



Climate Change Professional Development



Course GRCE 5040 Syllabus
Fairmont State University
Spring 2022

Course Title: Climate Change Science, Solutions, and Communication for West Virginia

The West Virginia Climate Change Professional Development Project (WVCCPD) seeks to empower West Virginia teachers to engage their students in climate change science and social action. We are supported by the WV Space Consortium, West Virginia University, and Fairmont State University.

Instructors: Kathryn Williamson (West Virginia University), Tamara Westfall (WV Department of Education), Deb Hemler (Fairmont State University), Jamie Shinn (West Virginia University)

3 Continuing Education Credits

Dates: January 17th-April 29th, 2022 (Online)

Times: 3 meetings synchronously (January 24th, February 28th, and April 25th at 5:00-6:30 PM), remaining asynchronous

Contract Arrangements: WVCCPD grant pays for up to 25 teachers to get CEUs through FSU -or- to be received as an Amazon Gift Card. \$50/credit hour + \$20 admission for non-degree seeking students. Note: FSU might send you a bill for the tuition; if that happens, let us know so we can pay it. Hopefully this glitch doesn't happen, but we want to be on the lookout for it.

Course Description:

The urgency of addressing climate change is increasing, with only ten years left to meet the recommendations of the Intergovernmental Panel on Climate Change (IPCC) to cut greenhouse emissions to half of pre-1990s levels. WV is expected to be impacted significantly by climate change, including through more extreme precipitation events that lead to increases in flooding, landslides, and other natural hazards. Yet, according to the Yale Climate Opinion studies, in 2020 only 59% of West Virginians believe that global warming is happening, compared to the national average of 72%. Furthermore, only 28% of West Virginians report discussing global warming at least occasionally, even though as climate scientist Katharine Hayhoe says, we know “the most

important thing you can do to fight climate change is to talk about it.” We are aware of the distrust many residents of our state have of climate science, yet we have worked with over 50 science and social studies teachers in WV since 2019 and have seen first-hand the desire of these educators to talk about climate change through educational activities with their students.

Course Outcomes:

After attending the online class, participants will be able to:

- Identify specific challenges and areas of opportunity with climate change education in our state.
- Demonstrate a knowledge of the effects of climate change as it pertains to temperature, precipitation, severe weather events, agriculture, and rising sea levels.
- Identify sources of climate change including increased greenhouse gases and the cause for the increase.
- Demonstrate understanding of human-climate interactions, including human causes and social impacts of climate change, especially as it relates to flooding.
- Evaluate solutions for combatting the climate crisis that accounts for the cost, safety, and reliability.
- Develop and present a standards-based lesson that furthers the climate conversation.
- Improve content knowledge on climate through the implementation of educational standards.

Course Materials:

- Internet Access that will support video conferencing, with working camera and microphone
- Google Account for Google Classroom Access
- Access to WVCCPD website: <https://sites.google.com/view/wvclimatechangepd>
- Microsoft Teams access
- Video and audio recording devices for completing the PSA lesson (a smartphone should work fine)
- Access to Youtube.com (no account needed, just make sure you can watch videos on Youtube from your device.)

Grading:

Weekly Assignments	50%
Mandatory Meetings	15%
PSA	10%
Final Project: Lesson Plan and Reflection	10%
Final Project: Share-a-thon	15%

Discussion Posts:

In order to get full credit for any discussion assignment, your post must be a minimum of 250 words and you must reply to at least 2 classmates.

Final Project:

The final for this course consists of a presentation of a Lesson Plan that was developed in this course and was taught to at least one class during the semester. Participants will present the lesson in a recording to be shared with other WVCCPD participants.

Course Schedule:

Week	Lesson Topics	Assignments Due
1 January 17, 2022	Welcome Scientific Consensus vs Public Opinion What is WVCCPD?	Due Jan 23: Form: Pre-Assessment Discussions: Introductions and Why does WVCCPD exist
2 January 24, 2022	Live Meeting: Class Expectations Carbon Footprint	Jan 24 5-6:30pm Mandatory Attendance Due Jan 30: Form: Carbon Footprint Activity Discussion: Teaching Carbon Footprint
3 January 31, 2022	How do we know? Carbon Cycle, Greenhouse Effect, Global Warming	Due Feb 6: Form: Choose Your Own Adventure – Carbon Journey Game OR Build Your Own Ice Core Discussions: Greenhouse Effect and Teaching “How Do We Know?”
4 February 7, 2022	NASA Data NASA GRACE Mission: Mass concentration and precipitation data	Due Feb 13: Reflection Questions: NASA GRACE Mass Concentration and Precipitation
5 February 14, 2022	Human Impacts of Flooding WV Flood Impact Tool	Due Feb 20: Form: WV Flood Map Impact
6 February 21, 2022	Climate Solutions: Stabilization Wedges EN-ROADS Simulator	Due Feb 27: Form: Stabilization Wedge and EN-ROADS Discussions: AMA Question Bank
7 February 28, 2022	Live Meeting: AMA: Scientists Panel Discussion of what was learned so far	Feb 28 5-6:30pm Mandatory Attendance Due Mar 6 Discussions: Check-Up
8 March 7, 2022	Climate Communication	Due Mar 13: Form: Cranky Uncle App OR Decoding the SASSY Data

