories about who gets what and why. Examines social and economic inequalities by class, gender, and race/ethnicity.
SCHOOL OF LIFE SCIENCES										
College of Liberal Arts and Sciences	School of Life Sciences	BIO 100	4	None		Spring 2010/Fall 2009/Summer 2009/Spring 2009/Fall 2008	P/T/W/D	SQ	Various	The Living World: Principles of biology. Cannot be used for major credit in the biological sciences.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 187	4	None	All	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/W/P	SG	Various	General Biology I: Biological concepts emphasizing principles and the interplay of structure and function at the organismal, population, and community levels. Intended for life sciences, biology, and health-related science majors. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 188	4	None	All	Spring 2010/Fall 2009/Spring 2009/Fall 2008	P/T/W/D	SQ	Various	General Biology II: Biological concepts emphasizing principles and the interplay of structure and function at the molecular, cellular, and organismal levels. Intended for life sciences, biology, and health-related science majors. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 300	3	None		Spring 2010	W	SG	Sweat, K	Natural History of Arizona: Plant and animal communities of Arizona. Cannot be used for major credit in the biological sciences.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 301	1	Pre or Co-requisites: BIO 300 or LSC 310 with C or better if completed		Spring 2010	W	SG	Various	Field Natural History: Organisms and their natural environment. Cannot be used for major credit in the biological sciences. Fee. (Field Studies)

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College of Liberal Arts and Sciences	School of Life Sciences	BIO 311 HPS 340	3	with a C or better: BIO 187 (or both PLB 200 and PLB 201) and BIO 188		Fall 2009/Fall 2008	T		Lautichter, M. Hall, S.	Biology and Society: Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 314	2	BS Biology and Society Concentration majors: a C or better in BIO 187 (or both PLB 200 and PLB 201) and BIO 188		Spring 2010/Spring 2009	T	L	Maienschein, J. Kinzig, A.	Research Colloquium in Biology and Society I: Develops critical thinking abilities, research methods, and writing skills for research in the interactions between biological sciences and society. Both BIO 314 & 414 must be taken to secure L General Studies designation.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 319 PLB 320*	3	None		Fall 2008	T	G	Day, T.	Environmental Science (Nonmajor): Environmental and biological concepts used to understand ecological systems with specific references to problems caused by humans. Cannot be used for major credit in the biological sciences.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 320	3	BIO 187 (or PBL 200 and PLB 201) and BIO 188 with C or better; CHM 113 or better; CHM 115 or 116 with C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T / W		Day, T. Savalli, U. Nash, T. Fisher, S. Stromberg, J.	Fundamentals of Ecology: Organization, functioning, and development of ecological systems; energy flow; biogeochemical cycling; environmental relations; population dynamics.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 321	2	BIO 320 with a grade of C or better, or be co-enrolled in BIO 320		Spring 2010/Spring 2009	T	L	Sabo, J. Collins, S.	Introductory Ecology Laboratory: Lab and field observations and experiments to test current concepts and theories in ecology. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 322	3	A grade of C or better; BIO 187 (or both PLB 200 and PLB 201) and BIO 188		Fall 2009/Fall 2008	T		D'Agrosa, C. Smith, A.	Conservation Biology and Ecological Sustainability I: Species-level approaches to the protection, management, and restoration of biological resources from scientific and policy perspectives.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 323	3	A grade of C or better; BIO 187 (or both PLB 200 and PLB 201) and BIO 188		Spring 2010/Spring 2009	T		Stromberg, J.	Conservation Biology and Ecological Sustainability II: Ecosystem-level approaches to the protection, management, and restoration of biota and ecosystem processes from local to global scales.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 325 GLG 325	3	CHM 101 or CHM 113 with C or better; BIO 100, BIO 187 or GLG 101 with C or better; if you have credit in GLG 325, you may not enroll in BIO 325		Fall 2009/Fall 2008	T		Hartnett, H. Neuer, S.	Oceanography: Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 331	3	BIO 187 & BIO 188 with a C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		McGraw, K. Liebig, J.	Animal Behavior: Evolutionary, genetic, physiological, and ecological bases of animal behavior.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 343 MBB 343	4	MBB 247 or BIO 340 with a C or better; Students who have credit for BIO 343, may not enroll in MBB 343		Fall 2009/Fall 2008	T	L	Mason, H. Gaxiola, R.	Genetic Engineering and Society: Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 345	3	BIO 187 (or both PLB 200 and PLB 201) and BIO 188 with C or better; CHM 113 and CHM 116 with C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		Varelli, B. Dowling, T. Savalli, U. Kim, Y. Wojciechowski, M.	Organic Evolution: Processes of adaptive change and speciation in sexual populations.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 370	4	BIO 187 and BIO 188 with a grade of C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		McGraw, K. Walsberg, G.	Vertebrate Zoology: Characteristics, classification, evolution, and natural history of the major groups of vertebrate animals. Fee.

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College of Liberal Arts and Sciences	School of Life Sciences	BIO 410	3	BIO 320, BIO 322, and BIO 323 with C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	L	Brown, D. Haughey, R.	Techniques in Wildlife Conservation Biology: Field and analytical techniques used to evaluate wildlife populations, their structure, viability, and environmental impacts. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 411	3	BIO 320, 322 & 323		Spring 2010/Spring 2009	T		Fenichel, E.	Quantitative Conservation Biology: Principles of conservation science; demography and extinction risk; practical approaches to conserving small, declining, and exploited populations.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 412	3	BIO 322 and BIO 323 with a grade of C or better		Spring 2010/Spring 2009	T		Smith, A. Minteer, B.	Conservation in Practice: Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 414	1	BIO 314 with a C or better	SOLS Majors Only	Spring 2010/Spring 2009	T	L	Meinerschein, J. Kinzig, A.	Research Colloquium in Biology and Society II: Further develops critical thinking abilities, research methods, and writing skills for research in the interactions between biological sciences and society. Both BIO 314 & 414 must be taken to secure L General Studies
College of Liberal Arts and Sciences	School of Life Sciences	BIO 416 HPS 410	3	None		Spring 2010/Spring 2009	T	L	Davidson, E.	Professional Values in Science: Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 421 BIO 521	3	You may not enroll in BIO 421 if you have credit for BIO 521; must have BIO 320 with a grade of C or better		Spring 2010/Spring 2009	T		Wu, J.	Landscape Ecology: Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 423	3	None		Spring 2009	T		Collins, S. Sabo, J.	Population and Community Ecology: Organization and dynamics of population and communities, emphasizing animals. Theoretical and empirical approaches.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 424	4	None		Fall 2008	T		Anderies, J.	Mathematical Models in Ecology: Mathematical modeling of populations, communities, and ecosystems, including case studies and student-designed projects.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 426	3-4	None		Fall 2008	T	L	Grimm, N.	Limnology: Structure and function of aquatic ecosystems, with emphasis on freshwater lakes and streams. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 427	3	None		Spring 2009	T	H	Pyne, S.	Fire: Interdisciplinary survey of fire on Earth—its history, ecology, and management.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 428	3	None		Spring 2009	T	L	Brown, D.	Biogeography: Environmental and historical processes determining distributional patterns of animals and plants, emphasizing terrestrial life.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 431	3	None		Spring 2009	T	L	Hall, B. Laubichler, M.	Genes, Development and Evolution: Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 435	3	BIO 331 with a C or better		Fall 2009	T		Liebig, J.	Research Techniques in Animal Behavior: Experimental and field studies of animal behavior; description and quantification of animal behavior and interpretation of behavior within an evolutionary framework.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 471	3	None		Spring 2009	T		Walsberg, G.	Ornithology: Biology of birds. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	BIO 472	4	BIO 187 and BIO 188 with a C or better		Fall 2009	T		Smith, A.	Mammalogy: Classification, structure, habits, ecology, and distribution of mammals, emphasizing North American forms.
College of Liberal Arts and Sciences	School of Life Sciences	PLB 300	4	None		Spring 2009	T	L or SG	Pigg, K. Wojciechowski, M.	Comparative Plant Diversity: Surveys major plant groups and other photosynthetic organisms. Emphasizes comparative data analysis, evolutionary inference, and phylogenetic methods. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	PLB 302	3	BIO 187 (or both PLB 200 and PLB 201) with C or better; BIO 188 and CHM 116 with C or		Spring 2010/Fall 2008	T		Butterworth, C.	Plants and Civilization: Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes).

