Sophia Learning

ENVS1001: Environmental Science (3 semester credits)

COURSE DESCRIPTION

The course helps the students to learn about environmental science in the world today. Students will develop an understanding of the scientific principles and processes that shape our environment, as well as the impact of human activities. Students will apply knowledge of a wide range of environmental issues in context, exploring topics such as natural resources, endangered species, pollution, and climate change. Upon completion of the course, students will be able to describe environmental science; apply principles of earth science, ecology, and conservation; articulate impacts of development, agriculture, and waste on environment; and analyze environmental issues, policies, and solutions.

COURSE EFFECTIVE DATES: April 2020 - Present

PREREQUISITES: No prerequisites

LENGTH OF COURSE: This is a self-paced course. Students may use as much or as little time as needed to complete the course.

ACE CREDIT® RECOMMENDATION: In the lower-division baccalaureate/associate degree category, 3 semester hours in environmental science (3/20).

GRADING: This is a pass/fail course. Students must complete 10 Challenges (formative assessments) and 5 Milestones (summative assessments) with an overall score of 70% or better.

LEARNING OUTCOMES

Upon completion of the course, the student will be able to:

1. Describe environmental science
2. Use and interpret graphs and charts
3. Apply principles of earth systems, ecology, and conservation
4. Identify impacts of development, agriculture, and waste
5. Analyze environmental issues, policies, and solutions
OUTLINE OF MAJOR CONTENT AREAS

- Science & the scientific process
- Environmental science
- Environmentalism
- Scientific literacy
- Graphic literacy and graphs in environmental science
- Earth's formation and early life
- Continental drift and major extinctions
- Human arrival and expansion
- The impact of population growth
- Biodiversity
- Sustainability
- Ethics and stewardship
- Time, scale, and impact
- Earth systems
- Earth's features
- Biomes
- Natural resources
- Ecology
- Population ecology
- Community ecology
- Native and non-native species
- Ecosystems ecology
- Food chains and food webs
- Photosynthesis and the carbon cycle
- Water and nitrogen cycles
- The role of individual species
- Conservation biology & restoration ecology
- Forests and deforestation
- Habitat fragmentation
- Overexploitation
- Endangered species
- Human population growth
- Agriculture practices
- World nutrition
- Agriculture impacts
- Fertilizers and pesticides
- Solid and hazardous waste
- Water, water supply, water availability
Water Pollution
Efforts to address water pollution in the United States
Urban sprawl in the US
Addressing urban sprawl
Population growth solutions
Human impacts & solutions
Air pollution
Impacts of air pollution
Indoor air pollution
Efforts to address air pollution
Energy
Non-renewable energy
Renewable energy
Efforts to address energy issues
Climate change
Causes of climate change
Impacts of climate change
Efforts to address climate change
Environmental policy
Risk
Sustainability and solutions
Looking forward
The future

© 2021 Sophia Learning