		Discussion Boards: Teaching Climate Communication
9 March 14, 2022	PSA Instruction & Technology OFFICE HOURS MONDAY 5-6PM	Office Hours: Guest Expert from WV Climate Action, Sandra Fallon Due Mar 20: Form: PSA Planning
10 March 21, 2022	PSA Rough Draft PSA Peer Review OFFICE HOURS MONDAY 5-6PM	Office Hours: Guest Expert from WV Climate Action, Sandra Fallon Due Mar 24: Discussion: Rough Draft PSA Due Mar 27: Discussion: Peer Review Assignment: Peer Review
11 March 28, 2022	Beyond the PD Final Project OFFICE HOURS MONDAY 5-6PM	Due Apr 3: Work on Final Project Discussion: Tentative Plan Sharing
12 April 4, 2022	Continue Final Project Planning OFFICE HOURS MONDAY 5-6PM	Due Apr 10: Work on Final Project
13 April 11, 2022	Share Lesson Plans Final Project	Due Apr 17: Discussion: Final Project Lesson Plan
14 April 18, 2022	Final Project implementation with students (ideally, in coordination with Earth Day)	Due Apr 24: Discussion: Final Project Reflection Prepare for Share-a-thon
EARTH DAY FRIDAY, APRIL 22ND		
15 April 25, 2022	Share-a-thon	Apr 25 5-6:30pm Mandatory Attendance Due May 1: Final: Turn in the final project recorded presentations (will be shared with next cohort teachers) Form: Post-Assessment



Policies

Use the link to access current University policies:

<https://www.fairmontstate.edu/academicaffairs/syllabusstatements.asp>

Academic Integrity: Fairmont State values the integrity of its student scholars. All students and faculty members are urged to share in the responsibility for removing every situation which might permit or encourage academic dishonesty. Cheating in any form, including plagiarism, must be considered a matter of the gravest concern. Cheating is defined here as: the obtaining of information during an examination; the unauthorized use of books, notes, or other sources of information prior to or during an examination; the removal of faculty examination materials; the alteration of documents or records; or actions identifiable as occurring with the intent to defraud or use under false pretense. Plagiarism is defined here as: the submission of the ideas, words (written or oral), or artistic productions of another, falsely represented as one's original effort or without giving due credit. Students and faculty should examine proper citation forms to avoid inadvertent plagiarism.

Accessibility Services: Services are available to any student, full or part-time, who has a need because of a [documented] disability. It is the student's responsibility to register for services and to provide any necessary documentation to verify a disability or the need for accommodations. Faculty, students and the Office of Accessibility Services can be reached at (304) 3674686 or (800) 641-5678 Ext. 8.

Assessments, Surveys, and Course Evaluations: Fairmont State University values students' opinions. Your participation in special assessments, surveys and course evaluations assists us in improving the services of the institution and the effectiveness of classroom instruction. These are to be viewed as course requirements and completed to the best of your ability and with full attention.

Attendance: Students are expected to regularly attend the class and laboratory session of courses in which they are registered. Regular attendance is necessary to the successful completion of a course of study and is an integral part of a student's educational experience. Each instructor shall make available on the first day of class what the attendance requirements are and what penalties shall be imposed for nonattendance.

Copyright Notice: Material presented in this course may be protected by copyright law.

Tobacco and Vaping Policy: FSU is a tobacco and vapor-free campus.

Title IX: Title IX makes it clear that violence and harassment based on sex, gender and gender identity are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources at <http://www.fairmontstate.edu/adminfiscalaffairs/human-resources/title-ix...> ; by calling (304) 367-4386; or by emailing HR@fairmontstate.edu. Students may also contact the

Office of Counseling & Disability Services located in 316 Turley Center for help at (304) 367-4792.

Additional information about all policies can be found online at:

</publications/CampusHandbooks/studenthandbook/default.asp>

Additional student resources can be found online at: </studentresources/default.asp>

University Expectations:

Students are expected to be:

Present and attentive in class; aware of official university communication via email

Prepared for university life; prepared for class

Participating in class and in extra- and co-curricular activities

Polite and respectful to everyone in our academic community

Fairmont State's Core Values: SOAR with Fairmont State

Scholarship

Oppportunity

Achievement

Responsibility