

Course Name:
Global Climate Change: Local Impact & Action 5 Lessons aligned to NGSS Standards
Fee Payment:
None.
Specific Objectives:
<p>Participants will teach students:</p> <p>Lesson 1: What is the Greenhouse Effect?</p> <ul style="list-style-type: none"> • Draw a model on the Greenhouse effect based on what you learned from the class discussion, to show the effect when one variable (the concentration of greenhouse gases in the atmosphere) is changed. Use the model of the car as an example. • Students write down at least two questions that knowing the answers to would help them understand the connections between human activities, greenhouse gases and changes in temperature. <p>Lesson 2: What is the Albedo Effect?</p> <ul style="list-style-type: none"> • Conduct an investigation and/or evaluate and/or revise the experimental design to produce data to serve as the basis for evidence that meet the goals of the investigation • Collect data to produce data to serve as the basis for evidence to answer scientific questions or test design solutions under a range of conditions. • Develop a model—based on evidence – to match what happens if a variable or component of a system is changed. • Develop and/or use a model to predict and/or describe phenomena. • Develop a model to describe unobservable mechanisms. <p>Lesson 3: Can graphs help us understand Climate Change?</p> <ul style="list-style-type: none"> • Analyzing data progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis. <p>Lesson 4: How does global climate change affect Hawaii?</p> <ul style="list-style-type: none"> • Construct, use, and/or present an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem. <p>Lesson 5: How can we apply scientific principles to minimize our school community's contribution to climate change?</p> <ul style="list-style-type: none"> • Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. • Solve a climate change problem on your campus. Brainstorm ideas with students & choose a solution with observable results.
Activities to Achieve Objectives:
<p>Activities:</p> <ul style="list-style-type: none"> • Attend all required course sessions (five 2 hour sessions) • Teach all 5 lessons as provided in this Unit overview • Reflect and caption learning on each lesson • Participate in collaborative conversations that provide opportunities for participants to interact, network, exchange ideas, and share experiences with other participants. • Provide specific and meaningful feedback to peers.

Content of Learning Results Portfolio:

Requirements for Learning Results Portfolio:

Each participant’s Learning Results Portfolio may contain a variety of documents but each document MUST have a caption. Captions transform documents into evidence and assist teachers in articulating their thoughts. A caption is a statement attached to each document in the portfolio that describes:

1. What the document is,
2. Why it is evidence of learning,
3. What content and/or skill this exemplar documents show

Formative assessments:

1. Participants will fill out session reflections (4) focusing on what was learned that day and how to immediately apply the learning into classrooms.

These "session reflections" will be included into the final portfolio.

A part of the "session reflection" will indicate how the individual teacher anticipates using feedback from the day's instruction to change his or her practices.

Summative assessments:

1. Pre-post surveys on Global Climate Change.

Results of the pre-post survey will be included in the report to Healthy Climate Communities.

2. Brainstorm ideas with students & choose a solution with observable results to solve a problem relating to climate change on your campus.

Plan of activities and implementation of deeper learning practices including essential questions, resources, timeline and activities, formative and summative assessments with necessary checklists and rubrics. Hawaii Core Standards/Learning Outcomes referencing and appropriate school-specific learning targets should be included.

Alignment and refinements should be documented throughout the implementation stage to include samples of student work, reflections, and other course requirements.

At a minimum, the portfolio shall have three (3) teacher lesson designs and three (3) student/curricular artifacts from each lesson that are standards referenced.

Caption statements for evidence documents in the portfolio should be explicit and include what the document is, why it is evidence, and what it is evidence of.

3. Two-page culminating reflection that describes the overall learning from the course. Also, describe how the new knowledge/skills changed teacher instructional practice and how it impacted student learning.

Course Requirements:

(Prior approval from teacher’s Principal or supervising administrator is needed to use this course for reclassification (Form DOE OHR 200-005(a)).

- Participants must be a teacher in the Department of Education.
- Instructor approval required for registration.
- Attend all class sessions.
- Include all required assignments in a learning portfolio that illustrates the impact content from the class has had upon teaching practices and student achievement.

Dates / times

3-5pm on Dec 2, Jan 13, Jan 27, Feb 10, March 3