

## NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE COURSE SYLLABUS

**Course Title:** INTRODUCTION TO ENVIRONMENTAL SCIENCE **Course #:** EVS\* 100

**Course Description:** 3 semester hours (3 lecture hours): For non-science, education, AND science majors. This three credit, non-laboratory science course is designed to provide an overview of long-term effects on the well-being of the planet and its inhabitants. The course will examine ethics, attitudes and history; natural systems; population; global and regional environmental issues including: biodiversity loss, overconsumption of resources, food production and challenges, energy sources, pollution, waste, and urbanization; and economics, solutions, and attitudes, using current and historical topics as a lens to examine the complexities of these topics.

**Pre-requisite/Co-requisite:** Placement into ENG\* 101

**Goals:** To provide students with a basic understanding of major environmental challenges facing modern societies and understand choices and trade-offs these challenges pose; to help students grasp scientific principles underlying basic phenomena of environmental change; to provide students with an understanding of technologies associated with major environmental problems and those that may help solve these problems; to assist students in distinguishing environmental impacts of industrial vs developing societies; to provide students with a basic understanding of different societies perceive environmental problems and pursue different solutions; to delineate how issues discussed in the course are connected to decisions and choices students make in their personal lives; to help students appreciate that complexities and intricacies of environmental problems demand a holistic approach, manifest by team work and group communication.

**Outcomes (Lecture):** At the end of the course, students should be able to:

- Define the term environment and identify some important environmental concerns we face today
- Compare and contrast how different ethical perspectives shape our view of nature and our role in it and describe how religious and cultural traditions, worldviews, and core values influence our perceptions of nature
- Summarize the methods, applications, and limitations of the scientific method.
- Summarize the major biogeochemical cycles, including the hydrologic cycle, and how each is balanced over time in the hydrosphere, lithosphere, and atmosphere.
- Describe the soil properties of porosity and permeability and characterize a soil sample.
- Describe how environmental factors determine which species live in a given ecosystem and where or how they live.
- Appreciate the potential of exponential growth and define fecundity, fertility, birth rates, life expectancy, death rates, and survivorship; compare and contrast density-dependent and density-independent population processes.
- Recognize characteristics of major aquatic and terrestrial biomes, identify important factors that determine the distribution of each type, and describe ways in which humans disrupt or damage each of these ecosystem types.
- Diagram and categorize the relationships between organisms of various trophic levels within a community and explain the functions of each aspect of a food web.
- Trace the history of human population growth, discuss the environmental and social impacts of human population growth, and explain the process of demographic transition.
- Identify human contributions to global climate change and what effects modifications have on physical and biological systems.
- Summarize benefits humans derive from biodiversity and identify sources of biodiversity loss in the modern world.
- Identify land use practices, problems, and policy.
- Interpret and assess the effects of land use practices on the porosity, permeability, and erosivity of the soil.
- Recognize the origins and current problems of national parks in America and other countries.
- Analyze the various strategies being utilized to conserve biodiversity and ecosystems.
- Identify some major infectious organisms and hazardous agents that cause environmental diseases and examples of emergent human and ecological diseases.
- Distinguish between toxic and hazardous chemicals, including pesticides, and between chronic and acute exposures and responses.
- Differentiate between famine and chronic undernutrition and understand the relation between natural disasters and social or economic forces in triggering food shortages.

