

Global Resource Systems

Global Resource Systems is an interdisciplinary, College of Agriculture and Life Sciences major that prepares students to make a difference in the world. The major emphasizes global engagement while equipping students with a strong technical competency in a resource area of their choice. The interdisciplinary program prepares students to work on complex global resource issues through leadership positions in global businesses, governmental agencies engaged in international trade and development, non-governmental organizations and globally engaged foundations, educational institutions, and volunteer organizations. It produces systemic thinkers and problem solvers with a global perspective who are trained in resource issues and able to lead teams representing high levels of cultural diversity. Students interested in this major are encouraged to contact the Faculty Coordinator at globe@iastate.edu .

Undergraduate Study

The Global Resource Systems undergraduate major employs a truly interdisciplinary and systemic approach to understanding complex global resource issues. Students develop a core set of technical competencies in a resource area selected from among the majors, minors and certificates offered by the College of Agriculture and Life Sciences. Students choose a world region in which to specialize, develop competency in a relevant world language, and participate in a significant cross-cultural immersion experience. They carry out a senior project related to their resource specialization within the context of the world region.

Multidisciplinary themes are developed in the context of the physical, biological and sociological factors affecting global resource systems. In this context, resource systems include agricultural (including crops, livestock and aquaculture), food, fuel, natural, environmental, biological, financial, governmental, institutional, human, knowledge, and other resources. Graduates of this program have transnational leadership skills and are successful integrators of various specializations on a team. They are skilled in applying a systemic perspective and developing solutions to complex global resource systems problems using innovativeness and creativity. Future professionals communicate effectively and demonstrate environmental awareness, exhibit an ethical perspective, and display clear analysis of how cultural diversity impacts work both here and abroad. They also recognize opportunities for learning after graduation.

A degree in Global Resource Systems opens the door to employment opportunities in the many businesses and organizations that require globally competent employees.

Curriculum in Global Resource Systems

Administered by a supervisory committee in the College of Agriculture and Life Sciences. Students choose a region of the world to develop an expertise; they choose a language to learn and develop proficiency through the intermediate level; they choose and possess an area of technical expertise by completing a minor or certificate program in the College of Agriculture and Life Sciences; they complete a required internship in an international setting; and they select and complete a senior research project with faculty mentoring.

Total Degree Requirement: 129 cr.

Only 65 cr. from a two-year institution may apply which may include up to 16 technical cr.; 9 P-NP cr. of free electives; 2.00 minimum GPA.

International Perspective: 3 cr.

U.S. Diversity: 3 cr.

Communications Proficiency:

English composition	6
Speech fundamentals	3

Communication/Library: 13 cr.

ENGL 150	Critical Thinking and Communication	3
ENGL 250	Written, Oral, Visual, and Electronic Composition	3
SP CM 212	Fundamentals of Public Speaking	3
or AGEDS 311	Presentation and Sales Strategies for Agricultural Audiences	3
ENGL 302	Business Communication	3
or ENGL 309	Report and Proposal Writing	

or ENGL 314	Technical Communication	
LIB 160	Information Literacy	1

Humanities and Social Sciences: 6 cr.

ECON 101	Principles of Microeconomics	3
or ECON 102	Principles of Macroeconomics	
Plus three credit hours from approved humanities list		3
Total Credits		6

Ethics: 3 cr.

3 cr. from approved list.

Life Sciences: 7 cr.

BIOL 211	Principles of Biology I	4
& 211L	and Principles of Biology Laboratory I	
Plus 3 cr. from approved life sciences list at 300-level or higher		3
Total Credits		7

Mathematical Sciences: 6 cr.

MATH 140	College Algebra (or higher)	3
STAT 101	Principles of Statistics	3-4
or STAT 104	Introduction to Statistics	

Global Competency 15-31 cr.

16 cr. of 100 and 200 level of a single WLC language, 15 cr. in global competency courses from an approved list; up to 3 cr. may be earned from a travel course.

Physical Sciences: 8 cr.

One of the following: 5

CHEM 163	College Chemistry	
& 163L	and Laboratory in College Chemistry	

or

CHEM 177	General Chemistry I	
& 177L	and Laboratory in General Chemistry I	

One course from the following: 3

AGRON 154	Fundamentals of Soil Science	
or AGRON 155	Soils for Horticultural Scientists	
AGRON 206	Introduction to Weather and Climate	
AGRON 260	Soils and Environmental Quality	
AGRON 406	World Climates	
GEOL 101	Environmental Geology: Earth in Crisis	

Total Credits 8

Global Resource Systems: 22 cr.

