

Water Related Classes Taught At UNM Fall 2009

(Send corrections & additions to Bruce Thomson – bthomson@unm.edu)

| Course No. | Title | Description | Instructor | Time |
|----------------------------------|-----------------------------------|---|-------------------|--------------|
| Biology | | | | |
| | Global Change Biology | Gives a broad overview of important questions, evidence, and current research related to global change biology. The goal is to provide an integrated introduction to both the scientific and social aspects of global change, including the basic scientific issues, relationships between geophysical and biological sciences and the political manner in which the world has responded. | Litvak | |
| Biol 514 | Ecosystem Studies | Study of biological systems (terrestrial and aquatic) emphasizing the interactions between living and non-living parts and the flow of materials and energy between these parts. | Collins, Bixby | MWF 1000 |
| Chem. & Nucl. Engr | | | | |
| ChNE 539 (AOA CE 539) | Radioactive Waste Management | Intro. to the nuclear fuel cycle emphasizing sources, chars., & mgt. of rad. wastes. Types of radiation, rad. decay calcs., shielding reqts. Radwaste mgt. technologies. Non engineers welcome | Busch | MW 4-5:15 |
| Civil Engr. | | | | |
| CE 441/541 AOA EPS 462/562 | Hydrogeology | Introduction to the hydraulics and hydrology of ground water | Stormont | TR 1530-1645 |
| CE 442/542 | Hydraulic Engineering & Hydrology | Design of water distribution systems & open channels; selection of pumps & turbines; hydraulics of wells; basic engineering hydrology including precipitation, infiltration, runoff, flood routing, statistical measures & water resources planning | Coonrod | TR 9:30 |
| CE 531 | Physical-Chemical | Theory and design of common physical-chemical treatment | Schuler | MW 4-5:15 |

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| | Water & Wastewater Treatment | processes including coagulation, flocculation, sedimentation, granular filtration, membrane filtration, and disinfection. Also covers conservation of mass, reactor design, and tracer testing. | | |
| CE 436/536 | Biological Wastewater Treatment | Principles of microbial growth & biodegradation, and application of these concepts to design of wastewater treatment and bioremediation systems. | Schuler | TR 11-12:15 |
| CE 539 (AOA ChNE 539) | Rad. Waste Management | See ChNE 539 | Busch | MW 4-5:15 |
| CE 598 | Water Reuse | Technology, applications, and policy related to reuse of water for agricultural, industrial and drinking water purposes | Thomson | MW 1700-1815 |
| CE 545 | Open Channel Hydraulics | Theory & application of principals of fluid mechanics to flow in open channels. | Coonrod | TR 1400 |
| CE 549 | Vadose Zone Hydrology | Principles and applications of water, energy and solute transport in the near-surface environment. Topics include moisture characteristic curves, unsaturated hydraulic conductivity, Richards equation and numerical solutions. Processes studied include infiltration, redistribution, evapotranspiration and recharge | Stormont | MW 1600-1715 |
| Community & Regional Planning | | | | |
| CRP 470/570 | Modeling the Environment | Simulation modeling of anthropomorphic impacts on ecosystems, with an emphasis on watersheds, using the Stella modeling platform. | Fleming | |
| CRP 515 | Natural Resources Planning Field Methods | The course provides training in rapid assessment techniques for forest, grassland, and riparian health. | Henkel | TBA |
| CRP 265 | Community Planning Concepts & Methods | Basic concepts, processes and techniques of planning, with water as a unifying theme | Fleming | |
| CRP 569 | Rural Community Development | The course is focused on three principal objectives: 1) Review rural community development policy planning issues including water resources | Rivera | TR 1100-1215 |

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| | | 2) Examine sustainable rural development in the context of regional environments and natural resources 3) Analyze case studies of model projects in community-based settings | | |
| Earth & Planetary Sci. | | | | |
| EPS 462/562 AOA CE 541 | Hydrogeology | Introduction to the hydraulics and hydrology of ground water flow | Stormont | TR 1530-1645 |
| EPS 436/536 | Climate Dynamics | A quantitative survey of Earth's climate system with considerable (but not exclusive) emphasis on hydroclimatology Prereqs (firm!): 1 semester calculus, 1 semester physics | Gutzler | TR 9:30-10:45 |
| EPS 481/581 | Geomorphology and Surficial Geology | Processes and history of landform development with emphasis on weathering, soils, hillslopes, drainage basins, and fluvial systems; frequent field trips during lab time to conduct research including a major project on Jemez River geomorphology and hydrology. | Meyer | TR 11-12:15, Lab:T 1:00-5:00 |
| EPS 516 | Fluvial Geomorphology | A graduate seminar covering quantitative processes and resulting landforms of streams, with relevance to understanding human and natural influences on fluvial systems and stream renaturalization. | Meyer | W 1400-1650 |
| EPS 558 AOA Bio 558 | Intro to Geomicrobiology | In introduction to geomicrobiology with emphasis on microbial metabolic pathways, genomics, interactions with aquatic and mineral environments, elemental cycling and mobility. | Crossey/ Northrop | TR 1400-1515 |
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| Economics | | | | |
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| Geography | | | | |
| Geog 563 | Public Land Management | History, designation, & management of state & federal lands | M.Benson | TR 1600-1715 |
| Geog 561 | Environmental Management | Discussion of overlapping obligations relevant to environmental management including laws, land use plans, & property rights | M.Benson | TR 1230-1345 |
| Law | | | | |

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| Law 547 | Water Law | This course surveys the law governing water allocation and use, with an emphasis on the prior appropriation doctrine of the western U.S., the various legal regimes governing groundwater, and federal legal doctrines governing water use. | R.Benson | MR 1430-1545 |
| Public Admin | | | | |
| Public Health | | | | |
| PH 502 | Epidemiologic Methods I | Provides an overview of methods of epidemiologic research used in public health practice. | Tollestrup | TR 1:15-3:15 |
| PH 521 | Introduction to Epidemiology | Web-enhanced course providing an introduction to basic epidemiologic methods. Emphasizes community assessment, surveillance, problem solving, health promotion and disease prevention. | Tollestrup, Stone | Arranged with instructors. |
| PH 552 | Public Health Program Planning | An exploration of rational health planning methods. | Sanchez | T 6:00-8:30 |
| Water Resources | | | | |
| WR 571 | Contemporary Issues | Students examine contemporary issues in water resource systems, including water quality; ecosystem health; stakeholder concerns; economics; & water supply, policy, management & allocation | Brookshire, 436Thomson | TR 1530-1815 |