11/5/8

Water Related Classes Offered at UNM – Spring 2009

This is a partial list of classes that will be of interest to graduate students in the Water Resources Program, as well as students in other programs who are interested in studying topics related to the management, policy, science and engineering of water resources. Send additions or corrections to Annamarie Cordova (acordova@unm.edu) with a copy to Bruce Thomson (bthomson@unm.edu).

Course No.	Title	Description	Instructor	Time
Biology				
Biology 495 & 496L	Limnology		White	MWF 100 F 1400-1700
Chemistry				
Civil Engr.				
CE 335**	Intro. to Water & Wastewater Trt.	Basic design concepts of water & wastewater treatment. Flow rates, characterization of water, materials, balances, coagulation, flocculation, filtration, sedimentation, biological trt., & disinfection	Schuler	MWF 1000
CE 440/540	Des. of Hydr. Systems	Applications of the principles of fluid mechanics to the design & analysis of pipe systems. Topics include pipe network analysis, design & selection of hydraulic machinery and analysis of transient & compressible flow	Thomson	MWF 1300
CE 532	Adv. Phys.-Chem. Water & Wastewater Treatment	Principles & design practices of unit operations applicable to special problems. Processes covered include absorption, IX, RO, oxidation, stripping. Emphasis on reuse of water & production of high quality water.	Howe	MW 1600
CE 598L	Engr. Microbiology		Schuler	TR 1600
CE 542	Intermed. Hydrology		Coonrod	TR 1400
CE 547	GIS in Water Resources Engineering	Principles & operation of GIS using ArcGIS, work with surface & subsurface digital representation of the environment considering hydrologic & transport processes	Coonrod	MWF 1.00
Community & Regional Planning				
CRP 527	Watershed Management	Watershed conservation worldwide, with case studies	Fleming	TR 1400

	Planning	from Latin America, Asia, North Africa, North America. Land use impacts on water quantity and quality. Each student chooses a watershed of their choice to write a watershed management plan and present it during the last week of classes.		
CRP 532	Foundations of Natural Resources Planning	Survey of methods and concepts of environmental planning, with an emphasis on hydrology and land use.	Fleming	W 1300
Earth & Planetary Sci.				
EPS 433/533	Statistics & Data Analysis	Description: Selected mathematical methods of geological data analysis, including elementary statistics, matrix algebra, multivariate data analysis and Fourier analysis. 533 students will be required to complete homeworks and calculations using Matlab.	Gutzler/Roy	MWF 0900
EPS 476-576 (AOA) WR 576	Physical Hydrology	Quantitative treatment of the hydrologic cycle - precipitation, evapotranspiration, infiltration, runoff and subsurface flow, global change and hydrology, catchment and hillslope hydrology, hydrologic system - ecosystem interactions, hydrology and water resources management. Prerequisites: Upper-division standing. Math 163L and Physics 160, or permission of instructor.	Galewsky	TR 1600
EPS 443/543	Aquifers & Reservoirs	Methods for subsurface geological characterization of aquifers and petroleum reservoirs will be covered, including well log analysis, correlation methods, and influences of heterogeneity on groundwater flow.	Weissmann	TR 1530
Economics				
Econ 342	Environmental Economics	Theoretical background for environmental economics,conceptual tools and applications.	Brookshire	TR 1300
Econ 541-001	Sustainable Development		Grimsrud	TR 1400
Econ 542-001	Environ. & Natur. Res. Econ. Survey		Thacher	MW 1600
Geography				
Geog 499-005	Nature and Society	Examine the human dimensions of environmental and natural resource issues and the ways in which	Benson	TR 1230

		elements of society approach, evaluate, and develop positions relative to these issues.		
Geog 499-011 (AOA Law 593-011)	Natural Resources Mgt.	Laws and policies regarding both renewable and nonrenewable energy resources development will be examined, along with their environmental impacts	Benson	R 1730-2000
Geog 562	Water Resources Mgt		Matthews	MW 1730-1845
Geog 583L	Digital Image Processing		Neville	TR 1600
Geog 588	Advanced GIS	Advanced GIS course. Covers many of the skills need by water resources managers	Zandbergen	TR 1100
Law				
Law 593-019	Practical Application of Water Law	This course will emphasize water law as practiced by people working in the field in New Mexico, and will deal with water rights, including understanding the documents and administrative processes for permitting of water rights.	Bushnell	T 1600-1800
Law 593-018	New Mexico Grants & Acequias	See Professor Hall for course description.	Hall	TR 1600
Law 565-001	Natural Resources Law	This course presents an introduction to statutory and case law concerning federal lands, state lands, conservation transactions, wildlife, the Endangered Species Act, water resources, wetlands, and fire.	Fort	TR 1000
Public Health				
Water Resources				
WR 572	Water Resources II-Models	Practical aspects of the different technical models used by water resource professionals; hydrological, economic, ecological, etc.	Thomson, Chermak,	TR 1700
WR 576 (AOA E&PS 576)	Physical Hydology	Quantitative treatment of the hydrologic cycle - precipitation, evapotranspiration, infiltration, runoff and subsurface flow, global change and hydrology, catchment and hillslope hydrology, hydrologic system - ecosystem interactions, hydrology and water resources management. Prerequisites: Upper-division standing. Math 163L and Physics 160, or permission of instructor.	Galewsky	TR 1600