GLOBE 110	Orientation	1
GLOBE 201	Global Resource Systems	3
3 credits:		3

GLOBE 211	Issues in Global Resource Systems	
GLOBE 301	Resource Systems of Industrialized Nations	3
GLOBE 302	Resource Systems of Developing Nations	3
GLOBE 401	Senior Project	3
GLOBE 402	Responses to Global Resource System Challenges	3

One of the following: 3-6

GLOBE 321	Internship - Global	
GLOBE 322	Internship - United States	

Total Credits 22-25

Technical Concentration: 15-18 cr.

Satisfied by any of the College of Agriculture and Life Sciences minors or a certificate offered in the College of Agriculture and Life Sciences.

Courses primarily for undergraduates:

GLOBE 110. Orientation.

(1-0) Cr. 1. F.

An introduction to Global Resource Systems (GRS) program. University and career acclimation, development of educational and professional skills, participation in GRS Learning Community.

GLOBE 201. Global Resource Systems.

(3-0) Cr. 3. F.S.

A comparative analysis of global resources and the various natural and human systems affecting those resources.

GLOBE 211. Issues in Global Resource Systems.(1-0) Cr. 1. Repeatable, maximum of 3 credits. F.S. *Prereq: credit or enrollment in GLOBE 201*

Discussion of topics of current importance in global resource systems. Offered on a satisfactory-fail basis only. A maximum of 3 credits of 211 may be used towards degree requirements.

GLOBE 220. Globalization and Sustainability.

(Cross-listed with ANTHR, ENV S, T SC, MAT E, M E, SOC). (3-0) Cr. 3. F.S.

An introduction to understanding the key global issues in sustainability. Focuses on interconnected roles of energy, materials, human resources, economics, and technology in building and maintaining sustainable systems. Applications discussed will include challenges in both the developed and developing world and will examine the role of technology in a resource-constrained world. Cannot be used for technical elective credit in any engineering department.

Meets International Perspectives Requirement.

GLOBE 221. Apprenticeship.Cr. R. Repeatable. F.S.SS. *Prereq: Approval by the Global Resource Systems Faculty Coordinator*

Practical work experience in approved domestic or international settings such as with a company, research laboratory, governmental agency or non-governmental organization. Offered on a satisfactory-fail basis only.

GLOBE 290. Independent Study.Cr. 1-2. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for freshmen and sophomores.

GLOBE 290H. Independent Study, Honors.Cr. 1-2. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for freshmen and sophomores.

GLOBE 301. Resource Systems of Industrialized Nations.(2-2) Cr. 3. S. *Prereq: GLOBE 201, ECON 101 or EON 102*

In-depth analysis of the opportunities, constraints and consequences of the resource systems common in industrialized nations. Topics integrate natural resources with land tenure, societal structure, food security, agriculture, shelter, energy and wealth dynamics.

GLOBE 302. Resource Systems of Developing Nations.(2-2) Cr. 3. F. *Prereq: GLOBE 201, ECON 101 or ECON 102*

In depth appraisal of resource systems common throughout the developing world. Topics integrate natural resources with land tenure, societal structure including gender issues, food security, agriculture, shelter, energy and wealth dynamics and effectiveness of global programs aimed at sustainable development.

GLOBE 321. Internship - Global.Cr. 3-6. Repeatable. F.S.SS. *Prereq: Junior or Senior and enrollment in Global Resource Systems major; permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

A supervised learning experience including an analysis of an international location's resource system via immersion in a foreign culture lasting at least five weeks. The experience should focus on the region consistent with the student's degree track. A maximum of 12 credits of 321 and 322 may be used for degree requirements.

GLOBE 322. Internship - United States.Cr. 3-6. Repeatable. F.S.SS. *Prereq: Junior or Senior and enrollment in Global Resource Systems major; permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

A supervised learning experience including an analysis of a domestic location's resource system via immersion in a different culture within the United States lasting at least five weeks. Designed for international students and for students who are not in a position to leave the United States. A maximum of 12 credits of 321 and 322 may be used for degree requirements.

GLOBE 385. Economic Development.(Cross-listed with ECON). (3-0) Cr. 3. *Prereq: ECON 101, ECON 102*

Current problems of developing countries, theories of economic development, agriculture, and economic development, measurement and prediction of economic performance of developing countries, alternative policies and reforms required for satisfying basic needs of Third World countries, interrelationships between industrialized countries and the developing countries, including foreign aid.

Nonmajor graduate credit.

Meets International Perspectives Requirement.