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College of Liberal Arts and Sciences	School of Life Sciences	PLB 305	3	None		Spring 2009	T	Butterworth, C.	Desert Annuals and Cacti: Adaptive biology of select plants. Analyzes diverse traits permitting survival in deserts: reproduction, structure, and physiology.
College of Liberal Arts and Sciences	School of Life Sciences	PLB 310	4	BIO 187 (or both PLB 200 and PLB 201) with C or better; BIO 188 and CHM 116 with C or better.		Spring 2010	T	Wlodzichowski, M. Sweat, K.	The Flora of Arizona: Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. Fee.
College of Liberal Arts and Sciences	School of Life Sciences	PLB 411	3	None		Fall 2008	T	Landrum, L.	Trees and Shrubs of Arizona: Identification of woody plants from desert, chaparral, and forest habitats in Arizona. Fee.
SCHOOL OF HISTORICAL, PHILOSOPHICAL & RELIGIOUS STUDIES									
College of Liberal Arts and Sciences	School of Historical, Philosophical & Religious Studies	PHI 407	3	Must have completed ENG 101, or 105 with a grade of C or greater, in ENG 101, or 105		Spring 2010/Fall 2009	W/P/O	Vutic, M.	Environmental Philosophy and Policy: Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310.
College of Liberal Arts and Sciences	School of Historical, Philosophical & Religious Studies	PHI 394	3			Fall 2009	T	McGregor, J & Hirt, P	Topic: History & Philosophy of Sustainability: In this course, we will provide students with substantive grounding in historical case studies of environmental challenges and philosophical frameworks within which to understand them. Students will learn methods of historical and critical inquiry, examine the complex social foundations of environmental problems and problem-solving, and develop intellectual tools for understanding and solving contemporary sustainability challenges.
College of Liberal Arts and Sciences	School of Historical, Philosophical & Religious Studies	HST 394	3			Fall 2009	T	McGregor, J & Hirt, P	Topic: History & Philosophy of Sustainability: In this course, we will provide students with substantive grounding in historical case studies of environmental challenges and philosophical frameworks within which to understand them. Students will learn methods of historical and critical inquiry, examine the complex social foundations of environmental problems and problem-solving, and develop intellectual tools for understanding and solving contemporary sustainability challenges.
College of Liberal Arts and Sciences	School of Historical, Philosophical & Religious Studies	HST 308	3			Fall 2010/Fall 2008	T	Hirt, P	Topic: US: American Environmental History: Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship.
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY									
College of Liberal Arts and Sciences	Department of Chemistry and Biochemistry	CHM 494	3	None		Spring 2010/Fall 2009	T	Various	Topics - Chemistry for Sustainability (Jones, A.), Topics in Sustainable Chemistry (Jones, A.)
College of Liberal Arts and Sciences	Department of Chemistry and Biochemistry	BCH 361	3	CHM 231 with C or better OR Pre or Co-requisites: CHM 234 or CHM 334 (with C or better if completed)	Some	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T/P	Fromme, P. Hendrickson, K. Huffman, H.	Principles of Biochemistry: Structures, properties, and functions of proteins, enzymes, nucleic acids, carbohydrates, and lipids; the utilization and synthesis of these materials by living systems, and the relationship of these processes to energy production and utilization. Credit is allowed for only BCH 361 or 461.
College of Liberal Arts and Sciences	Department of Chemistry and Biochemistry	BCH 461	3	CHM 234 or 334 with C or better; Co-requisites: CHM 341 or CHM 346 (with C or better if completed)		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Wachter, R. Chen, J. Yan, H.	General Biochemistry: Structure, chemistry, and metabolism of biomolecules and their role in the biochemical processes of living organisms. Credit is allowed for only BCH 461 or 361.
DEPARTMENT OF ENGLISH									
College of Liberal Arts and Sciences	Department of English	ENG 345	3	ENG 102, ENG 105, or ENG 108 with C or better		Spring 2010/Spring 2009	T	Wheeler, J	Topic: Rhetoric of the Environmental Movement: Different topics may be offered. Film topics with lab may carry 4 credits. May be repeated for credit when topics vary.
College of Liberal Arts and Sciences	Department of English	ENG 378	3	ENG 102, ENG 105, or ENG 108 with C or better		Spring 2010	P	Adams, J	Environmental Creative Nonfiction: Lectures, discussion, and criticism concerning the literary history of nature writing and techniques of writing environmental creative nonfiction for publication.

