



Clemson University - Center for Corporate Learning
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Education & Training Plan
Environmental Specialist Certificate Program with Externship

Student Full Name: _____

Start Date: _____ End Date: _____

Program includes National Certification & an Externship Opportunity
Mentor Supported

Environmental Specialist Certificate Program with Externship

Course Code: CLEM-SC-ENV
Program Duration: 6 Months
Course Contact Hours: 375
Student Tuition: \$3,799

The Environmental Specialist

Environmental Science involves the interdisciplinary approach to our world in terms of the history of environmental concerns, biomes, species interaction with each other and their environment, air, water, soil and biological resources, population dynamics, toxicology, energy sources, land use management and other related topics. All different sciences combine to make up the complexities of environmental science and students embarking on this journey will gain a comprehensive understanding of how these interconnected disciplines all interact to create the environment we occupy. For any individuals working in architecture, green building, government or public policy, a background in environmental science helps to inform a variety of decisions in these professions.

The Environmental Specialist Program

For this program, students will take an in-depth look at the functions of all things on planet earth, its atmosphere, composition and structure as well as the inhabitants that occupy it. The program will explore various toxic substances that can affect the delicate balance that results from this complex interconnectivity and understand how just the slightest alteration in one aspect can affect the whole. Further, this program explores the relationship between man and the environment. Students will examine the balance between natural resources and the needs of mankind. Students will further explore the scientific, political, economic, and social implications of environmental science that affect a variety of public policy decisions at multiple levels of government.

Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- There is a National Certification exam available to students who successfully complete this program:
 - **Microsoft Office Specialist (MOS) Certification Exam.**

Program Objectives

At the conclusion of this program, students will be able to:

- Examine the field of Environmental Science in terms of science, theoretical perspectives, economics, and environmental ethics
- Explain the foundations of environmental science
- Examine environmental economics and policies
- Examine population growth and demographic transitions
- Evaluate soil as a system and its importance in the environment
- Describe the function of the earth's atmosphere, its composition, structure, and the changing global climate
- Examine toxic substances and their effects
- Appraise the importance of water and marine ecosystems
- Examine the biodiversity on earth and conservation biology and its benefits
- Analyze land use and planning for creating livable cities
- Examine non-renewable energy sources, and their impact on the environment
- Examine renewable energy
- Analyze waste disposal methods and the types of waste we generate
- Use Microsoft Office

National Certification

Upon successful completion of this Clemson University program, students would be eligible to sit for the Microsoft Office Specialist (MOS) exam. Although there are no state approval, state registration or other state requirements for this program, students who complete this program at Clemson University will be prepared and are eligible to sit for this national certification exam. Students who complete this program are encouraged to complete the externship option with their program. Students who complete this program can and do sit for the MOS national certification exams and are qualified, eligible and prepared to do so. Clemson University works with each student to complete the exam application and register the student to take their national certification exam.

Externship / Hands on Training / Practicum

Although not a requirement, once students complete the program, they have the ability to participate in an externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a professional in this field. Students will be assisted with completing a resume and/or other requirements necessary to work in this field. All students who complete this program are eligible to participate in an externship and will be placed with a participating organization near their location. Clemson University works with national organizations and has the ability to place students in externship opportunities nationwide.

Clemson University contact: If students have any questions regarding this program including national certification and externships, **they should call Juanita Durham of Clemson University at 864.656.3984 or via email at jdrhm@clemsun.edu.**

Note: No refunds can be issued after the start date published in your Financial Award document.



About Clemson University!

Clemson Online, a unit reporting directly to the Provost, works closely with leadership teams across the University to develop, market, and deliver top-quality courses and programs in blended and online formats. The office provides vision, leadership, coordination, and expertise in support of faculty design, delivery, and evaluation of technology-enhanced, blended, and fully online courses and instructional materials. Dynamic, transformative, and unique eLearning opportunities characterize Clemson's approach to online teaching and learning.

Our Mission: Clemson Online provides strategic leadership for online education, emphasizing innovative teaching and superior learning outcomes to maximize student success in 21st-century academic and professional contexts.

Our Vision: Clemson Online will define the public web-grant university through measurable achievements in online education, research, and service.

The office is committed to pursuing strategic opportunities, providing supportive resources, promoting superior educational quality, and ensuring faculty involvement and responsibility in shaping Clemson's online future.



Clemson University and Pearson Education

The Clemson University's Office of Professional and Continuing Education eLearning programs were developed in partnership with Pearson Education to produce the highest quality, best-in-class content and delivery necessary to enhance the overall student learning experience, boost understanding and ensure retention. Pearson Education is the premier content and learning company in North America offering solutions to the higher education and career training divisions of colleges and universities across the country aimed at driving quality education programs to ensure student success. Please visit us at www.pearson.com.

About Pearson Education

Welcome to Pearson. We have a simple mission: to help people make more of their lives through learning. We are the world's leading learning company, with 40,000 employees in more than 80 countries helping people of all ages to make measurable progress in their lives. We provide a range of education products and services to institutions, governments and direct to individual learners, that help people everywhere aim higher and fulfil their true potential. Our commitment to them requires a holistic approach to education. It begins by using research to understand what sort of learning works best, it continues by bringing together people and organizations to develop ideas, and it comes back round by measuring the outcomes of our products.

