COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
GEOG 104	1	Design and implement a research project to effectively evaluate a problem using a geographic information system					x							
	2	Develop ability to collect, manipulate, classify, and interpret spatial data					x							
	3	Demonstrate ability to apply appropriate application of GIS operations to analyze data and explain the various methods for effectively presenting results					x							
	4	Utilize global positioning systems in combination with GIS to collect, import, and display/store spatial information					x							
	5	Development of Spatial Literacy through the use of computers, mathematical algorithms, and spatial statistics to analyze geospatial problems					x							
GEOG 106	1	Within the context of world regions, students be able to describe and explain current socio-economic, cultural, and political issues resulting from the important yet interactive and opposing forces of homogenization and diversification (*e.g., market vs. socialist economic systems in China; the rise of Islamic extremism; supranationalism and devolution in Europe; uneven economic development in Southeast Asia; etc.).*				x								

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
GEOG 120	1	Students should be able to memorize, apply, and explain the rationale behind **classification systems** developed for recognizing, explaining, and predicting relationships, patterns, and trends in Earth Systems (*e.g., classification of rocks; classification of thermal vs. dynamic weather systems; forms of energy, especially associated with the energy transformations produced by atmospheric, hydrospheric, biospheric, and lithospheric processes; classification of climates in terms of the availability of the inputs to photosynthesis; classification of biomes; classification of erosional vs. depositional environments; etc.*)		x										
	2	Students should be able to describe, apply, and explain the evidence behind the foundational scientific **models** commonly used to explain and predict relationships, patterns, and trends within Earth Systems (*e.g., Copernican Model describing Earth-Sun relationships; Kinetic Theory, such as applied to systems powered by differential heating; Dynamics, such as applied to the general circulation of the atmosphere; Thermodynamics, including the unique role of water within the Earth's Global Energy Budget, or the production of equilibrium landforms by the agents of gradation; Wave Cyclone theory; Plate Tectonic theory; etc.*).		x										
	3	Students should be able to explain the step-by-step causes and outcomes of **thermal circulation** within the Earth System, including across various spatial and temporal scales (*e.g., Sea Breezes vs. Monsoonal Wind Systems vs. Hadley Cells; Plate Tectonics; etc.*).		x										

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
	4	Students should be able to discuss the unique characteristics and importance of **water** within the Earth System (*e.g., high capacity to store heat energy per change in temperature; high latent heat associated with phase changes; radiative properties relative to infrared radiation and greenhouse warming; energy source behind convective weather systems; systematic distribution of the mechanisms by which precipitation is produced; biome variation as an evolutionary response to the distribution of water resources; significance of evapotranspiration by plants to Earth's energy budget; role of water as a flux in producing magmas at subduction zones; role of water in producing clays and free ions through chemical weathering; gradational work performed by streams, waves, and glaciers producing erosional vs. depositional landforms; etc.*).		x										

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	
GEOG 121	1	Develop observational skills related to “reading the landscape” (e.g., relating changes in solar declination to seasonal variation; relating changes in longitude to differences in time keeping; relating real-time weather observations to synoptic-scale weather maps; developing and using morphologic classification systems (e.g., mafic vs. felsic igneous rock classification; the biologic taxonomy; etc.); development of hypotheses derived from observation-based rationales; relating stream offsets, sagponds, and pressure ridges, as found on topographic maps, to lateral-fault location, and direction and rate of displacement; etc.).			x										
	2	Develop the ability to recognize and name the individual components of the physical environment, and of interrelationships between and spatial patterns produced by these individual components (e.g., recognition of dominant plant species within Coastal Sage Scrub biome; recognition of species variation by habitat (e.g., north vs. south facing slopes) within a biome; recognition of typical San Diego weather features and patterns (e.g., inversions, sea-breezes, downslope adiabatics, synoptic-scale Highs vs. synoptic-scale Lows vs. mesoscale Lows); etc.).			x											x
	3	Develop technical skills and experience utilizing the tools of Physical Geography to collect data (e.g., spherical grid systems; compasses and clinometers; GPS receivers; infrared guns; psychrometers and psychrometric tables; wading rods, pygmy meters, tag lines, shovels, and velocity-discharge ratings; etc.).			x											