Sustainability - Related Undergraduate Courses at ASU

IRA A. FULTON SCHOOL OF ENGINEERING									
SCHOOL OF SUSTAINABLE ENGINEERING AND THE BUILT ENVIRONMENT									
College of Liberal Arts and Sciences	Department of English	ENG 367 (previous ENH 374)	3	ENG 102, ENG 105, or ENG 108 with C or better	Fall 2010/Fall 2009	P	L or HU	Adamson, J	Environmental Issues in Literature and Film: Evaluates literary texts and films that address interconnected cultural, historical, and environmental issues.
College of Liberal Arts and Sciences	Department of English	ENG 334 (previous ENH 378)	3	ENG 102, ENG 105, or ENG 108 with C or better	Fall 2010/Fall 2009/Spring 2009	W/O	(L or HU) & C	Gisler, S	The American Southwest in Literature and Film: Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest.
College of Liberal Arts and Sciences	Department of English	ENG 475	3	ENG 102 (or 105, or 108) with a grade of C or better	Spring 2009	P	L or HU	Adamson, J	Environmental Literary Criticism: Evaluates the disparate critical practices that constitute what is the emerging literary project known as "ecocriticism" or "environmental literary criticism."
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 100	2	Civil Engineering students only	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		Abbaszadeh, M. Pendyala, R.	Introduction to Civil and Environmental Engineering: Introduces basics of civil and environmental engineering design, team work, ethics, communication and management skills, modeling, problem solving, computer applications. Fee.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 341	4	BSE Civil Engineering students; CEE 212 (or CEE 211) and CEE 213 with C or better; Pre- or Co-requisite: CEE 384 or MAE 384 (C or better, if completed)	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		Mays, L. Fox, P. Zapata, C.	Fluid Mechanics for Civil Engineers: Fundamental principles and methods of fluid mechanics forming the analytical basis for water resources engineering. Conduit and open channel flow. Fee.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 351	4	BSE Civil Engineering students; CEE 213 with C or better	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		Lawrence, C. Kavazanjian, E.	Geotechnical Engineering: Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. Fee.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 361	4	BSE Civil Engineering students; CEE 213 with a C or better; CHM 114 or CHM 116 with a D or better; Pre- or Co-requisite: IEE 380 with D or better if completed	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		Rittman, B. Krajmalnick-Brown, R. Mayer, B.	Introduction to Environmental Engineering: Concepts of air and water pollution; environmental regulation, risk assessment, chemistry, water quality modeling, water and wastewater treatment systems designs. Fee.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 372	4	BSE Civil Engineering students; CEE 213 with C or better; Pre- or Co-requisite: IEE 380 (with D or better if completed)	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T		Washington, S. Ahn, S. Pendyala, R.	Transportation Engineering: Fundamental background of highway and traffic engineering in the areas of planning, design, and operations.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 400	3	Civil and Environmental Engineering BS or BSE students; CEE 300 with a C or better OR non-CEE juniors or seniors	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	L or HU & H	Allenby, B.	Earth Systems Engineering and Management: Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 440	3	Civil Engineering BSE students only; Must have completed CEE 341 with a grade of C or greater	Fall 2009/Fall 2008	T		Mays, L. Vivoni, E.	Engineering Hydrology: Descriptive hydrology, hydrologic cycle, models, and systems. Rain-runoff models, Hydrologic design. Concepts, properties, and basic equations of groundwater flow.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 441	3	Civil Engineering BSE students only; Must have completed CEE 341 with a grade of C or greater	Spring 2010/Spring 2009	T		Mays, L.	Water Resource Engineering: Applies the principles of hydraulics and hydrology to the engineering of water resources projects; design and operation of water resources systems; water quality.

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Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 467 CEE 567*	3	Civil Engineering BSE students only. Must have completed CEE 361 or MIC 220 with a grade of C or greater	Fall 2009/Fall 2008	T	Abbaszadegan, M.	Environmental Microbiology: Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. Credit is allowed for only CEE 467 or 567. Fee
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CEE 474	3	Civil Engineering BSE students only. Must have completed CEE 372 and CEE 384 with a grade of C or greater	Fall 2009	T	Ahn, S.	Transportation Systems Engineering: Transportation systems modeling procedures, travel characteristics analysis, traffic predictions, transportation systems management, and transit planning methods.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CON 450	3	Construction BS students; CON 310 with C or better	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Luske, J.	Geotechnical Applications for Construction: Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. Fee.
Ira A. Fulton School of Engineering	School of Sustainable Engineering & the Built Environment	CON 494 CON 598	3	None	Spring 2010/Spring 2009	T	Various	Topics - Sustainability in Construction (Bashford, H.)
DEAN'S OFFICE ENGINEERING								
Ira A. Fulton School of Engineering	Dean's Office Engineering	FSE 194	3	All	Spring 2010/Fall 2008	T	Allenby, B. Mattick, C. Mayer, B.	Topic - Technology, Society and Sustainability
SCHOOL OF ELECTRICAL, COMPUTER AND ENERGY ENGINEERING								
Ira A. Fulton School of Engineering	School of Electrical, Computer, and Energy Engineering	EEE 360	4	Engineering BS/BSE student; EEE 202 or ECE 201 completed with a D or better in EEE 202; EEE 241 completed with a D or better OR Graduate	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Gour, R.	Energy Systems and Power Electronics: Conventional and alternate energy sources for power systems, three-phase analysis, AC generators, transformers, induction, DC motors, power electronic speed control. Fee
Ira A. Fulton School of Engineering	School of Electrical, Computer, and Energy Engineering	EEE 498 EEE 591	3	Engineering BS/BSE students only.	Spring 2010/Spring 2009	T	Roedel, R.	Topic: Solar Energy: Small-group study and research for advanced students within their majors. Major status in the department or instructor approval is required.
SCHOOL OF MECHANICAL, AEROSPACE, CHEMICAL AND MATERIALS ENGINEERING								
Ira A. Fulton School of Engineering	School of Mechanical, Aerospace, Chemical and Materials Engineering	MAE 446 MAE 598	3	Engineering BS/BSE students; MAE 340 with C or better; MAE 382 with C or better	Spring 2010/Spring 2009	T	Trimble, S.	Energy Systems Design: Applies mechanical engineering principles and techniques to modeling, analysis, and synthesis of energy systems and components. Design optimization. Design project.
Ira A. Fulton School of Engineering	School of Mechanical, Aerospace, Chemical and Materials Engineering	MAE 494 MAE 598	3	Must have completed Thermofluids II (MAE 340) unless special permission has been granted by professor.	Spring 2010/Spring 2009	T	Trimble, S.	Renewable Energy Engineering

