



Taking Further Action to Combat Climate Change

EDUO 9318 2 Semester Credits/Units

Instructor – Joe Herz

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Course Syllabus

Course Overview

Guide yourself and your students through a deeper engagement in climate change actions in this follow-up course to *EDUO 9317, Taking Action to Combat Climate Change*. Expand on and move from classroom activities to school and community opportunities that will empower students to broaden their role as Climate Change Advocates. No additional text is required. Reaching Net Zero will require the involvement of today's Generation Carbon.

Course Learning Objectives

In this course, participants will have opportunity to:

- Review and expand knowledge and understanding of the factors that impact climate change.
- Apply that expanded knowledge and understanding to guide students towards becoming schoolwide and community active advocates on how to help slow and reduce the impact of climate change.
- Support student ownership of their role in helping to create environmental sustainability through personal, local, and global efforts.

Course Relation to CCS or other Professional Standards

[NGSS Climate Change](#)

[State science and social studies standards for grades kindergarten through 12](#)

How to Submit Coursework

Each completed assignment in this course is submitted to the instructor for review. Follow directions at the end of each assignment on how to prepare and submit your assignments. Name each file submitted with your last name and assignment number (i.e. BrownAssignment3. Make sure you place your full name, course number and assignment number at the top of each document page. You will receive feedback from your instructor within 5 days indicating successful completion of the assignment or the need for revision. Assignment grades will be averaged for the final course grade.

Submit completed work to the corresponding LMS assignment area

Course Modules / Assignments

The Modules contain objectives and assignments. *Several assignments are designed to allow your innovative approaches to meeting course objectives.* Students you teach and educators you may support, would not benefit from a one-assignment-fits-all approach. Use the resources, your own experiences and your own concerns regarding the impact of climate change to meet module objectives that ask you to create grade appropriate learning. If you have questions about meeting an objective, please contact me jherz@dominicancaonline.com.

Combine provided free online resources and along with the required text, establish an action-based environmentally aware program teacher creative and innovative path towards developing meaningful climate change-related student activities and actions. Use the resources, your own experiences and your own concerns with climate change to meet module objectives. If you have questions about meeting the objective, please contact me jherz@dominicancaonline.com.

Module 1	Climate Change for the Teacher
Objectives	Review or for first time Climate Change in Action students, familiarize yourself with significant factors that contribute to climate change, a possible future scenario and why it is important to activate students in the process of helping to reach Net Zero.
Assignment	<p>Assignment: Prepare a Climate Change presentation. The audience is a gathering of 19 to 24 year-old students in college pursuing a teaching career.</p> <p>Your goal is to provide:</p> <ul style="list-style-type: none"> - climate change background - current impact - potential impact to our planet within the next 50 years - the need to educate, encourage and guide students of all ages to take action against climate change <p>The presentation can be made with an app of your choice. Follow this format: Goal: Content (media rich but please do not overuse lengthy video clips or links that require time to look through); present data; summarize; leave a challenge for the audience to involve themselves and future students they will teach, in age-appropriate study and projects. The presentations “voice” should be yours, not literally, but represents your passion on the topic as opposed to listing facts. <i>If the program allows speaker notes, please include what you would be saying to a live audience.</i></p> <p><i>Suggested Assignment Resources but not limited to:</i> Syllabus Resources section, locate content to help develop your presentation. The Almanac Collective Pages 20-37 in the Carbon Almanac.</p> <p>Submit Assignment A to the corresponding LMS Module/assignment submission area.</p>
Suggested Activities for Classroom Students	See Resources section of the syllabus
Assessment	All course assignments will be assessed using the course rubric.

Module 2	Climate Change Basics for Students
Objectives	Engage students in grade-level targeted discussions and learning about significant factors that contribute to Climate Change.
Assignment	<p>A) Create a detailed Unit of Study/Assignment on the topic of potential long-term (30-50 years from now) damage to the environment and human life. The unit is a caution, targeted to student age and how it fits into your curriculum. Students could be asked to create a written or video diary, a string of messages, a blog or other form of communication to a friend over a period of years. Provide students with necessary resources in the unit of study.</p> <p>Suggested resources but not limited to: Syllabus Resources Pages 36-37 in the Carbon Almanac. Generation Carbon: It's time to start</p> <p style="text-align: center;">Submit Assignment A to the corresponding LMS Module/assignment submission area.</p>
Suggested Activities for Classroom Students	See Resources section of the syllabus
Assessment	Module assignments will be assessed using the course rubric.

