

CORE COURSES, 28-30 S.H.	
<p><u>Sustainability Science</u> <i>Complete both of the following:</i> GEOG/BUS/SUST:2013 Intro to Sustainability (3) GEOG:3340 Ecosystem Services: Human Dependence on Natural Systems (3) <i>Choose one of the following:</i> GEOG:4200 Sustainability as a System Science (3) CBE:4410/CEE: 4107 Sustainable Systems (3)</p>	<p><u>Natural Systems</u> <i>Choose one of the following:</i> CHEM:1070 General Chemistry I (3) CHEM:1110 Principles of Chemistry I (4) <i>Choose one of the following:</i> EES/ENVS:1085 Fundamentals of Environmental Science (4) GEOG:1020 The Global Environment (3) <i>Choose one of the following:</i> BIOL/ENVS:2673 Ecology (3) GEOG:4470 Ecological Climatology (3)</p>
<p><u>Human Systems</u> <i>Complete both of the following:</i> GEOG/GHS:2110 Seven Billion & Counting: Intro to Population Dynamics (3) GEOG:3800 Environmental Economics & Policy (3) <i>Choose one of the following:</i> GEOG/GHS:4770 Environmental Justice (3) POLI:2417 Comparative Environmental Policy (3)</p>	<p><u>Sustainability Sciences Seminar</u> A sustainability science seminar course (consult advisor) (1)</p>
ANALYTICAL TOOLS COURSES, 14 S.H.	EQUITY/ETHICS/EQUALITY COURSE, 3 S.H.
<p><i>Complete all the following:</i> GEOG:1050 Foundations of GIS (4) STAT:2010 Statistical Methods and Computing (3) STAT:3200/ISE:3760 Applied Linear Regression (3) <i>Choose one of the following:</i> CS:1210 Computer Science I: Fundamentals (4) CS:2110 Programming for Informatics (4) MATH:1460 Calculus for the Biological Sciences (4) MATH1380 Calculus & Matrix Algebra for Business (4)</p>	<p><i>Choose one of the following:</i> GEOG/GHS:4770 Environmental Justice (3) PHIL:2402 Introduction to Ethics (3) SOC/SSW:1022 Social Justice and Social Welfare in the United States (3) SOC/HIST:1219 Big Ideas: Equality, Opportunity, and Public Policy in America (3)</p>
COMMUNICATION COURSE, 2-3 S.H.	RESEARCH/INTERNSHIP EXPERIENCE, 3 S.H.
<p><i>Choose one of the following</i> CNW:2730 The Art and Craft of Science Writing (3) CNW:2740 The Art and Craft of Writing about the Environment (3) CNW:3664 Writing About Science (3) JMC:1800 Environmental Communication (3) JMC:3185 Topics in Understanding Media (3) POLI:3107 Writing in Political Science: Writing for "Science" and for "Politics" (3) WRIT:2600 Science Communication I: Fundamentals of Science Communication (2) WRIT:2601 Science Communication II: Science Outreach and Engagement (2)</p>	<p>Students must complete a minimum of 3 s.h. for the research/experience requirement. They can fulfill this requirement through active participation in research with faculty, an internship at a public or private agency, or an honors thesis.</p> <p>Students can apply an additional 3 s.h. of research experience to their Electives requirement.</p>

ELECTIVES, 18 s.h.

Students cannot use an elective course to satisfy more than one requirement.

Students must select a minimum of **18 s.h.** from the following, with at least **9 s.h.** numbered above 3000. Students who seek to develop depth in an area may take up to **12 s.h.** in a single focal area.

NATURAL SYSTEMS	ANALYTICAL METHODS AND DECISION SUPPORT
<p>GEOG/BIOL:2374 Biogeography (3) GEOG:3310 Landscape Ecology (3) GEOG:3315 Ecosystem Ecology (3) GEOG:3350 Urban Ecology (3) GEOG:4010 Field Methods in Physical Geography (3) BIOL/ENVS:2673 Ecology (3) EES/ENVS:4700 Evolution of Ecosystems (3) ENVS:3095 Field Ecology (4) Iowa Lakeside Lab course (prefix IALL); approved by advisor</p>	<p>GEOG:3050 Geospatial Programming (3) GEOG:3500 Intro to Environmental Remote Sensing (3) GEOG:3520 GIS for Environmental Studies (3) GEOG:3540 Intro to Geographic Visualization (3) GEOG/GHS:4150 Health and Environment: GIS Applications (3) GEOG:4580 Introduction to Geographic Databases (3) GEOG:4650 Simulation in Enviro. Geography (3) CS:1110 Introduction to Computer Science (3) CS:1210 Computer Science I: Fundamentals (4) CS:2110 Programming for Informatics (4) CS:2230 Computer Science II: Data Structures (4) CS:3210 Programming Languages and Tools (3) CS:4720/MATH:4820 Optimization Techniques (3) MSCI:3005 Information Systems (3) MSCI:3200 Database Management (3) MSCI:3800 Optimization and Simulation Modeling (3) MSCI/CS/ECE:4480 Knowledge Discovery (3)</p>
HUMAN SYSTEMS	INTEGRATED NATURAL AND HUMAN SYSTEMS
<p>GEOG:3300 Envisioning Future Worlds: Sustainable Development and its Alternatives (3) GEOG:3780/HIST:3240 US Energy in Global Context (3) GEOG/URP:4750 Environmental Impact Analysis (3) GEOG/GHS:4770 Environmental Justice (3) ANTH:2100 Anthropology and Contemporary World Problems (3) ECON:3650 Policy Analysis (3) ENTR:3700 Sustainable Product Innovation and Management (3) POLI:2417 Comparative Environmental Policy (3) POLI:3126 Environmental Policy (3) URP:3001/GEOG:3920 Planning Livable Cities (3)</p>	<p>GEOG:2930 Water Resources (3) GEOG:2950 Environmental Conservation (3) GEOG:3331 Human Dimensions of Climate (3) GEOG/GHS:3760 Hazards and Society (3) ANTH:2261 Human Impacts on the Environment (3)</p>