Sustainability - Related Undergraduate Courses at ASU

Ira A. Fulton School of Engineering	School of Mechanical, Aerospace, Chemical and Materials Engineering	CHE 469 CHE 569	3	None		Spring 2010/Spring 2009	T	Andino, J.	Air Quality Engineering: Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. Credit is allowed for only CHE 469 or 569.
SCHOOL OF BIOLOGICAL AND HEALTH SYSTEMS ENGINEERING									
Ira A. Fulton School of Engineering	School of Biological and Health Systems Engineering	BME 100	2	Bioengineering and Pre-Med Engineering students only; Pre-engineering students only; Co-requisite: ENG 101, or ENG 105, or ENG 107 with C or better		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Bureo, C. Garcia, A. He, J.	Introduction to Bioengineering: Introduces profession of bioengineering, bioengineering design process, learning, computer models in bioengineering, communications skills, career planning. Fee.
Ira A. Fulton School of Engineering	School of Biological and Health Systems Engineering	BME 111	3	Engineering students only	Some	Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Abbas, J. Cousen, J. Pauken, C.	Engineering Perspectives on Biological Systems: Biological concepts for the emerging engineer. Introduces biological and earth systems engineering, materials, structures, fluid mechanics, bioelectricity, and the dynamic, nonlinear nature of nature.
W.P. CAREY SCHOOL OF BUSINESS									
DEPARTMENT OF ECONOMICS									
W.P. Carey School of Business	Department of Economics	ECN 211	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	P / T / W / O / D	Various	Macroeconomic Principles: Basic macroeconomic analysis. Economic institutions and factors determining income levels, price levels, and employment levels.
W.P. Carey School of Business	Department of Economics	ECN 212	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	P / T / D / W	Various	Microeconomic Principles: Basic microeconomic analysis. Theory of exchange and production, including the theory of the firm.
W.P. Carey School of Business	Department of Economics	ECN 306	3	ECN 211 or 213, ECN 212 or 214, and MAT 211 or 271 with a grade of C or greater. May not enroll if completed BES 306 with a D or greater		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Brada, J. Hill, J. Alonso Ortiz, J. Croucher, M.	Survey of International Economics: Surveys international trade issues, commercial policy, trade theory, customs unions, and international monetary topics.
W.P. Carey School of Business	Department of Economics	ECN 312	3	ECN 211 or 213, ECN 212 or 214, and MAT 211 or 271 with a grade of C or greater.		Spring 2010/Fall 2009	T	McDowell, J. Orrison, M. Chen, Y. Chandrasekhar, M.	Intermediate Microeconomic Theory: Role of the price system in organizing economic activity under varying degrees of competition.
W.P. Carey School of Business	Department of Economics	ECN 313	3	ECN 214 or ECN 312/314 with C or better.		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Various	Intermediate Macroeconomic Theory: Determinants of aggregate levels of employment, output, and income of an economy.
W.P. Carey School of Business	Department of Economics	ECN 360	3	ECN 211 or 213, ECN 212 or 214, and MAT 211 or 271 with a grade of C or greater.		Spring 2010/Spring 2009	T	Mendez, J	Economic Development: Theories of economic growth and development. Role of capital formation, technological innovation, population, and resource development in economic growth.

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W.P. Carey School of Business	Department of Economics	ECN 413	3	Honors student; ECN 213 or 313, AND ECN 214 or 312/314 with a grade of C or greater.		Spring 2010/Spring 2009	T	Prescott, E.	Advanced Honors Macroeconomics: Develops and uses various macroeconomic models to evaluate important economic policies. Emphasizes honing students' policy evaluation skills.
W.P. Carey School of Business	Department of Economics	ECN 414	3	Honors student; ECN 213 or 313, AND ECN 214 or 312/314 with a grade of C or greater.		Fall 2009/Fall 2008	T	Schlee, E.	Advanced Honors Microeconomics: Develops and uses various microeconomic models to evaluate important economic issues. Emphasizes the economics of uncertainty and information.
W.P. Carey School of Business	Department of Economics	ECN 416	3	ECN 214 or ECN 314 with a grade of C or greater; Co- or pre-requisite: ECN 213 or ECN 313		Spring 2010/Fall 2009/Spring 2009	T	Chen, Y.	Game Theory and Economic Behavior: Introduces game theory and its application to various economic situations under conditions of complete and incomplete information.
W.P. Carey School of Business	Department of Economics	ECN 425	3	ECN 214 or ECN 312/314, AND ECN 221 or STP 226 with a grade of C or greater		Spring 2010/Fall 2009/Spring 2009/Fall 2008	T	Kuminoff, N. Ahn, S.	Introduction to Econometrics: Elements of regression analysis: estimation, hypothesis tests, prediction. Emphasizes use of econometric results in assessment of economic theories.
W.P. Carey School of Business	Department of Economics	ECN 436	3	ECN 214 or ECN 312/314 with a grade of C or greater; Co- or pre-requisite: ECN 213 or ECN 313		Spring 2010/Fall 2009/Fall 2008	T	Datta, M.	International Trade Theory: Comparative-advantage doctrine, including practices under varying commercial policy approaches. Economic impact of international disequilibrium.
W.P. Carey School of Business	Department of Economics	ECN 438	3	ECN 213 or ECN 313 with a grade of C or greater		Fall 2009/Fall 2008	T	Mendez, J.	International Monetary Economics: History, theory, and policy of international monetary economics. Balance of payments and exchange rates. International financial markets, including Eurocurrency markets.
W.P. Carey School of Business	Department of Economics	ECN 441	3	ECN 214 or ECN 312/314 with a grade of C or greater; Co- or pre-requisite: ECN 213		Spring 2010/Fall 2009/Fall 2008	T	Roberts, N.	Public Economics: Public goods, externalities, voting models, public expenditures, taxation, and budget formation with emphasis on the federal government.
W.P. Carey School of Business	Department of Economics	ECN 445	3	ECN 213 or 313; ECN 214 or 312 or 314; MAT 211 or 271 with grade of C or better.		Spring 2010	T	Smith, V.	Environmental Economics: Advanced topics in environmental economics with quantitative methods for developing information that is used for environmental policy making.
W.P. Carey School of Business	Department of Economics	ECN 450	3	ECN 214 or ECN 312/314 with a grade of C or greater		Spring 2010/Fall 2009/Spring 2009	T	DeSera, A.	Law and Economics: Economics of the legal system, including analysis of property, contracts, torts, commercial law, and other topics.
W.P. Carey School of Business	Department of Economics	ECN 453	3	ECN 214 or ECN 312/314 with a grade of C or greater		Fall 2009/Fall 2008	T	McDowell, J.	Government and Business: Development of public policies toward business. Antitrust activity. Economic effects of government policies.
					DEPARTMENT OF MANAGEMENT				
W.P. Carey School of Business	Department of Management	MGT 494	3	Pre-reqs: W.P. Carey BS or BA student OR non-business with min 2.5 ASU cum GPA, min 2.5 ASU bus GPA and min 56 earned hrs; MGT 300 or 302 or 303 or 310 or IBS 300 with grade of C or greater		Spring 2010	O	Hershauer, J.	Topic - Sustainable Dealership Management: The sustainability era in business and economics is here. The automotive industry is being transformed by this disruptive change and the green recovery. Learn about the new global sustainability economy and sustainability opportunities in the auto industry. Guest speakers will share expertise on this topic.

