

**Approved by Faculty Senate 12/3/09**

**GRADUATE MAJOR CHANGE BULLETIN NO. 2  
Fall 2009**

The requirements and courses listed below reflect the graduate major curricular changes approved by the Catalog Subcommittee and the Graduate Studies Committee since approval of the last Graduate Major Change Bulletin. All new and revised courses are printed in their entirety under the headings Proposed and Current, respectively. The column to the far right indicates the date each change becomes effective.

Prefix	Course Number	New Revise Drop	Current	Proposed	Effective Date
Biol	569	Revise	<b>Ecosystem Ecology and Global Change 3</b> Prereq graduate standing. <del>Same as ES/RP 569.</del>	<b>Ecosystem Ecology and Global Change 3</b> Prereq Biol 372; Chem 106. <u>Historic and current factors controlling the function of ecosystems and their response to natural and human-caused global change.</u>	1-10
BSysE	550	New	-- N/A --	<b>Soil and Water Conservation Engineering 3</b> Land, water and air conservation emphasizing on soil and water engineering concepts, state of science solution techniques, and engineering design.	1-10
BSysE	554	New	-- N/A --	<b>Aquatic System Restoration 3</b> Prereq Chem 345, C E 583; MBioS 101, C E 581. Same as C E 585.	1-10
BSysE	557	New	-- N/A --	<b>Nutrient Cycling and Transport 3</b> Cycling of carbon, nitrogen and phosphorus at global and watershed scales; modeling of transportation and transport in agricultural systems.	1-10
BSysE	558	Revise	<b>Groundwater Flow and Contaminant Transport 3</b> Prereq Math 315; BsysE 351 or C E 351 or Geol 475. Physics of flow and contaminant transport in saturated porous media including governing equations, well hydraulics and computer modeling.	<b>(595) Groundwater Flow and Contaminant Transport 4 (3-3)</b> Prereq Math 315; BsysE 351 or C E 351 or Geol 475. Physics of flow and contaminant transport in saturated porous media including governing equations, well hydraulics and computer	1-10

				modeling.	
BSysE	560	New	-- N/A --	<b>Aquatic Chemistry</b> 3 Prereq C E 518. Same as C E 583.	1-10
BSysE	564	New	-- N/A --	<b>Agricultural Waste and Air Quality Management</b> 3 Detailed analyses of agricultural wastes and their potential adverse impacts on the environment; current management systems; reuse and recycle.	1-10
BSysE	584	New	-- N/A --	<b>Thermal and Nonthermal Processing of Foods</b> 3 Food preservation methods based on application of thermal and nonthermal processes.	1-10
BSysE	585	New	-- N/A --	<b>Food Packaging</b> 3 Properties of packaging materials, manufacturing of packages, shelf-life testing and food packaging interaction.	1-10
BSysE	595	New	-- N/A --	<b>Biosystems Engineering for Fuel and Chemicals</b> 3 Design and optimization of biological systems for industrial functions, modeling and simulation of cell processes, bioreactors and system integration.	1-10
BSysE	596	New	-- N/A --	<b>Biomass Thermo-Chemical Conversion</b> 3 Biomass chemistry, analytical thermo-chemistry, torrefaction, pyrolysis, gasification and combustion; characterization and uses of thermochemical products.	1-10
C E	583	Revise	<del>Engineering Aspects of Environmental Chemistry</del> V 2-4 Prereq C E 442; instructor permission. Chemical principles as applied to environmental systems, water supply and pollution control engineering.	<b>Aquatic Chemistry</b> 3 Prereq C E 518. Chemical principles as applied to natural environmental system, water supply and pollution and control engineering. <u>Cooperative course taught by WSU, open to UI students (CE 553).</u>	1-10
C E	585	Revise	<b>Aquatic System Restoration</b> 3 (2-	<b>Aquatic System Restoration</b> 3	1-10

