

Water Issues PhD Course Requirement Checklist

Student's Name _____ Advisor _____

Semester/Grade Earned

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ESGP Required Courses (22 credit hours)

ESGP 7899	ESGP Seminar (1 crhr)
ESGP 7899	ESGP Seminar (1 crhr)
ESGP 7899	ESGP Seminar (1 crhr)
ENR 8890.02	Ecological Restoration Seminar (1 crhr)

Biological Sciences Approved Courses (*See Appendix) (6 crhrs)

Physical Sciences Approved Courses (*See Appendix) (6 crhrs)

Social Sciences Policy Approved Courses (*See Appendix) (6 crhrs)

Semester/Grade Earned

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Electives (6 credit hours) With advisor's guidance and approval, select from the following list of ESGP courses.

ENR 5280	Stream Ecology (4 crhrs)
ENR 5345	Methods in Aquatic Ecology (4 crhrs)
ENR 5355	Aquacultures (3 crhrs)
ENR 7700	Watershed Ecology and Restoration (3 crhrs)
CIVILEN 5230	Transport Phenomena in Water Resources Engineering (3 crhrs)
CIVILEN 5420	Remote Sensing of Environment (3 crhrs)
CIVILEN 6230	Numerical Models in Water Resources Engineering (3 crhrs)
ENVENG 5120	Advanced Environmental Biotechnology (3 crhrs)
ENVENG 6210	Environmental Engineering Unit Operations (3 crhrs)
EARTHSC 5206	Advanced Oceanography (3 crhrs)
EARTHSC 5655	Land Surface Hydrology (3 crhrs)
EARTHSC 5751	Quantitative Ground-Water Flow Modeling (4 crhrs)
EARTHSC 5752	Contaminants in Aqueous Systems (4 crhrs)
FABENG 5730	Design of Agricultural Water Management Systems (3 crhrs)
FABENG 5750	Stream Geomorphology and Watershed Hydrology (3 crhrs)

Semester/Grade Earned

Research Credits (52 credit hours minimum)

Research Hours in Advisor's home department

In addition to the general Graduate School requirements of a cumulative grade point average of 3.0 or higher, students must meet specific college policies regarding grades in courses. I certify that the above named student has meet the requirements for completion of the MS

 Signature

 Date

*Appendix

Core and Elective Courses in Biological Sciences

The objective of this core course area is to ensure that students are familiar with the diversity and functioning of organisms and the interactions among species and between organisms and the environment. Because the environmental sciences focus on the relationships between living organisms and their environment, the basic principles of ecology and a solid understanding of ecosystems structure and function is the focus of the ESGP core. This understanding can be gained through coursework that focuses on a particular taxon or a particular kind of ecosystem, but must be broadly applicable to any environment.

Evolution, Ecology and Organismal Biology

EEOB 5420	Aquatic Ecosystems- Ecology of Inland Waters	1.5-4 credits	
EEOB 6210	Ecotoxicology	2-4 credits	

Environmental and Natural Resources

ENR 5250.01 and ENR 5250.02	Wetland Ecology and Restoration and Field Laboratory	3 credits	AU
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Public Health

PUBHEHS 7360	Water Contamination: Sources and Health Impact	3 credits	
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Core and Elective Courses in Physical Sciences

The objective of this core area is to provide an understanding of physical structure and processes in which ecosystems must function. Physical structure includes soil, water, air, geological media, climate, nutrients, and contaminants. Physical science processes include movement of "abiotic" matter and energy through ecosystems. Core courses must (1) study fundamental physical, hydrological, chemical, or biogeochemical processes and (2) study and emphasize the effects of physical structure and processes on ecosystem biotic components and function and the interactions between the biotic and abiotic components of the ecosystem.

Environment and Natural Resources

ENR 5273	Environmental Fate and Impact of Contaminants in Soil and Water	3 credits	SP
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Civil and Environmental Engineering

CIVILEN 5130	Applied Hydrology	3 credits	
ENVENG 6100	Environmental Engineering Analytical Methods	3 credits	SP
ENVENG 5430	Principles of Risk Assessment	3 credits	SP

Earth Sciences

EARTHSC 5621	Introduction to Geochemistry	3 credits	AU
EARTHSC 5651	Hydrogeology	3 credits	AU
EARTHSC 5718	Aquatic Geochemistry	3 credits	

Food, Agricultural and Biological Engineering

FABENG 5550	Design of Sustainable Waste Management Systems	3 credits	SP
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Core and Elective Courses in Social Sciences and Policy

The objective of the social science core is to provide an understanding of concepts related to the study of human society and/or individuals and their relationships to the structure and function of the ecosystem(s) of which they are a part. Methodology includes a range of approaches, both qualitative and quantitative. Core social science courses must engage social science in a combined theoretical and/or applied study of a physical, cultural, regulatory, or economic relationship between humans and the natural and physical environment.

Environment and Natural Resources

ENR 5451	Water Law	3 credits	SP
ENR 8350	Ecosystem Management Policy	3 credits	AU

Law

Law 8890.02	Environmental Law	2-4 credits	AU
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