Sustainability - Related Undergraduate Courses at ASU

W.P. Carey School of Business	Department of Management	GLB 301	4	Must be a School of Global Management and Leadership student with Professional or Conditional status.		Spring 2010/Fall 2008/Spring 2009/Fall 2008	W	G	Anders, G. Carey, J.	Business in the Global Environment: Discusses multinational corporate strategy, structure, operations, and the social and economic factors affecting global business.
W.P. Carey School of Business	Department of Management	GLB 401	3	Must be Global Mgt student with professional status AND have total of 87 or greater University Cum hours AND completed with a C or better OPM 301 AND FIN 300 or 301 AND MKT 300 or 301 AND GLB 303, HRM 410 or MGT 301.		Spring 2010/Fall 2008/Spring 2009/Fall 2008	W	L	Nemanich, L. Mesquita, L. Formisano, D. Arlett, M.	Global Business Integration: Provides an integrative framework for global corporate strategic analysis and opportunities for integrated decision making in actual and simulated businesses.
DEPARTMENT OF SUPPLY CHAIN MANAGEMENT										
W.P. Carey School of Business	Department of Supply Chain Management	SCM 394 SOS 394	3	None	All	Spring 2010	T		Dooley, K.	Business and Sustainability I: Business and Sustainability I will teach students how business can operate and innovate in more sustainable ways. Topics include business impacts on human and earth systems, the business case for sustainability, environmental and social regulations, sustainable products, organizational controls for sustainability, and sustainability assessment. The course is open for B.A. Business-Sustainability students with at least Junior status in W. P. Carey School of Business or B.S. majors in the School of Sustainability. Course must be taken for 3 CREDIT HOURS ONLY.
POLYTECHNIC CAMPUS										
MORRISON SCHOOL OF MANAGEMENT AND AGRIBUSINESS										
W.P. Carey School of Business	Morrison School of Management and Agribusiness	AGB 100	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	P		Saperich, G.	Introduction to Agribusiness: Overview of agribusiness industries and career opportunities.
W.P. Carey School of Business	Morrison School of Management and Agribusiness	AGB 302	3	ECN 212 with grade of C or better		Spring 2010	P		Thor, E.	International Management and Agribusiness: Management and agribusiness issues in the transition of developing countries from subsistence to global operations and competition.
W.P. Carey School of Business	Morrison School of Management and Agribusiness	AGB 364	3	None		Fall 2009/Spring 2009/Fall 2008	P		Raczach, M.	Agribusiness Technologies I: Examines methods of managing diverse crop and livestock enterprises with emphasis on growth, development, marketing, and loss prevention.
W.P. Carey School of Business	Morrison School of Management and Agribusiness	AGB 414	3	W. P. Carey BS or BA student and minimum 87 earned hours and FIN 300, MGT 300, MKT 300, SCM 300 with a C or better. May not enroll if completed BUA 440 or BUA 441 with a C or better.		Spring 2010/Fall 2009/Spring 2009/Fall 2008	P	L	Saperich, G.	Agribusiness Analysis: Analysis of agribusiness firm decisions in the ecological, economic, social, and political environments. Special emphasis on ethical issues surrounding food production and consumption.
W.P. Carey School of Business	Morrison School of Management and Agribusiness	AGB 445	3	MKT 300 with a C or better.		Spring 2010/Spring 2009/Fall 2008	P		Pofani, G.	Food Retailing: Food retail management. Discusses trends, problems, and functions of food retail managers within various retail institutions.
W.P. Carey School of Business	Morrison School of Management and Agribusiness	AGB 465	3	None		Spring 2010/Spring 2009/Fall 2008	P		Hefner, S.	Organic Farming Technologies: Organic farming methods, including certification, soil fertility, planting, integrated pest management, irrigation, cover crops, rotations, and marketing farm products.
COLLEGE OF TECHNOLOGY AND INNOVATION										
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 207	3	None		Spring 2010/Spring 2009	P		Steele, K.	Applied Plant Taxonomy: Introduces identification of vascular plants emphasizing seed plants. Surveys seed plant families. Fee.

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College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 225	3	None		Fail 2009/Fall 2008	P	SQ	Green, D.	Soils: Fundamental properties of soils and their relations to plant growth, nutrition of man and animals, and environmental quality. Fee. Both ABS 225 and ABS 226 (lab) must be taken to secure SQ credit.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 260	4	None		Fail 2009/Fall 2008	P	SG	Stutz, J.	Fundamentals of Urban Horticulture: Principles and practices of horticulture, emphasizing development, growth, and propagation of horticultural plants and environmental factors that affect these processes. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 270	3	None		Spring 2010/Spring 2009	P		Brady, W. Alford, E.	Sustainable Biological Systems: Ecological foundations of sustainable biological systems, anthropogenic impacts on ecosystem structure and function, and ecological risk assessment.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 274	4	None		Fail 2009/Fall 2008	P		Cummins, S.	Introduction to Wildlife Management: Managing wildlife in the Southwest, including life histories of small game, fur bearers, big game, and selected nongame specials. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 302	2	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	P/O		Muskate, A.	Ethical and Policy Issues in Biology: Policy environment and ethics in the practice of biology. Covers ethical reasoning, policy formulation, and regulatory agencies with examples from biotechnology and the environment.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 350	3	None		Fail 2009/Spring 2009/Fall 2008	O	CS	Whysong, G.	Applied Statistics: Statistical methods with applications in the biological sciences and natural resource management. Uses computers and the Internet.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 360	2	None	Some	Spring 2010/Fall 2009/Spring 2009/Spring 2009/Fall 2008	O		Stutz, J.	Southwest Home Gardening: Multimedia course for nonmajors surveying contemporary topics in Southwest home horticulture, including landscaping, flower and vegetable gardening, cliriculture, interiorcscaping, and others.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 362	4	None		Spring 2010	P		Martin, C	Landscape Plants and Design: Identification, design, and use of plants in urban landscapes.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 363	4	None		Fail 2008	P		Marcum, K.	Landscape and Turf Irrigation: Design, management, and maintenance of landscape and turf irrigation systems. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 364	3	None		Fail 2009	P		Martin, C	Urban Forestry: Care, maintenance, and valuation of the urban forest, including public and private landscape codes.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 366	3	None		Spring 2010/Spring 2009	P		Stutz, J.	Plant Propagation: Theory and application of sexual and asexual propagation techniques. Considers plant materials used both for urban horticulture and ecological restoration applications. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 370	3	None		Fail 2009/Fall 2008	P		Brady, W.	Ecology: Interactions between organisms and their environments; structure and dynamics of populations, communities, ecosystems, and landscapes, with emphasis on vegetation.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 376	3	None		Spring 2010/Spring 2009	P		Miller, W.	Wildlife Ecology: Examines ecological principles underlying wildlife population dynamics with emphasis on physiology, genetics, nutrition, and habitat factors. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 378	3	None		Spring 2010/Spring 2009	P		Miller, W.	Wildlife Nutrition: Principles of nutrient metabolism in wildlife species; emphasizes understanding the interaction of wildlife with their environment.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 380	3	None		Fail 2009	P		Steele, K.	Restoration and Wildlife Plants: Important wildland plants, including invasive and endangered species, wildlife food species, and species used for ecosystem restoration. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 381	3	None		Fail 2009/Fall 2008	P		Muskate, A.	Natural Resources Policy: Policies and regulations affecting management of natural resources, with emphases on wildlife and ecological restoration.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 402	3	None		Spring 2010/Spring 2009	P		Whysong, G.	Vegetation and Wildlife Measurement: Vegetation inventory, sampling, monitoring, and evaluation. Methods of estimating wildlife populations, activity, and home ranges.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 430	3	None		Spring 2009	P		Green, D.	Watershed Management: Hydrologic, physical, biological, and ecological principles applied to watershed management. Impact of ecosystem manipulations on water yield and quality.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 433	3	None		Fail 2008	P		Bateman, H. Green, D.	Riparian and Wetland Ecology: Functions and components of riparian and wetland ecosystems and the management of these systems.