			3) Prereq Chem 345 or C E 583; MBioS 101 or C E 581. <del>Study of natural and damaged water systems with emphasis on water quality protection and restoration.</del>	Prereq Chem 345, C E 583; C E 581, MBioS 101. <u>Study of natural, damaged and constructed ecosystems with emphasis on water quality protection and restoration of lakes, rivers, streams and wetlands.</u>	
EconS	534	Revise	<b>Production Economics 3</b> Prereq EconS 526. Production economics theory and methods applied to problems of production response, economic optimization, technology, policy, risk and dynamics.	<b>(540) Production Economics 3</b> Prereq EconS 526. Production economics theory and methods applied to problems of production response, economic optimization, technology, policy, risk and dynamics. <u>Cooperative course taught jointly by WSU and UI (Ag Ec 534).</u>	1-10
ES/RP	508	New	-- N/A --	<b>Environmental Spatial Statistics 3</b> (2-2) Prereq Stat 412. Same as Soils 508.	1-10
ES/RP	569	Revise	<b>Ecosystem Ecology and Global Change 3</b> Prereq Biol 372; Chem 106. <del>Historic and current factors controlling the function of ecosystems and their response to natural and human caused global change.</del>	<b>Ecosystem Ecology and Global Change 3</b> Prereq Biol 372; Chem 106. <u>Same as Biol 569.</u>	1-10
Geol	508	New	-- N/A --	<b>Environmental Spatial Statistics 3</b> (2-2) Prereq Stat 412. Same as Soils 508.	1-10
I D	700	Restore	-- N/A --	<b>Master's Research, Thesis, and/or Examination V 1 to 18</b> May be repeated for credit. S, F grading.	1-10
Math	553	New	-- N/A --	<b>Teaching College Mathematics 1</b> May be repeated for credit; cumulative maximum 3 hours. Prereq graduate standing in mathematics. Theory and practice of mathematics instruction at the collegiate level.	1-10
Nurs	532	New	-- N/A --	<b>Resource Stewardship in Health Care 3</b> Prereq graduate standing in nursing. Theory, research and practice dimensions	1-10

				of resource stewardship to effectively manage human and material resources in the practice setting.	
Nurs	576	New	-- N/A --	<b>Organizational Leadership 3</b> Prereq graduate standing in nursing. Integration of leadership competencies and nursing practice for nurse leaders in a constantly changing health care environment.	1-10
SoilS	508	New	-- N/A --	<b>Environmental Spatial Statistics 3 (2-2)</b> Prereq Stat 412. Theoretical introduction and practical training in spatial data analysis for graduate students in the environmental sciences.	1-10
Sp Ed		Revise		<b>Change specialization Ed.D. in Special Education to specialization Ph.D. in Special Education.</b>	1-10
Sp Ed	591	New	-- N/A --	<b>Response to Intervention Across the Core Academic Curriculum 3</b> Prereq doctoral student. New method of assessment for learning disability referred to as response to intervention.	1-10
Sp Ed	592	New	-- N/A --	<b>Single Subject Research Design and Methods 3</b> Prereq doctoral student. In-depth study of single subject research designs; critical analysis of strengths and weaknesses of each design.	1-10
Sp Ed	593	New	-- N/A --	<b>Diversity Issues in Special Education: Theory, Research and Practice 3</b> Prereq doctoral student. Diversity issues in special education examined and critically reflected upon for future use and practice.	1-10
Sp Ed	594	New	-- N/A --	<b>Research-Based Prevention and Intervention Practices for Students with Social and</b>	1-10

				<b>Behavioral Problems 3</b> Prereq doctoral student. Foundations in developmental theory and the research needed to understand typical and atypical social development.	
Sp Ed	595	New	-- N/A --	<b>Universal Design 3</b> Prereq doctoral student. Factors associated with developing, implementing and assessing curricular materials for individuals with disabilities.	1-10
Sp Ed	596	New	-- N/A --	<b>Seminar in Quality Indicators for Research in Special Education 3</b> Prereq doctoral student. Co-requisite for research courses offered to all doctoral students.	1-10
Stat	508	New	-- N/A --	<b>Environmental Spatial Statistics 3 (2-2)</b> Prereq Stat 412. Same as Soils 508.	1-10