SUSTAINABILITY SCIENCE MAJOR
DEPARTMENT OF GEOGRAPHICAL AND SUSTAINABILITY SCIENCES
2020-2021

A. CORE COURSES, 28-30 S.H.

**Sustainability Science**
Complete both of the following:
- GEOG: 2013/BUS:2013/URP:2013 Introduction to Sustainability (3)
- GEOG: 3340 Ecosystem Services: Human Dependence on Natural Systems (3)

Choose one of the following:
- GEOG: 4200 Sustainability as a System Science (3)
- CBE: 4410/CEE: 4107 Sustainable Systems (3)

**Natural Systems**
Choose one of the following:
- CHEM: 1070 General Chemistry I (3)
- CHEM: 1110 Principles of Chemistry I (4)

Choose one of the following:
- EES: 1085/ENVS: 1085 Fundamentals of Environmental Science (4)
- GEOG: 1020 The Global Environment (3)

**Human Systems**
Complete both of the following:
- GEOG: 2110/GHS: 2110 Seven Billion and Counting: Introduction to Population Dynamics (3)
- GEOG: 3800 Environmental Economics and Policy (3)

Choose one of the following:
- GEOG: 4770/GHS: 4770 Environmental Justice (3)
- POLI: 2417 Comparative Environmental Policy (3)

**Sustainability Sciences Seminar**
A sustainability science seminar course (consult advisor) (1)

B. ANALYTICAL TOOLS COURSES, 14 S.H.

Complete all of the following:
- GEOG: 1050 Foundations of GIS (4)
- STAT: 2010 Statistical Methods and Computing (3)
- STAT: 3200/IGPI: 3200/ISE: 3760 Applied Linear Regression (3)

Choose one of the following:
- CS: 1210 Computer Science I: Fundamentals (4)
- CS: 2110 Programming for Informatics (4)
- MATH: 1460 Calculus for the Biological Sciences (4)
- MATH: 1380 Calculus and Matrix Algebra for Business (4)

C. COMMUNICATION COURSE, 2-3 S.H.

Choose one of the following:
- CNW: 2730 The Art and Craft of Science Writing (3)
- CNW: 2740 The Art and Craft of Writing about the Environment (3)
- CHEM: 1110 Principles of Chemistry I (4)
- EES: 1085/ENVS: 1085 Fundamentals of Environmental Science (4)
- GEOG: 4470 Ecological Climatology (3)
- JMC: 1800 Environmental Communication (3)
- JMC: 3185 Topics in Understanding Media (3)
- WRIT: 2600 Science Communication I: Fundamentals of Science Communication (2)

D. EQUITY/EThICS/EQUALITY COURSE, 3 S.H.

Choose one of the following:
- GEOG: 4770/GHS: 4770 Environmental Justice (3)
- PHIL: 2402 Introduction to Ethics (3)
- SOC: 1219/HIST: 1219 Big Ideas: Equality, Opportunity, and Public Policy in America (3)

E. RESEARCH/INTERNSHIP EXPERIENCE, 3 S.H.

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. Students can apply an additional 3 s.h. of research experience to their Electives requirement.

F. 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.

*(See reverse for course list)*

**TOTAL HOURS REQUIRED FOR SUSTAINABILITY SCIENCE (B.S.) MAJOR**
68-71 S.H.
**NATURAL SYSTEMS**

GEOG: 2374/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: 2673/ENVS: 2673 Ecology (3)
EES: 4700/ENVS: 4700 Evolution of Ecosystems (3)
ENVS: 3095 Field Ecology (4)
Iowa Lakeside Lab course (prefix IALL); approved by advisor

**HUMAN SYSTEMS**

GEOG: 3300 Envisioning Future Worlds: Sustainable Development and its Alternatives (3)
GEOG: 4750/URP: 4750 Environmental Impact Analysis (3)
GEOG: 4770/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)

**INTEGRATED NATURAL AND HUMAN SYSTEMS**

GEOG: 2930 Water Resources (3)
GEOG: 2950 Environmental Conservation (3)
GEOG: 3331 Human Dimensions of Climate (3)
GEOG: 3760/GHS: 3760 Hazards and Society (3)
ANTH: 2261 Human Impacts on the Environment (3)

**ANALYTICAL METHODS AND DECISION SUPPORT**

GEOG: 3050 Introduction to Geospatial Programming (3)
GEOG: 3500/IGPI: 3500 Introduction to Environmental Remote Sensing (3)
GEOG: 3520/IGPI: 3520 GIS for Environmental Studies (3)
GEOG: 3540/IGPI: 3540 Introduction to Geographic Visualization (3)
GEOG: 4150/GHS: 4150/IGPI: 4150 Health and Environment: GIS Applications (3)
GEOG: 4580/IGPI: 4581 Introduction to Geographic Databases (3)
GEOG: 4650 Simulation in Environmental 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: 4480/CS: 4480/ECE: 4480 Knowledge Discovery (3)