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College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 435	3	None		Spring 2010	P	Whyson, G.	Applied Systems Ecology: Simulation modeling as a tool to study ecological processes and human impact on ecosystems and organisms.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 440	3	None		Fall 2009/Fall 2008	P	Alford, E.	Ecological Restoration Techniques: Techniques for ecological restoration, riparian and wetland restoration, and monitoring restoration success. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 470	3	None		Spring 2009	P	Cunningham, S.	Mammalogy: Classification and biology of mammals, emphasizes North America.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 471	3	None		Fall 2009/Fall 2008	P	Bateman, H.	Ornithology: Classification and biology of birds, emphasizing North America. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 475	4	None		Spring 2010/Spring 2009	P	Cunningham, S.	Habitat Management for Small Wildlife: Habitat management considerations and practices for small game and nongame wildlife species in North America. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 476	3	None		Fall 2009/Fall 2008	P	Miller, W.	Big Game Habitat Management: Habitat management considerations and practices for big game wildlife species in North America. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 480	3	None		Spring 2010/Spring 2009	P / O	Muskattel, A. L.	Ecosystem Management and Planning: Principles of ecosystem management, with emphasis on economic and policy constraints on the planning process. Risk assessment and management.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 481	3	None		Spring 2010	P	Green, D.	Riparian & Wetland Restoration: Principles and problems in the restoration of degraded riparian and wetland ecosystems. Construction of wetlands.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 482	3	None		Spring 2010/Spring 2009	P	Alford, E.	Ecology and Planning for Restoration: Ecological principles and resource planning processes applied to the restoration of degraded landscapes.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 485	3	None		Fall 2009/Fall 2008	P	Whyson, G.	GIS in Natural Resources: Principles of Geographic Information Systems (GIS) utilized in natural resource management. Use of computers for spatial analysis of natural resources. Fee.
College of Technology and Innovation	Department of Applied Sciences and Mathematics	ABS 486	4	None		Fall 2009	P	Miller, W.	Introduction to Remote Sensing: Remote sensing technologies in natural resource management using computerized data from aerial photography and satellite imagery. Not for graduate credit.
College of Technology and Innovation	Department of Engineering Technology	MET 435	3	None		Fall 2009/Fall 2008	P	Rogers, B. Rajadas, J.	Alternate Energy Sources: Alternate energy systems, energy use and its impact on the environment, and demonstrating practical alternative energy sources to fossil fuels.
College of Technology and Innovation	Department of Engineering Technology	ALT 360	3	None		Spring 2010/Fall 2009/Fall 2008	P	Subach, J. Petrovic, S.	Renewable Energy Technologies: Fundamentals and Integration: Technical fundamentals, economic, and social aspects of renewable energy technologies with emphasis on solar cells, hydrogen economy, and fuel cells.
College of Technology and Innovation	Department of Engineering Technology	ALT 410	3	None		Fall 2009	P	Munukulla, L.	Solar Cells and Module: Basic device physics and engineering of solar cells. Lab experience on fabrication, characterization, and testing of solar cells and module.
College of Technology and Innovation	Department of Engineering Technology	ALT 420 ALT 598	3	None		Spring 2010	P	Madakannan, A.	Electrochemical Energy Technologies: Thermodynamic and electrochemical principles of fuel cells. Hands-on experience on fabrication and testing of fuel cells; problem solving skills.
College of Technology and Innovation	Department of Engineering Technology	ALT 494 ALT 599	3	None		Spring 2010/Spring 2009	P	Rogers, B.	Topic: Impact of Climate & Cultures in Village Energy Use
College of Technology and Innovation	Department of Engineering Technology	AET 415	3	MET 432 or MAE 340 with D or better OR Technology and Innovation MSMSTECH or Fulton Engineering MS/MSE students.		Spring 2010/Spring 2009	P	Rajadas, J.	Gas Dynamics and Propulsion: Introduces compressible flow, internal and external flow, and aerothermodynamic analysis of propulsion systems.