- Describe the pros and cons of various food sources and identify the life cycle of major food crops in modern society.
- Predict, using systems thinking, agricultural challenges that might result from climate change.
- Make recommendations for sustainable agricultural practices in a hypothetical scenario.
- Identify ways to reduce the ecological footprint of food and evaluate the movements of localism and organic as effective strategies in sustainable food systems.
- Summarize our current supply and needs, including the costs/benefits of all conventional energy sources, and explain briefly how energy use has changed through history.
- Appreciate the opportunities for energy conservation and renewable energy sources available to us.
- Describe the major categories and sources of air pollution, judge how air quality around the world has improved or degraded in recent years, and suggest what we might do about problem areas.
- Appreciate the causes and consequences of water shortages around the world, what they mean in people's lives in water-poor countries, and what the future projections for water shortages entail.
- Analyze personal water consumption and evaluate water-saving strategies.
- Define water pollution, including sources and effects of some major types, judge impacts of water pollution legislation, and differentiate between best available/best practical technology and total maximum daily pollution loads.
- Identify the major components of the waste stream, including toxic and hazardous wastes, and describe how wastes have been - and are being - disposed of in North America and around the world.
- Analyze personal trash production and identify strategies to reduce solid and hazardous waste.
- Explain how resource supply and demand affect price and technological progress.
- Define ecological economics and identify its basic tenants.
- Recognize opportunities for making a difference through goods and services, as well as limits of green consumerism.
- Identify 'greenwashing' practices within companies, governments, and non-governmental organizations.
- Appreciate the importance of wicked problems, resilience, and adaptive management in environmental planning.
- Evaluate how green politics and environmental citizenship can help protect the earth.
- Evaluate the major environmental risks we face and how risk assessment and risk acceptability are determined.
- Formulate their own philosophy and action plan for what they can and should do to create a better world and a sustainable environment

### Evaluation:

Mastery of outcomes will be evaluated through a mix of projects, writing assignments, discussions, check-ins, and quests. Please see the Grading Criteria below for details.

### College Policies:

- **Plagiarism:** Plagiarism and Academic Dishonesty are not tolerated at Northwestern Connecticut Community College. Violators of this policy will be subject to sanctions ranging from failure of the assignment (receiving a zero), failing the course, being removed/expelled from the program and/or the College. Please refer to your "Student Handbook" under "Policy on Student Rights," the Section entitled "Student Discipline," or the College catalog for additional information.
- **Americans with Disabilities Act (ADA):** The College will make reasonable accommodations for persons with documented learning, physical, or psychiatric disabilities. Students should notify Daneen Huddart, Director of Student Development. She is located at Greenwood Hall, in the Center for Student Development. Her phone number is 860-738-6318 and her email is [dhuddart@nwcc.edu](mailto:dhuddart@nwcc.edu).
- **School Cancellations:** If snowy or icy driving conditions cause the postponement or cancellation of classes, announcements will be made on local radio and television stations and posted on the College's website at [www.nwcc.edu](http://www.nwcc.edu). Students may also call the College directly at **(860) 738-6464** to hear a recorded message concerning any inclement weather closings. Students are urged to exercise their own judgment if road conditions in their localities are hazardous.
- **Use of Electronic Devices:** Some course content as presented in Blackboard Learn is not fully supported on mobile devices at this time. While mobile devices provide convenient access to check in and read information about your courses, they should not be used to perform work such as taking tests, quizzes, completing assignments, or submitting substantive discussion posts.

- **Course Withdrawal:** If you are thinking about withdrawing from this class, **SPEAK TO YOUR INSTRUCTOR** first. Your instructor will be able to give you an idea of how you are doing overall and may be able to offer you suggestions for improvement and explain other options available. BEFORE you withdraw, consider the following:
  - Withdrawing from a class can have an impact not only on your current funding (e.g. Financial Aid, Veteran’s benefits or Scholarships, etc.) but may also impact your FUTURE funding
  - Withdrawing from a class will make you ineligible for Dean’s List Honors for that semester
  - Too many W’s on your transcript can impact your ability to transfer to a four-year institution, acceptance into a particular degree program and/or acceptance into graduate school
- **Sexual Assault and Intimate Partner Violence Resource Team:** NCCC is committed to creating a community that is safe and supportive of people of all gender and sexual identities. This pertains to the entire campus community, whether on ground or virtual, students, faculty, or staff.

Sexual assault and intimate partner violence is an affront to our national conscience, and one we cannot ignore. It is our hope that no one within our campus community will become a victim of these crimes. However, if it occurs, NCCC has created the SART Team - Sexual Assault and Intimate Partner Violence Resource Team - to meet the victim’s needs.