Module 3	Food Waste's Impact on Environment
Objectives	<p>Learn and apply The Impact of Food Waste on the Environment by:</p> <p>A. Your mission is to engage yourself and your students in local program to mitigate Food Waste as one step to slowing climate change. You choose your route:</p> <p>A blog, website, presentation (not Slides or PP), TED Talk, video, parent or community, county, or state government agency that reflects your (virtual) voice, expressing the benefit to climate change of dramatically cutting back the amount of wasted food by consumers. Use what you have gleaned from the activity resources to support the presentation.</p> <p>B. Create a Unit of Study assignment guiding students, individually or as members of a small group, on creating an informative presentation/video (example) to encourage less wasting of food. Audience – K-12 students. Focus on grade level(s) you feel appropriate for your students.</p>
Assignment(s) Include Activities and Needed Materials	<p>- Review food waste statistics, impact; educational activities: Collect data, ideas, to use in this assignment from these resources and others listed here.</p> <ul style="list-style-type: none"> ○ Review the contents of Imperfect Foods ○ Review the contents of Consumer Reports article ○ Review the contents of WWF; Fight climate change by preventing food waste; Be a Food Waste Warrior <ul style="list-style-type: none"> ▪ Weekly Plans; Week 1 Plans; Day 2: Learn about FOOD'S CONNECTION TO NATURE

	<ul style="list-style-type: none"> ○ EPA Preventing Wasted Food At Home ○ USDA Why should we care about food waste? (Schools) ○ Kids Go Green: Reducing Food Waste ○ The Carbon Almanac - Solutions: Food Waste and Food Loss, p.201/ <p>Submit Assignments A and B to the corresponding LMS Module/assignment submission area</p>
Suggested extension Activities for Classroom Students	See Resources section of the syllabus
Assessment	Module assignments will be assessed using the course rubric.

Module 4	Empowering Students in <u>Further</u> Community Action
Objectives	The National Wildlife Federation’s Eco-Schools USA program <i>“Whole school communities can play a key role in reducing greenhouse gas emissions by taking actions that can shrink their carbon footprints. Schools can take a systems-thinking approach to engage in evidence-based science investigations in efforts to reduce their overall carbon footprint and, through collaboration, design resilience and mitigation solutions to the climate crisis.”</i>
Assignment(s) Include Activities and Needed Materials	<p>Assignment: This assignment expands on the similar module found in Taking Action to Combat Climate Change. There are 4 sections to complete for this assignment, A, B, C and D.</p> <p>A. Review the NWF site. Create a single page document telling parents why and how you will be using this site in your classroom. If you are not a classroom teacher, you can still support use of this site for students you work with.</p> <p>B. Select 3 grade-level appropriate activities or projects from the Activities and Resources page at https://www.nwf.org/Eco-Schools-USA/Resources# that you could use with your students. If you took, EDUO 9317, Taking Action to Combat Climate Change, do not repeat activities used in that course. For each of the three, separately:</p> <p>1) Why you selected it. How does it fit into your curriculum, local environment, community, student interests or other reasons for your selection.</p> <p>3) When and how you would integrate it into your classroom. i.e. Language Arts, Science, STEM, Social Science or ?</p> <p>C. Select one Climate Change Pathway (Pathway to Sustainability) for your grade level. Non classroom teachers, select a path you can support. Describe in a one-page document;</p> <p>a. How you can have your students take this path using the Seven Step Framework.</p> <p>b. List several activities you would have them participate in.</p> <p>D. Conduct an Audit. You are the facilitator of the audit you select. Look through the choices based on topic, grades and look at the Dashboard Metric to determine being able to successfully have students complete the audit. Completing this audit would provide students with be a memorable authentic learning experience. While you may not have time to conduct the full audit for this assignment and create a Plan for Action</p> <p>Submit A-D in one document. Label each section, A, B, C and D. Use single spaced 12 point font. Turn in your document to the corresponding LMS drop assignment area.</p>

	If submitting via Google Drive, follow the Google Drive submit instructions found above the Module assignments.
Suggested extension Activities for Classroom Students	See Resources section of the syllabus
Assessment	Module assignments will be assessed using the course rubric.

Module 5	Solutions – Supporting Student Voice through Further Action
Objectives	Facilitate authentic learning opportunities that empower students in becoming schoolwide or community Ambassadors of Climate Change.
Assignment(s) Include Activities and Needed Materials	<p>Assignment: Select from the Climate Change Resources, three teaching/learning ideas you can use with your students that engage them in schoolwide or community climate change action. If you took EDUO 9317 Taking Action to Combat Climate Change, do not repeat ideas used in that course. Those activities were for classroom or grade level.</p> <p>Meet the following module objectives:</p> <p>A) Create a Screencast, Prezi, Powtoon or video presentation as a lead-in to your three ideas. From within the presentation, link directly to at least 2, short YouTube or other videos that will support engaging your students in climate change actions. Keep your video choices under 2 minutes.</p> <p>B) Your three ideas can all be on one document or on three separate documents. Each idea/activity must be detailed as a mini-unit of study that engages students in action – activities that encourage them to make a) personal, b) local (classroom or school) or c) community suggestions that will reduce carbon pollution.</p> <p>Assignment Resources:</p> <ul style="list-style-type: none"> - Resources section of the syllabus - Carbon Almanac for Kids - The Carbon Almanac Collective – <ul style="list-style-type: none"> - Apple Carbon Almanac Connection Podcast Library - Google Carbon Almanac Connection Podcast Library - Look for local Clean Air programs in your area (example program) <p>Submit Assignment A and B to the corresponding LMS Module/assignment submission area. Assignment A can be a link to your presentation.</p>
Suggested extension Activities for Classroom Students	See Resources section of the syllabus
Assessment	Module assignments will be assessed using the course rubric.