GLOBE 401. Senior Project.Cr. 3. F.S. *Prereq: Senior classification in Global Resource Systems*

Research project in collaboration with faculty that complements and furthers a student's experiences from Globe 321 and 322 while simultaneously bringing into focus entire four-year experience. Student will write a research report and make either an oral or poster presentation.

GLOBE 401H. Senior Project, Honors.Cr. 3. F.S. *Prereq: Senior classification in Global Resource Systems*

Research project in collaboration with faculty that complements and furthers a student's experiences from Globe 321 and 322 while simultaneously bringing into focus entire four-year experience. Student will write a research report and make either an oral or poster presentation.

GLOBE 402. Responses to Global Resource System Challenges.

(1-4) Cr. 3. S.

Capstone analysis of critical challenges facing global resources and, especially, identification of alternative solutions.

GLOBE 446. International Issues and Challenges in Sustainable Development.(Cross-listed with AGRON, INTST). Cr. 4. S. *Prereq: 3-credit biology course, Sophomore or higher classification, permission of Instructor*

Mullen. Interdisciplinary study and analysis of agricultural, biophysical, environmental, sociological, economical, political, and historical factors affecting sustainable development of communities and countries from art and science perspectives. International field experience with foreign language training required. A program fee is charged to students for international study abroad. Meets International Perspectives Requirement.

GLOBE 490. Independent Study.Cr. 1-4. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for juniors and seniors. A maximum of 4 credits may be used for degree requirements.

GLOBE 490A. Independent Study: General.Cr. 1-4. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for juniors and seniors. A maximum of 4 credits may be used for degree requirements.

GLOBE 490E. Independent Study: Entrepreneurship.Cr. 1-4. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for juniors and seniors. A maximum of 4 credits may be used for degree requirements.

GLOBE 490H. Independent Study: Honors.Cr. 1-4. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for juniors and seniors. A maximum of 4 credits may be used for degree requirements.

GLOBE 490Z. Independent Study: Service Learning.Cr. 1-4. Repeatable. F.S.SS. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Independent study on topics of special interest to the student. Comprehensive report required. Intended primarily for juniors and seniors. A maximum of 4 credits may be used for degree requirements.

GLOBE 494. Service Learning.Cr. arr. F.S.SS. *Prereq: Permission of instructor.*

Selected projects that result in outcomes benefiting a non-Iowa State University entity while instilling a professional ethics and accomplishing student learning goals. Course expenses paid by student.

GLOBE 494A. Service Learning: International.

Cr. arr. Repeatable, maximum of 12 credits. F.S.SS. *Prereq: Permission of instructor.*

Selected projects that result in outcomes benefiting a non-Iowa State University entity while instilling a professional ethics and accomplishing student learning goals. Course expenses paid by student.

GLOBE 494B. Service Learning: Domestic.

Cr. arr. Repeatable, maximum of 12 credits. F.S.SS. *Prereq: Permission of instructor.*

Selected projects that result in outcomes benefiting a non-Iowa State University entity while instilling a professional ethics and accomplishing student learning goals. Course expenses paid by student.

GLOBE 495. Global Resource Systems Study Abroad Course Preparation.

(1-0) Cr. 1. Repeatable. F.S. *Prereq: Permission of instructor*

Global resource systems topics will include the agricultural industries, climate, crops, culture, economics, food, geography, government, history, livestock, marketing, natural resources, public policies, soils, and preparation for travel to locations to be visited. Students enrolled in this course intend to register for Globe 496 or 497 the following term.

GLOBE 496. Global Resource Systems Study Abroad.

Cr. 2-4. Repeatable. F.S.SS. *Prereq: Permission of instructor*

Extended field trips abroad to study global resource systems. Location and duration of trips will vary. Pre-trip sessions arranged through Globe 495. Trip expenses paid by students.

GLOBE 497. Deans Global Ag and Food Leadership Program.

Cr. 1-4. Repeatable. F.S.SS. *Prereq: Permission of instructor*

An integrated agricultural and food production and policy program that allows students to assess, analyze and evaluate complex, country-specific situations and to develop their skills, knowledge and abilities via team-oriented projects that involve complex issues such as development of effective foreign food aid and agricultural and food production systems, drivers of world hunger, sustainable resource management and efficacy of policy, and the role of the USA and the United Nations and other development agencies in these systems. International location and duration of program will vary. Pre-trip sessions arranged through Globe 495. Trip expenses paid by students.

Meets International Perspectives Requirement.

GLOBE 499. Undergraduate Research.

Cr. arr. F.S. *Prereq: Permission of the instructor and approval by the Global Resource Systems Faculty Coordinator*

Research projects in collaboration with faculty.