Sustainability - Related Undergraduate Courses at ASU

College of Technology and Innovation	Department of Engineering Technology	AET 420	1	AET 300 with D or better; MET 432 with D or better		Spring 2010/Spring 2009	P	Rajadas, J.	Experimental Aerodynamics and Wind Tunnels: Experimental applied aerodynamics related to aeronautical and mechanical design. Wind tunnel design and testing. Low speed flows. Fee.
College of Technology and Innovation	Department of Technology Management	ETM 301	3	None		Spring 2010/Fall 2009/Fall 2008	P	Brown, A. Peterson, D.	Environmental Management: Focuses on knowledge and skills necessary to manage environmental programs. Perspectives include regulatory, individual, corporate, and consulting.
College of Technology and Innovation	Department of Technology Management	ETM 302	3	None		Spring 2009	P	Edwards, D.	Water and Wastewater Treatment: Explores the development of treatment technologies. Addresses regulatory standards. Emphasizes theory and practice of system design, lab analysis standards and procedures.
College of Technology and Innovation	Department of Technology Management	ETM 303	3	None		Spring 2010/Spring 2009	P	Hild, N. Brown, A.	Environmental Regulations: Explores environmental laws, regulations, and directives. Addresses air, land, and water.
College of Technology and Innovation	Department of Technology Management	ETM 401	3	None		Spring 2010/Fall 2008	P	Hild, N.	Hazardous Waste Management: Definition of hazardous waste, RCRA and CERCLA regulations, hazardous waste classification system. Overview of hazardous waste management.
College of Technology and Innovation	Department of Technology Management	ETM 406	3	None		Fall 2009	O	Hrisovski, K.	Environmental Chemistry: Examines reactions, transport, and fates of hazardous chemicals in water, soil, air, and living organisms.
College of Technology and Innovation	Department of Technology Management	ETM 494	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	O/P	Various	Topics - Sustainable Solid Waste Management (Hrisovski, K.), Sustainability and Sustainable (Hild, N), Soils and Ground Water Contamination (Edwards, D), Environmental Health (Brown, A), Emergency and Environmental Leadership (Brown, A. & Hild, N), International Environmental Law and Policy (Olson, L.)
SCHOOL OF LETTERS AND SCIENCES									
School of Letters and Sciences		HTY 350	3	ENG 102, 105, 108 or ENG 112 with a grade of C or better		Summer 2009/Spring 2009/Fall 2008	O	Schultz, J.	Environmental History: Examines the interaction between humans and the natural world in the United States from the late 19th century to the present.
School of Letters and Sciences		HTY 450	3	ENG 102, 105, 108 or ENG 112 with a grade of C or better		Fall 2009/Summer 2009/Spring 2009	O	L, H Goodman, R.	History of Ecology and Conservation: Examines the historical development of ecology and conservation movements in the United States and the world.
School of Letters and Sciences		ENH 374	3	ENG 102, 105, 108 or ENG 112 with a grade of C or better		Fall 2009	P	L or HU Adamson, J.	Environmental Issues in Literature and Film: Evaluates literary texts and films that address interconnected cultural, historical, and environmental issues.
School of Letters and Sciences		STS 294	3	None		Spring 2010/Fall 2009	O	Hawkinson, C.	Society and Global Warming
School of Letters and Sciences		STS 304	3	None		Spring 2010/Spring 2009	P	SB Gesell, L.	Science, Technology, and Society: Overview of the major issues associated with the study of science, technology, and human systems, including theoretical approaches. Credit is given for only STS 304 or 101.
School of Letters and Sciences		STS 332	3	None		Spring 2010/Fall 2009	O	SB, G Dacosta, L. Grossman, G.	Global Issues in Science and Technology: Examines contemporary international debates in science and technology and how those issues impact globalization.
DOWNTOWN CAMPUS									
SCHOOL OF PUBLIC AFFAIRS									
School of Public Affairs		URB 100 URB 300	3	None		Fall 2008	D/T C	Lucio, J.	Introduction to Urban and Metropolitan Studies: Introduction to study of urban governance. Explores city, civil society, and urban form from different cultures and historical periods. Credit is allowed for only URB 100 or 300.
School of Public Affairs		URB 105 URB 305	3	None		Fall 2008	D	Ramirez Delacruz, E.	Introduction to Urban Governance: Introduces American city growth from past to present. Examines the background of major urban issues emphasizing governance, management, and policy. Credit is allowed for only URB 105 or 305.
School of Public Affairs		URB 220	3	None		Fall 2009/Fall 2008	D	Ramirez Delacruz, E.	Introduction to Urban America: Investigates traditional and evolving forms of civic engagement and management. Examines leadership and organizational models to urban development and decision making.
School of Public Affairs		URB 240	3	None		Spring 2010/Spring 2009	D	C Schroeder, K. Ramirez Delacruz, E.	Urban Policy: Examines major theories about the purposes and processes of urban policy formulation, adoption, and implementation.

Sustainability - Related Undergraduate Courses at ASU

School of Public Affairs	URB 300	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	D / T	Lucio, J. Fogle, N.	Urban and Metropolitan Studies: Examines the city using a multidisciplinary approach drawing from different historical, cultural, social, philosophical, and economic issues and concepts. Credit is allowed for only URB 300 or 100.
School of Public Affairs	URB 301	3	None		Spring 2010	D		Urban Research: Introduces the philosophy, scope, and methods of urban affairs research. Includes an overview of quantitative and qualitative methods and research design.
School of Public Affairs	URB 302	3	None		Spring 2010/Spring 2009	D	Sandberg, B.	Urban Theory: Examines the sociological, economic, and political theoretical positions underlying the development and evolution of metropolitan areas.
School of Public Affairs	URB 305	3	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	O / D	Ramirez Delacruz, E.	Urban Governance: Examines major shifts and trends in urban America. Concentrates on the changing approaches to governance and policies of urban areas. Credit is allowed for only URB 305 or 105.
School of Public Affairs	URB 410 PAF 410	3	None		Fall 2009/Fall 2008	D	Diggs, L. Nahavandi, A.	Urban Leadership and Collaborative Skills: Emphasizes the changing roles of leadership and collaboration in a complex, diverse, and dynamic urban environment.
School of Public Affairs	PAF 300	3	None		Spring 2010/Fall 2009/Summer 2009/Spring 2009/Winter 2008/Fall 2008	O / T	Roach, C.	Public Management and Administration: Examines the context and role of the public manager and the development of the field of public administration.
School of Public Affairs	PAF 340	3	None		Spring 2010/Winter 2009/Fall	O	Mohman, K.	Public Management and Policy: Develops conceptual, critical, and practical understanding of policy, the policy process, and policy analysis.
SCHOOL OF LETTERS AND SCIENCES								
School of Letters and Sciences	CHM 107	3 (4 -- Spring 2009 and prior)	None		Spring 2010/Fall 2009/Spring 2009/Fall 2008	D / O / T	Houtchens, J. Hendrickson, K.	Chemistry and Society: General chemical principles and concepts presented in context of social and technological issues, e.g., energy, pollution, global warming, and others. This is a lecture course which may be combined with the laboratory CHM 108 for those interested in lab course credit. Recommended for General Studies credit. Cannot be used for major credit in chemical or biochemical sciences. Credit earned for CHM 101 and any combination of CHM 107 and 108 cannot be used simultaneously. General Studies: SQ (if taken with CHM 108) & G
School of Letters and Sciences	CHM 481 GLG 598 CHM 598 GLG 481	3	CHM 341 (or 346), or GLG 321 with a grade of C or better		Spring 2010/Spring 2009	T	Hartnett, H.	Geochemistry: Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere.
SCHOOL OF COMMUNITY RESOURCES AND DEVELOPMENT								
School of Community Resources and Development	NLM 301 PRM 301 TDM 301	3	Pre- or Co-requisite: NLM 160 (or NLM 191) with C or better if completed OR Pre- or co-requisites: PRM 120 (or REC 120) with a C or better if completed OR Pre- or Co-requisite: REC 120 (or PRM 120) with a C or better if completed		Spring 2010/Fall 2009/Spring 2009/Fall 2008	D	Philips, R. Budruk, M. White, D.	Sustainable Communities: Analyzes community as concept and as an organizing system for promoting sustainability.
WEST CAMPUS								
SOCIAL AND BEHAVIORAL SCIENCE								
Social and Behavioral Science	POL 460 SBS 450	3	None		Fall 2009/Fall 2008	W	Banner, F. Mueller, C.	Politics of Globalization: Theories and analysis of the politics of economic and technological globalization in the contemporary world.
Social and Behavioral Science	POL 464 MAS 591 SBS 450	3			Fall 2009/Fall 2008	W	Murphy Erfani, J.	Border Cities: Action Research on Globalization: Examines the effects of globalization on U.S.-Mexico border cities and towns with particular emphasis on Mexican border cities. Fee.
Social and Behavioral Science	POL 480 SBS 480	3	None		Spring 2009	W	Simmons, W.	Global Justice: Explores questions of justice that cross national borders, including delivery of foreign aid, immigration, and military intervention