SART is a campus and community based team that is fully trained to provide trauma-informed compassionate service and referrals for comprehensive care. The team works in partnership with The Susan B. Anthony Project to extend services 24 hours a day, 7 days a week throughout the year.

The NCCC team members are:

Ruth Gonzalez, Ph.D.	860-738-6315	Green Woods Hall Room 207
Sarah Bement, Ph.D.	860-738-6382	Founders Hall Annex Room 214
	860-496-3138 (VP)	
Susan Berg	860-738-6342	Green Woods Hall Room 223
Michele Better	860-738-6305	Founders Hall Annex Room 308
Michael Emanuel	860-738-6389	Founders Hall Annex Room 308
Seth Kershner	860-738-6481	Library
Jane O’Grady	860-738-6393	Founders Hall Annex Room 212
Robin Orlomoski	860-738-6416	Business Office Room 201
Michele Roberson	860-738-6451	Founders Hall Annex Room 315
David Ferreira, Ex-Officio	860-738-6319	Founders Hall Room 103

At NCCC we care about our students, staff and faculty and their well-being. It is our intention to facilitate the resources needed to help achieve both physical and emotional health.

## **COURSE OVERVIEW**

### **Spring 2018**

**Course Title:** INTRODUCTION TO ENVIRONMENTAL SCIENCE

**Number & Section:** EVS\* C100 **CRN#:** 1040 **Course Type:** ONLINE

**Instructor:** Professor Tara Jo Holmberg (My preferred name is “Professor Holmberg”)

**Phone:** **Office number:** **E-Mail:** tholmberg@nwcc.edu

**Office hours (ASB 206):** T 11:00-11:45; W 9:00-10:00 and 11:45-1:00; or by appointment in the evening

**Text/Course Materials:** To save on course costs, there is no formal textbook to buy this semester. HOWEVER, there will be multiple online readings each week. You will need to be comfortable with reading online or have an available printer. Students must also have access to a computer with Microsoft Office compatible software, either at home or at the library. Regular, reliable internet access is a REQUIREMENT of this course.

**Course Progression:** (subject to change at Instructor's Discretion).

**Print this table and use the Calendar function in BB/LEARN to keep track of due dates.**

WK	CHAPTER/THEME	ASSIGNMENTS (Each Unit Contains a Check-In)	QUEST
1	Science and the Environment Society, Resources, and Tech	Introductions Discussion: Science!	
2	Fundamental Understanding of Our Environment Environmental Policy, Law, and Planning	Discussion: Sustainability & Sharks	Syllabus/ Plagiarism Pre-Quest
3	The Physical Environment	Writing: Hazard and Risk Project: Physiography and Soils	Quest 1
4	The Biosphere	Blog: Ripped from Headlines-1	
5	The Biosphere	Project: Gorongosa Food Webs	Quest 2
6	Human Overpopulation	Writing: Human Populations (Pronatalist Pressures)	
7	Climate Change	Discussion: Climate Predictions Project: Climate of Change	
8	Biodiversity: Preserving Species, Preserving Landscapes, and Restoration Ecology	Discussion: Biodiversity Blog: Ripped from Headlines-2	Quest 3
9	<b>SPRING BREAK – KEEP READING!</b>		
10	Environmental Health & Toxicology	Writing: Environmental Hazards and Risk	
11	Food and Hunger Agriculture, Aquaculture, and Fisheries	Project: The Global Food System - Chocolate Discussion: Famine	Quest 4
12	Economic Geology and Mining Energy: Conventional	Project: Mining and Mining Impacts Discussion: Resource Use/Extraction and Fossil Fuels	
13	Energy: Sustainable Air Pollution	Discussion: Energy – How Does Your Household Rate?	Quest 5
14	Water Pollution, Use, and Management	Project: Water, Water Everywhere	
15	Solid, Toxic, and Hazardous Waste Sustainable Development	Writing: Dear Legislator Discussion: Cities	
16	Ecological Economics	Project: Ecological Footprint & Greenwashing	Quest 6
17	Global Sustainability and Next Steps	Discussion: Synopsis	Quest 7