Course Assessment Rubric:

EXCELLENT	ACCEPTABLE	NOT ACCEPTABLE
Meets or Exceeds Course Objectives: A to A-	Majority of Work Meets Course Objectives; B+ to B-	Needs Considerable Improvement: Resubmit Work Suggested: C or below
All work submitted reflects in-depth understanding of course objectives.	Most work submitted reflects in-depth understanding of course objectives.	Work shows little or no in-depth understanding of course objectives.
Assignment responses show evidence of new knowledge evidenced by thoughtful, detailed and accurate assignment responses.	Most assignment responses show evidence of new knowledge evidenced by thoughtful, detailed and accurate assignment responses.	Responses show little to no evidence of new knowledge as evidenced by lack of thoughtful, detailed and accurate assignment responses.
Work submitted was organized and clearly articulated. The student carefully followed all assignment instructions. The instructor did not have to provide continual assignment clarification or request revisions.	Most work submitted was organized and clearly articulated. The student carefully followed all assignment instructions. The instructor had to provide continual assignment clarification or ask for revisions.	Work submitted was not organized or not clearly articulated. The instructor had to provide constant clarification and ask for continued revisions.
Assignment content and required projects were original.	Assignment content and required projects were original.	Evidence that not all assignment content and required projects were original.
Work is free of spelling and/or grammatical errors.	Work has few spelling and/or grammatical errors.	Work has numerous spelling and/or grammatical errors.

Course Resources:

Required Text: [The Carbon Almanac](#)

Suggested Supplement (free) [The Carbon Almanac Educators' Guide](#)

Suggested Support: Podcast – [The Almanac Collective](#): The Educators Guide, Facilitating Conversations with Podcasts & How to Use the Carbon Almanac as a Teaching Tool
[Generation Carbon](#)

Shared Lesson Plans:

- Be Part of the Solution, Not the Pollution! *ELA/Science 3rd*

Lesson/Assignment ideas across curriculums. Be innovative. Reports and presentations can quickly disengage creativity when repeatedly assigned. Not all projects need to be digital.

- Create an imaginary diary of a 12-year-old to adult, on their efforts and results to curb climate change over their lifetime.
- Point of View story of a living entity, land or sea or air, that is struggling to live and continue producing offspring in a worsening global environment.
- A current population on the planet whose homes, work and future are being impacted by climate change.
- Review and present as a news program changing economics and business models that are adapting to meet climate change challenges.
- Produce a digital story/video, podcast or personal narrative on climate change.
- Create an imaginary living environment for the year 2060 if climate change continues.
- Tell learning through stories or skits.

Miscellaneous beneficiaries:

- Switch from Google or other search engines to [Ecosia](#) - The search engine that plants trees.
- WWF International: [Our Planet: Our Business](#) “The global business community can be a powerful force to drive action for nature - find out why we are confident that change is possible.”
- Look for Climate Friendly businesses on and offline.

Videos:

- [Generation Carbon](#)
- [Generation Carbon – A Carbon Almanac for Kids](#) Free Download or purchase
- [What is Climate Change? Explore the Causes of Climate Change](#)
- [Climate Change for Kids | A fun engaging introduction to climate change for kids](#)

Support Links for background and Curriculum development:

- [Google Earth time lapse](#)
- [Teaching Climate – NOAA Climate.gov](#)
- [EPA EnviroAtlas Educational Materials](#)
- <https://climatechampions.ucsd.edu/k12-curriculum/>
- <https://www.cde.ca.gov/ci/sc/ee/>
- <https://www.npr.org/2019/04/25/716359470/eight-ways-to-teach-climate-change-in-almost-any-classroom>
- [NASA Global Climate Change – Vital Signs of the Planet](#) [Images of Change](#)
- 36 organizations helping solve the climate crisis
<https://foodtank.com/news/2020/10/36-organizations-helping-solve-the-climate-crisis/>
- 7 climate change organizations you should know
<https://www.idealists.org/en/careers/7-climate-change-organizations-you-should-know>
- [The Almanac Collective](#): The Educators Guide, Facilitating Conversations with Podcasts & How to Use the Carbon Almanac as a Teaching Tool. The Carbon Connection highlights conversations about the many facets of climate change. These conversations are about hope, advocacy, and changing our future. Have your students record their own episode right there at the site!
- Climate Change Education Overview and 7-12 curriculum – [Stanford University](#)
- [Climate Change and You-What You Can Do at School](#)
- [University of Oxford; Net Zero](#)
- [SLO County APCD](#) (look for programs in your area)

Food Waste's Impact on the Environment

- [Food Waste Reduction Strategies In K-12 Schools](#)
- [Stop Food Waste Challenge 2022](#)
- [Google Image resource links](#)
- **The Carbon Almanac - Solutions: Food Waste and Food Loss**, p.201

Unit of Study Content:

- Lesson title
- Grade level
- Standards covered (CCSS, ISTE or others that pertain to the assignment objectives and outcomes)
- Learning targets / objectives (at least 4)
- Expected product outcomes (at least 4 detailed)
- Lesson procedure (detailed chronology)