Sustainability - Related Undergraduate Courses at ASU

Social and Behavioral Science	SBS 301	3	None		Spring 2010/Fall 2009/Fall 2008	W	L or SB, C	Schwartzkopf, S. Koplich, K. Talcott, M.	Cultural Diversity: Socially structured differences in historical and cross-cultural perspective.
Social and Behavioral Science	SBS 460 ASB 442	3	None		Spring 2010/Spring 2009/Fall 2008	W	SB	Koplich, K. Giavac, S.	Global Cities: Studies local and global urban issues such as social geography, political economy, culture and social space, urban social diversity. May be repeated for credit when topics vary.
Social and Behavioral Science	PGS 306	3	PGS 101 with a C or better		Fall 2009	W	SB	Pennington, M.	Environmental Psychology: Concepts and research strategies in the study of behavior in interaction with physical environment.
Social and Behavioral Science	PGS 350	3	Must have completed PGS 101 with a grade of C or greater		Spring 2010/Winter 2009/Fall 2009/Summer 2009/Winter 2008/Fall 2008	O / W / T	SB	Various	Social Psychology: Human social behavior, including such concepts as aggression, attraction, attribution, conformity, groups, helping, person perception, and persuasion.
DIVISION OF MATHEMATICAL AND NATURAL SCIENCES									
Division of Mathematical & Natural Sciences	LSC 320	3	Must have completed BIO 181 or 188 and CHM 113 and CHM 115 or 116 with a grade of C or greater.		Spring 2009/Fall 2008	W		Johnson, J.	Fundamentals of Ecology: Organization, functioning, and development of ecological systems; energy flow, biogeochemical cycling, environmental relations; population dynamics.
Division of Mathematical & Natural Sciences	LSC 322	1	Must have completed LSC320 with a C or greater, or be co-enrolled in LSC320		Spring 2010/Spring 2009/Fall 2008	W		Savall, U.	Fundamentals of Ecology Laboratory: Investigational field course on fundamental concepts in ecology. Fee.

Impact Statements – Minor in Sustainability

From: Debra Friedman
Sent: Monday, March 22, 2010 10:25 AM
To: John Hepburn
Cc: Afsaneh Nahavandi
Subject: RE: Minor in Sustainability

John,

We would be pleased to support the minor in sustainability, and indeed, there are even more possibilities than are identified here. In particular, there is opportunity in the tourism management program. Kathy Andreck is exploring possible connections with SOS colleagues.

Best,

Debra

Debra Friedman
University Vice President and Dean
College of Public Programs
From: Elizabeth Langland
Sent: Monday, March 22, 2010 9:57 AM
To: John Hepburn
Subject: RE: Minor in Sustainability

Dear John,

New College has reviewed the proposed minor in Sustainability, and we see no problematic impacts. We look forward to this new degree.

Best,
Elizabeth

From: Frederick Corey
Sent: Tuesday, March 16, 2010 4:10 PM
To: John Hepburn
Cc: Ian Moulton; Nicholas Alozie; Richard Bauer
Subject: RE: Minor in Sustainability

John,

This is great. We fully support this initiative.

From: Sid P. Bacon
Sent: Tuesday, March 23, 2010 11:45 AM
To: John Hepburn
Cc: Phyllis Lucie
Subject: RE: Minor in Sustainability

John —

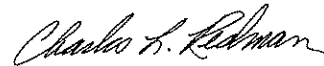
I have no problems with it being offered. Thanks.

- Sid

DATE: March 8, 2010

TO: Elizabeth Capaldi, Executive Vice-President and University Provost

FROM: Charles L. Redman, Director, School of Sustainability



RE: Proposed Minor in Sustainability

Students outside the School of Sustainability who are interested in sustainability challenges should be able to build upon their existing program of study by pursuing a Minor in Sustainability. This will be an opportunity for other Colleges and Schools to highlight their sustainability related course offerings as well as benefit from those offered by SOS. With a minor, students will learn about the concept of sustainability, the issues involved, and the methodologies needed to address sustainability problems. A sustainability minor would introduce students to the problems of sustainability, and enable them to understand what it is that determines the sustainability of human institutions, organizations, cultures, and technologies in different environments at the local, national, and international level.

The proposed Minor in Sustainability has been reviewed and discussed by the faculty at two successive meetings and has received faculty approval through appropriate governance procedures in the School of Sustainability. If implemented in fall 2010 at a modest level, the School has the resources to initiate the Minor as presented in the proposal, without impacting core course resources. As with all programs, if enrollment demand is high in subsequent semesters the School would expect to have resources adjusted to appropriate levels to fully roll out and staff the minor. If you have any questions or concerns about the proposal, please let us know.

Demand

Since the School was established in 2007, there has been a substantial demand for a minor in sustainability by students who wish to have some knowledge about sustainability, but pursue their degree in something else at ASU. The rapid enrollment growth of the BA in Business with a concentration in sustainability is evidence of this demand and we expect that it will be paralleled by students in other majors. As with any program we expect the numbers to be modest in the first year it is offered, but probably it will attract several hundred minors. Over the years, we expect this number of minors to multiply several fold and it to be one of the more popular minors at the university. We believe this will be an excellent mechanism to involve faculty and students from all disciplines into the incorporation of sustainability principles and methods in the conduct of their future careers.

cc: John Hepburn
Rob Melnick