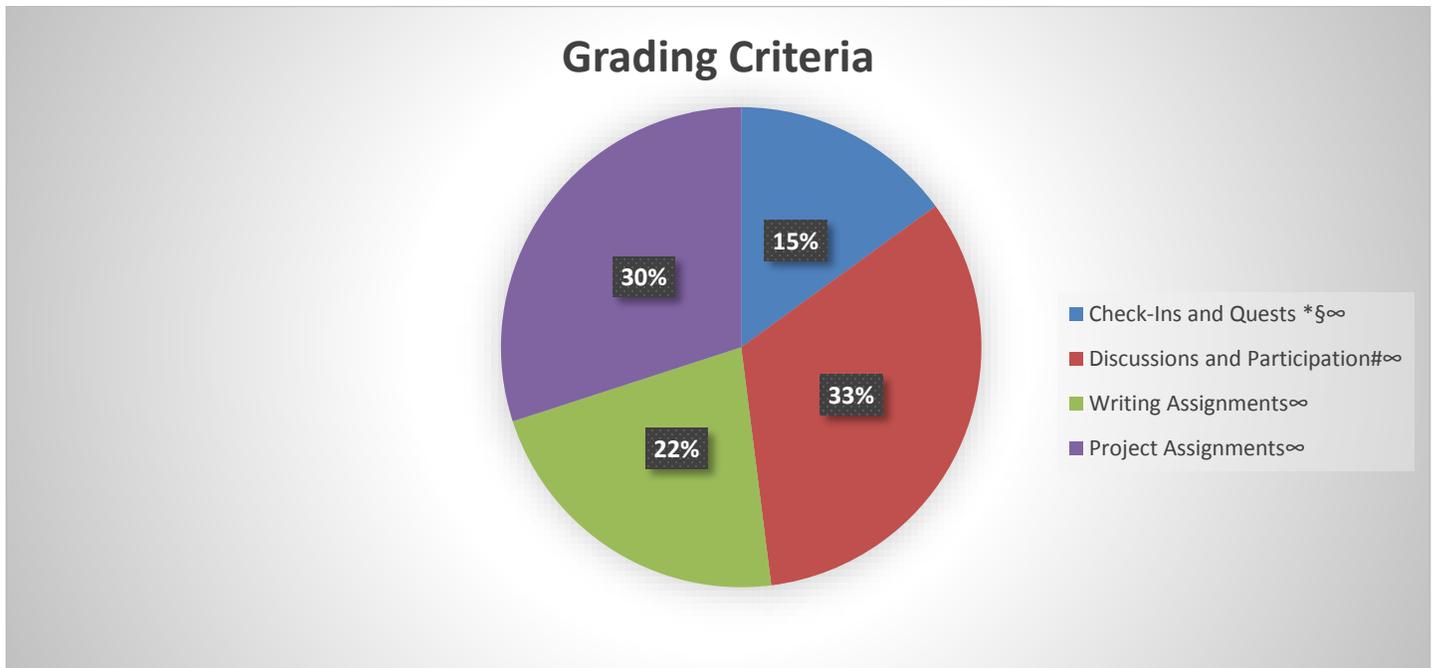
**Course Philosophy:** This course is an online section of the Introduction of Environmental Science course. As you read through this course overview, you may feel intimidated by the assignments and readings, especially if this is your first credited science course. However, college is for exposure to new ideas and content and this cannot happen without significant effort on your part. We will have fun in this course! But we will also work hard to understand the environmental problems humanity faces as well as the varied solutions to those problems.

Remember that even though this is an online course, the amount of work and studying will be the same as a traditional, onground course. In a traditional course, we would be meeting in person for 3 hours per week in a lecture/discussion format. In this online version of the course, you will be expected to view the lessons and media. These are the equivalent of the material that we would normally cover in a lecture, and require 2-3 hours of your time per week. This time is in addition to your readings and homework – as it would be in a traditional onground course. The general rule of thumb in higher education is 2-3 hours outside of class to read, study, and complete homework for every credit you are enrolled for. As this is a 3-credit course, you can therefore expect to put in 9-12 hours per week including the lessons and Prezis.