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
	4	Develop technical skills used to analyze and interpret the data of Physical Geography (e.g., usage of the analemma, topographic maps, synoptic-scale weather maps, seismographs, hydrographs, etc.; application of conversion factors, trig functions, graphing, isoline mapping, topographic profiling, etc.).			x									
	5	To illustrate the scientific method (e.g., hypothesis testing using the age of Hawaiian Island basalts relative to their distribution to predict direction and rate of plate motion; hypothesis testing using the temperature response of sand vs. water relative to radiation inputs to explain continentality; hypothesis testing of the temperature response of dark vs. light colored material relative to radiation inputs to account for natural selection of leaf structures present on Encelia farinosa vs. E. californica; etc.).			x									
GEOG 130	1	Students should be able to memorize, apply, and explain the rationale behind **classification systems** developed for recognizing, explaining, and predicting relationships, patterns, and trends in Cultural Systems (*e.g., the demographic transition; classification of languages; classification of religious systems; human development index; genetic classification system of boundaries; state territorial morphology; etc.)*					x							

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
GEOG 140	1	Students should be able to memorize, apply, and explain the rationale behind **classification systems** developed for recognizing, explaining, and predicting relationships, patterns, and trends within the Atmospheric System (*e.g., classification of atmospheric layering; classification of thermal vs. dynamic weather systems; classification of stable vs. unstable vs. conditionally unstable tropospheric conditions; classification of cloud types as an indicator of tropospheric stability; classification of diabatic vs. adiabatic work processes; classification of mesoscale vs. synoptic scale vs. continental scale vs. global scale atmospheric motions; classification of zonal vs. meridional Jet Stream patterns; etc.*).						x						
	2	Students should be able to describe, apply, and explain the evidence behind the foundational scientific **models** commonly used to explain and predict relationships, patterns, and trends within the Atmospheric System (*e.g., Synoptic scale weather maps, including the analyzed version of surface isobar maps and upper-level height-contour maps; Kinetic Theory including the Equation of State and the Hydrostatic Equation, such as applied to systems powered by differential heating; Thermodynamics, including the unique role of water-vapor within the atmospheric system especially in terms of the energy transformations associated with phase changes; Dynamics, such as applied to the general circulation of the atmosphere, and to meridional Jet Stream patterns that produce zones of upper-level divergence vs. convergence; Wave Cyclone Theory resulting from Jet Stream dynamics and producing the traveling Cold Core Lows and associated frontal dynamics so common to winter across the United States (i.e., Midlatitude Cyclogenesis); etc.*).						x						

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
	3	Students should be able to explain the step-by-step causes and outcomes of **thermal circulation** within the Atmospheric System, including across various spatial and temporal scales (*e.g., Sea Breezes vs. Monsoonal Wind Systems vs. Hadley Cells; production of Warm Core Lows such as stationary Desert Thermal Lows vs. traveling Tropical Cyclones (e.g., Hurricanes); etc.*).						x						
	4	Students should be able to discuss the unique characteristics and importance of **water** especially in the **vapor phase** within the Atmospheric System (*e.g., high capacity to store heat energy per change in temperature; high latent heat associated with phase changes; radiative properties relative to infrared radiation and greenhouse warming; energy source behind convective weather systems; basic measures of humidity (e.g., specific humidity vs. saturation specific humidity vs. relative humidity); systematic distribution of the mechanisms by which precipitation is produced; effect on atmospheric instability; etc.*).						x						
GEOG 150	1	**CROSS-LISTED: SEE GEOL 150**												
GEOG 170	1	Students should be able to describe and explain California's location relative to the tectonic system, and thus why it's a) so seismically active and b) topographically diverse.							x					
	2	Students should be able to describe and explain California's location relative to the general circulation of the atmosphere, summer vs. winter, and all that implies							x					

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
	3	Students should be able to describe the evolutionary response to climatic variation within the state, in association with its topography, resulting in its spectacular diversity of ecosystems							x					
	4	Students should be able to describe the natural distribution of water resources in the state relative to human development and demographic trends, and thus be able to explain the logistical, political, and ecological implications that result. Likewise, the situation for the entire arid West							x					
	5	Students should be able to name California's major sub-regions, and describe and explain the site, situation, and economic base of each							x					
	6	Students should be able to describe the unique demographic diversity of California, both in terms of the innovative strength it brings and challenges it presents							x					
GEOG 172	1	Students will be able to define, analyze, and synthesize geographic components within the designated field area	x											
GEOG 173	1	Students will be able to define, analyze, and synthesize geographic components within the designated field area	x											
GEOG 174	1	Students will be able to define, analyze, and synthesize geographic components within the designated field area	x											
GEOG 175	1	Students will be able to define, analyze, and synthesize geographic components within the designated field area.	x											

COURSE #	SLO		FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021
GEOG 176	1	Students will be able to define, analyze, and synthesize geographic components within the designated field area	x											
GEOG 199	1	Students will be able to identify, examine, and assess geographic component(s) in a study of individualized content	x											
GEOG 299	1	A: Students will be able to define and analyze geographic components of the discipline within a specialized topic in geography.	x											
	2	B: Students will be able to define, analyze, and synthesize geographic components within a specialized topic in geography.	x											