



# Environment, Economic, and Development Sustainability

## **Have the ability to think critically when addressing issues and problems related to environmental sustainability, economy, development and society**

Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking

Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability

Apply critical thinking to a real-world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality

Critically analyze a current environmental or natural resources issue at a local, regional, state level, how a broad range of stakeholders are engaged in the issue, how concepts and issue-solving skills learned to-date can be applied to the issue, how possible means to address the issue may be received by stakeholders from environmental, social, and economic perspectives, and how to evaluate and communicate supportable and realistic solutions through a team effort

Demonstrate critical thinking in solving environmental problems

## **Know how to apply concepts from environmental, resource, community and regional economics, rural sociology, community development and planning to address contemporary issues and policies of sustainable development within business, NGOs, communities and public organizations**

Relate concepts from social science theories to describe human dimensions of real-world environmental challenges

Apply concepts of sustainability and sustainable development to assess the sustainability of specific projects and policies in domestic and international settings

Apply theory to professional practice in solving environmental problems

## **Understand how to apply quantitative methods from economics, sociology and engineering to assess the technical, economic and social sustainability of policies and projects**

Demonstrate ability to apply quantitative methods of benefit-cost analysis to address issues and policies of sustainable development

Apply theory to professional practice in solving environmental problems

## **Communicate effectively in oral and written forms**

Demonstrate a basic level of sufficiency in written communication

Demonstrate a basic level of sufficiency in oral communication

Communicate technical information with correct spelling and grammar, logically organized, and with technical style and format that is appropriate to the discipline for written forms of communication

Communicate effectively in written and oral forms in professional settings following graduation





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## **Understand natural systems as a basis for assessing solutions to environmental problems**

Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability

Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles

Demonstrate a comprehension of the structure and dynamics of populations and communities in relation to sustaining resource production and biological diversity

Apply understanding of natural systems with breadth across biotic and abiotic components in professional settings

## **Understand economic and social systems with breadth across individual, community, and polity levels of organization, with particular depth in community level systems and processes**

Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization

Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues

Apply understanding of human systems with breadth across individual, community, and polity levels of organization in professional settings

## **Understand the interdependence between human and natural systems and the implications of this interdependence for economic and social well-being and governance at local, regional, and global scales**

Integrate information related to natural and human dimensions of contemporary environmental issues and formulate professionally appropriate recommendations to address those issues

Illustrate the integration of information related to natural and human dimensions of contemporary environmental issues while making professionally appropriate recommendations to address those issues

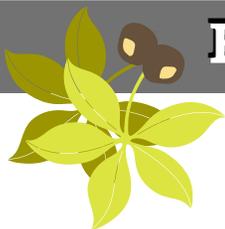
## **Manifest professional competency for career-track employment or graduate work related to sustainable development and sustainability management**

Demonstrate basic knowledge of the role of spatial information and information systems in addressing environmental and natural resource issues

Analyze spatial information relevant to natural resource and ecosystem management and resource planning by utilizing digital vertical image interpretation and geographic information systems

Demonstrate professional competency through job placement and success in professional certification exams (soil, water, forestry, fisheries, wildlife, other)

Demonstrate professional competencies



# **Environmental and Natural Resources**



**THE OHIO STATE UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES