

Proposed Electives for SWD Graduate Certificate. For the certificate, students will need to complete 5 courses relevant to SWD themes. Required among these are two of the SWD core courses: (i) *Politics and Economics of the Food, Energy, Water Nexus* and (ii) *Watershed Ecology and Management*. Graduate Certificate in SWD recipients will also be required to complete the (iii) *Capstone Community Engagement Project Course*. The two additional courses must come from the approved list of path elective courses below, developed for the SWD graduate degree, as these provide sufficient interdisciplinary to be of broad interest and accessibility to students from diverse educational backgrounds. Finally, all certificate recipients will be required to enroll in the SWD graduate seminar course (CEE:5096 Water, Energy, Food Nexus Seminar) for two semesters. A course number containing “XXXX” indicates the course has yet to be created.

CBE:4410	Sustainable Systems
CBE:5140	Mathematical Methods in Engineering
CBE:5405	Green Chemical and Energy Technologies
CBE:3160	Engineering Analysis of Alternative Energy Systems
CBE:5415	Sat Image Proc & Remote Sens Atmosphere
CBE:5425	Atmospheric Chemistry and Physics
CHEM:4760	Radiochem: Energy, Medicine, Environment
CHEM:4873	Atmospheric and Environmental Chemistry
MATH:4740	Large Data Analysis
BIOL:3663	Plant Response to the Environment
PHYS: 5729	Fluid Mechanics
PHYS:5811	Classical Electrodynamics I
PHYS:5812	Classical Electrodynamics II
OEH:4240	Global Environmental Health
OEH:4260	Global Water and Health
OEH:5620	Occupational Health
OEH:5710	Environmental Toxicology
GEOG:4020	Field Methods: Mapping/Mobile Computing
GEOG:4150	Health and Environment: GIS Applications
GEOG:4500	Apps in Environmental Remote Sensing
GEOG:4520	GIS for Environmnt Studies: Applications
GEOG:4570	Spatial Analysis and Location Models
GEOG:4580	Introduction to Geographic Databases
GEOG:4650	Simulation in Environmental Geography
GEOG:4750	Environmental Impact Analysis
GEOG:4870	Applied Geostatistics
GEOG:5129	Information Systems for Resource Mgmt
GEOG:5650	Simulations in Landscape Ecology
ECE:5630	Sustainable Energy Conversion
ME:4048	Energy Systems Design
GHS:4340	Global Health and Global Food
EES:3390	Integrated Watershed Analysis
GHS:4126	International Perspectives: Xicotepec
ABRD:3445	India Winterim

GEOG:3070 Hungry Planet: Global Geographies of Food
 ANTH:3110 Health of Indigenous Peoples
 GEOG:3780 U.S. Energy Policy in Global Context
 GHS:4100 Topics in Global Health - Doing Harm by Doing Good: Ethics of Students
 Studying, Volunteering, and Working in Global Communities
 OEH:4210 International Health
 OEH:4240 Global Environmental Health
 GHS:4600 Global Health and Human Rights
 GHS:4100 Topics in Global Health - Global Garbage and Global Health: Health, Wealth, and
 Waste
 OEH:4260 Global Water and Health
 OEH:4220 U.S. and Global Environmental Health Policy
 OEH:6130 Agricultural Safety and Health: Practice, Research Methods, and Policy
 GHS:3141 Design With the Developing World
 CBH:5305 Evaluation I: Theory and Applications
 CBH:6205 Designing and Implementing Interventions
 OEH:6460 Quantitative Exposure Assessment: Study Design and Evaluation
 CEE:XXXX Three week course in Nicaragua (to be developed summer 2017 and instructed
 by SWD Faculty Craig Just)
 URP:4750 Environmental Impact Analysis
 URP:6233 Financing Local Government
 URP:6205 Economics for Urban Planners
 URP:6225 Applied GIS for Planners
 URP:6227 Spatial Analysis in Planning
 URP:6228 GIS for Local Government
 URP:6242 Planning and City Administration
 URP:6253 Designing Sustainable and Healthy Cities
 URP:6256 Environmental Policy
 URP:6257 Environmental Management
 URP:6258 Modeling Dynamic Systems
 URP:6273 Community Development in the Upper Midwest
 URP:6295 Economic Development Policy
 LAW:8433 Environmental Law
 LAW:8622 International Environmental Law
 LAW:8736 Natural Resource Law
 LAW:8992 Water Law
 ECON:3800 Law and Economics
 ECON:3345 Global Economics and Business
 ECON:3625 Environmental and Natural Resource Economics
 ECON:4090 Natural Resource Economics
 ECON:4140 Labor Economics
 ACCT:4300 Business Law
 CEE:4151 Biological Treatment Processes
 CEE:4153 Environmental Chemistry Laboratory
 CEE:6253 Environmental Organic Chemistry
 CEE:5154 Environmental Microbiology

CEE:5156 Physical-Chemical Process Fundamentals
CEE:4102 Groundwater
CEE:4104 Groundwater Modeling
CEE:4107 Sustainable Systems
CEE:4158 Solid and Hazardous Waste
CEE:4187 Statistics for Experimenters
CEE:6225 Environmental Organic Chemistry
CEE:6255 Environmental Microbiology and Bioremediation
CEE:3141 Design with the Developing World
CEE:5188 Computational Methods in Water Resources
CEE:5374 Environmental Fluid Dynamics
CEE:4370 Flow in Open Channels and Sediment Transport
CEE:4146 Multiscale Hydrology
CEE:4378 Hydrometeorology
CEE:4118 Probabilistic Methods in Hydroscience
CEE:5188 Computational Methods in Water Resources
CEE:4370 Flow in Open Channels and Sediment Transport
CEE:6223 Environmental Boundary Layers
CEE:4385 International Perspective in Water Science and Management