The Environmental Specialist Program Detailed Student Objectives:

INTRODUCTION TO ENVIRONMENTAL SCIENCE

- Define the environment
- Discuss the interdisciplinary nature of environmental science
- Describe the scientific methods involved and how science operates
- Discuss natural resources and their importance to human life
- Examine how population pressures and resources interact
- Examine worldviews and environmental ethics
- Describe sustainability and sustainable development

ENVIRONMENTAL SYSTEMS, CHEMISTRY, ENERGY, AND ECOSYSTEMS

- Describe the nitrogen, carbon, and phosphorous cycles
- Define fundamentals of environmental chemistry
- Identify the hydrologic cycle and the rock cycle
- Identify concepts of speciation and extinction
- Discuss challenges for biodiversity conservation
- Define the theory of evolution by natural selection
- Describe the fundamentals of population ecology, carrying capacity and limiting factors
- Describe the concepts of environmental and ecological economics
- Discuss economic growth and sustainability
- Examine the origins, history, and societal role of environmental policy
- Analyze the relationship among science, economics, and policy
- Identify institutions and laws important to United States Environmental policy
- Discuss how nations handle trans-boundary issues

HUMAN POPULATION

- Define the scope of human population growth
- Discuss the fundamentals of demography
- Describe the demographic transition theory
- Examine how wealth and poverty, the status of women, and the HIV/AIDS crisis affect population growth
- Analyze how human population, affluence, and technology affect the environment
- Analyze strategies for population control
- Discuss consumption and ecological footprint

SOIL, AGRICULTURE, AND THE FUTURE OF FOOD

- Describe the importance of soils to agriculture and the impact of agriculture on soils
- Analyze the causes and consequences of soil erosion and degradation
- Explain soil conservation: Principles, policies, and practices
- Discuss the challenge of feeding a rapidly growing human population
- Examine the importance of pollination
- Debate controversies about genetically modified food
- Identify pest management methods

ENVIRONMENTAL HEALTH AND TOXICOLOGY

- Identify the types, abundance, distribution, and movement of synthetic and natural toxicants in the environment
- Interpret how concerns for wildlife translate into concerns for human health
- Discuss risk assessment and risk management in relation to toxic and hazardous substances
- Examine the factors affecting toxicity
- Analyze philosophical and policy approaches to risk and environmental health

ATMOSPHERIC SCIENCE, AIR POLLUTION, AND GLOBAL CLIMATE CHANGE

- Discuss outdoor and indoor air pollution
- Discuss stratospheric ozone depletion
- Discuss acid precipitation and solutions to air pollution problems
- Discuss the current and potential future impacts of climate change
- Discuss the scientific, political, and economic debates concerning global climate change

FRESHWATER AND MARINE SYSTEMS AND RESOURCES

- Analyze the human impact on freshwater and marine environments
- Examine the depletion of freshwater and marine resources
- Describe the solutions to problems of depletion of freshwater and marine resources
- Analyze marine protected areas as reserves as innovative solutions
- Examine the hydrologic cycle and human interactions with it

BIODIVERSITY AND CONSERVATION BIOLOGY

- Discuss measurements of biodiversity
- Examine the primary causes of biodiversity loss
- Describe conservation biology and its benefits
- Appraise traditional and more innovative biodiversity conservation efforts
- Analyze island biogeography

CITIES, FORESTS, AND PARKS: LAND USE AND RESOURCE MANAGEMENT

- Explore land use decisions
- Analyze urbanization and urban sprawl
- Discuss forestry and forest management
- Describe the role of parks and reserves
- Analyze planning for livable cities

NONRENEWABLE ENERGY SOURCES, THEIR IMPACTS, AND ENERGY CONSERVATION

- Describe patterns of energy production and consumption
- Analyze the environmental impact of fossil fuel use
- Examine crude oil, its origins, and consequences of its use
- Describe nuclear energy, its origins, and its history
- Examine coal, its origins, and consequences of its use
- Examine natural gas, its origins, and consequences of its use

RENEWABLE ENERGY ALTERNATIVES

- Define biomass energy
- Discuss hydrogen fuel cells and new transportation options
- Discuss principles of energy conservation
- Compare and contrast hydroelectric, solar, wind, and geothermal energy
- Explain ocean energy sources

WASTE MANAGEMENT

- Describe the types of waste we generate
- Discuss waste reduction solutions
- Discuss municipal solid waste, industrial waste, and hazardous waste
- Analyze composting and recycling approaches to managing waste

Note: This program can be completed in 6 months. However, students will have online access to this program for a 24-month period.

MICROSOFT OFFICE Module

- Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

Note: Although the Microsoft Office Module is not required to successfully complete this program, students interested in pursuing free Microsoft MOS certification may want to consider completing this Microsoft Office Module at no additional cost.

System Requirements:

Windows Users:

- Windows 8, 7, XP or Vista
- 56K modem or higher
- Soundcard & Speakers
- Firefox, Chrome or Microsoft Internet Explorer

Mac OS User:

- Mac OS X or higher (in classic mode)
- 56K modem or higher
- Soundcard & Speakers
- Apple Safari

iPad Users:

- Due to Flash limitations, eLearning programs are NOT compatible with iPads

Screen Resolution:

- We recommend setting your screen resolution to 1024 x 768 pixels.

Browser Requirements:

- System will support the two latest releases of each browser. When using older versions of a browser, users risk running into problems with the course software.
- Windows Users: Mozilla Firefox, Google Chrome, Microsoft Internet Explorer
- Mac OS Users: Safari, Google Chrome, Mozilla Firefox

Suggested Plug-ins:

- Flash Player
- Real Player
- Adobe Reader
- Java