When it comes to the videos and materials, make sure to take notes on what you read and watch. You will be quizzed on this material every couple of weeks. You will then have readings and homework to do as well (just as in a traditional course).

If you stay with it, you will learn a great deal about the planet you live on and human impacts on the world! And in addition, if you look at the **Grading Policy** section of this overview, you will notice that most of the assignments are a discussion, project, or writing format, and many are your own opinion! In other words, if you post your opinion with empirical evidence (while also fulfilling the assignment completely), you cannot get it wrong! There is a lot of room to be successful in this course and there are plenty of opportunities for you to do well so I do not assign/give extra credit. Please do not ask for extra credit.

### Grading Policy.<sup>¥</sup><sup>¤</sup><sup>£</sup>



<sup>¥</sup> Letter grades will follow NCCC's standard breakdown as found in the course catalog.

<sup>¤</sup> Incompletes will ONLY be assigned when at least 90% of the course work has already been completed and is reserved for students with emergency or extenuating circumstances.

<sup>£</sup> Withdrawals must be submitted to the Registrar's office on or before the withdrawal date for the semester. Requests for withdrawal after the cutoff date WILL NOT be approved. Please consult the College's calendar for important dates.

<sup>#</sup> The participation grade includes participating in class, working well with other students, following all directions by the instructor, abiding by the Code of Conduct for the class, and other aspects of behavior and attitude deemed important by the instructor and institution such as respectful behavior, plagiarism, etc.

<sup>\*</sup> Lowest quest and lowest check-in will be dropped. Any quest or check-in not taken will be assigned a zero.

<sup>§</sup> Missed quests or check-ins **may not** be made up.

<sup>∞</sup> Dates for assignments can be found in the course Calendar

**Class Attendance:** As this is an online course, "attendance" has a different meaning. It is likely that we will never see each other face-to-face. All of our correspondence will be in the form of messages or threaded discussions.

Most of your assignments are short and concise but this does not mean this is an "easy A" class! I will expect all of you to complete all assignments, quizzes, and exams by the due date! **You will have one week to make up any late assignments (at reduced credit of 10% per day) but you will not receive any credit for assignments more than one week late.** In addition, I will expect you to take part in online discussions and respond to peers when appropriate. (Please read the overview of Discussions and Net Etiquette in the "Success in EVS" section of our course shell).

The overall goal of this class is to help you better understand the environment around you and the role of humans in the environmental equation. The assignments and discussions, therefore, are not busy work; **each has a purpose** and is there to help you achieve this goal. The purpose of the assignments will be outlined for you.

**Messages Policy:** I will generally be checking BB for email/assignments at least once per day during the week and once per weekend. Therefore, I will generally respond to emails/questions within 24 hours (48 hours on the weekends).

**Assessments in BlackBoard:** As this is a strictly online course, all assignments will be conducted on BB/LEARN, including Check-Ins and Quests. Check-Ins are all multiple choice and happen either weekly or bi-weekly with each unit. **You must complete the Check-in on the readings/Prezis to be able to complete the unit's assignments.** Quests are every 2-3 weeks and consist of 6-7 comprehensive short answer questions on a larger unit of material. There are no exams in this course and no final exam. These Check-Ins and Quests assess your understanding in short bursts as we work through the course. They are not worth as much in this course as you may be used to in other science courses (weekly assignments are worth much more overall) but still require studying.

Students are expected to access the assessments during the open period. Check-Ins are available all week and are accessed through the Lessons and Assignments Page. Quests are located in their own folder and are available over a three-day period, from Thursday at 12 AM to Saturday at 11:59 PM (times are all BB real time – EST). As noted in the Quests folder, each multiple choice or true/false question allotted 1-1.5 minutes per question (this is at standard for any science course). Short answer questions are given several minutes per question. You will find study guides available for most sections that you can use to study from.