

Water Science & Management Graduate Courses

The following courses can support each of the five fields of study offered in the Master and PhD programs, but this list is not meant to be all inclusive. Variations from or additions to this list may be made by the candidate, subject to the approval by the thesis or dissertation committee chairperson.

Agricultural Water Resources		Credits
A EN 459	Design of Water Wells/Pumping Systems	3
A EN 475	Soil and Water Conservation	3
A EN 478	Irrigation and Drainage Engineering	3
AGRO 620	Instrumentation in Agronomy	3
C E 452	Geohydrology	3
C E 482	Hydraulic Structures	3
C E 483	Surface Water Hydrology	3
C E 485	Design of Earth Dams	3
C E 506	Advanced Soil Mechanics	3
C E 525	Advanced Analysis of Engineering Systems	3
C E 531	Open Channel Hydraulics	3
C E 557	Water Resources Development	3
C E 581	Ground Water Hydrology	3
C E 582	Statistical Hydrology	3
C E 681	Topics in Hydrodynamics I	3
C E 682	Topics in Hydrodynamics II	3
GEOG 467	Transportation Geography	3
GEOG 552	Landscape Ecology	3
GEOG 553	Applied Geomorphology	3
GEOL 474	Groundwater Geology	3
GEOL 515	Advanced Principles of Geochemical Equilibria	3
GEOL 560	Geochemistry of Diagenetic and Hydrochemical Systems	3
M E 530	Intermediate Fluid Mechanics	3
M E 533	Computational and Theoretical Fluid Mechanics	3
M E 535	Turbulence and Chaos	3
SOIL 456	Irrigation and Drainage	3
SOIL 477	Environmental Soil Physics	3
SOIL 477L	Environmental Soil Physics Laboratory	1
SOIL 479	Environmental Soil Chemistry	3
SOIL 651	Advanced Soil Chemistry	3
SOIL 652	Advanced Soil Physics	3

Watersheds, and Aquatic and Riparian Wetlands

AEEC 580	Natural Resources and Environmental Policy	3
BIOL 517	Seminar in Physiological Ecology	3
BIOL 533	Environmental Physiology of Plants	3
C E 483	Surface Water Hydrology	3
C E 557	Water Resources Development	3
C E 581	Ground Water Hydrology	3
C E 682	Topics Hydrodynamics II	3
FWCE 459	Aquatic Ecology	4
FWCE 482	Ichthyology	3
FWCE 532	Environmental Biology of Fishes	4
FWCE 534	Aquatic Contaminants and Toxicology	4
FWCE 578	Advanced Limnology	3
GEOL 452	Geohydrology	3
GEOG 577	GIS Capstone	3
RGSC 518	Watershed Methods and Management	3
SOIL 456	Irrigation and Drainage	3
SOIL 472	Soil Morphology and Classification	4
SOIL 477	Environmental Soil Physics	3
SOIL 477L	Environmental Soil Physics Laboratory	1
SOIL 652	Advanced Soil Physics	3

Water Quality & Treatment

BIOL 477	Applied and Environmental Microbiology	4
CHEM 472	Analytical Methods for Toxic Organics and Metal Ions in the Environment	3
ENVE 456	Environmental Engineering Design	3
ENVE 462	Sampling and Analysis of Environmental Contaminants	3
ENVE 551	Unit Process/Operation of Water Treatment	3
ENVE 551L	Unit Process/Operation of Water Treatment Laboratory	1
ENVE 552	Unit Process/Operation of Wastewater Treatment Laboratory	3
ENVE 552L	Unit Process/Operation of Wastewater Treatment Laboratory	1
ENVE 553	Chemical Theories of Environmental Engineering	3
ENVE 554	Microbiological Theories of Environmental Engineering	3
ENVE 557	Surface Water Quality Modeling	3
ENVE 558	Advanced Waste Management	3
ENVE 630	Fate and Transport of Environmental Contaminants	3
ENVE 631	Topics in Environmental Engineering I	3
ENVE 632	Topics in Environmental Engineering II	3
EPWS 520	Environmental Fate of Pesticides	3

FWCE 534	Aquatic Contaminants and Toxicology	4
MPH 554	Environmental Epidemiology	3
TOX 523	Environmental Toxicology	3

Water Economics and Policy

AXED 485	Agriscience and Technology Education Laboratory Applications	2
AEEC 575	Advanced Water Resource Management and Policy	3
AEEC 580	Natural Resources and Environmental Policy	3
AG E 475	Water Resource Management and Policy	3
ECON 455	Public Utilities Regulation	3
HL S 452	Environmental Health	3
ECDV 651	Economic Development Theory	3
ECDV 661	Regional Economic Modeling I	3
ECDV 662	Regional Economic Modeling II	3
ECDV 664	Population Economics	3
ECDV 668	Economic Development Finance	3
ECDV 671	Sustainable Economic Development	3
MPH 550	Environmental Public Health Issues	3
MPH 565	International Health Issues	3
MPH 567	Rural Health Issues	3
MPH 569	U.S.-Mexico Border Health Issues	3

Water Informatics

GEOG 521	Geographic Information Science Applications and Modeling	3
GEOG 571	Cartography and Geographic Information Systems	3
GEOG 572	Geodatabase Design	3
GEOG 573	Introduction to Remote Sensing	3
GEOG 577	GIS Capstone	3
GEOG 578	Fundamentals of Geographic Information Systems	4
GEOG 581	GIS Design	3
GEOG 582	Advanced Remote Sensing	4
GEOG 585	Advanced Spatial Analysis	3
GEOG 586	Geospatial Techniques for Natural Resources Assessment	3