



Creating a Local NGSS Curriculum

Course Syllabus

Course Description

Adopting the Next Generation Science Standards across states has reinvigorated teachers to give K-12 students practice in defining their science realities. Using a 3-Dimensional Framework consisting of Science and Engineering Practices, Crosscutting Concepts, and Disciplinary Core Ideas, students today have greater access to building skills in science that will encourage them to find fulfillment in their science investigations. At the same time, the curriculum distributed by major publishers generally needs more relevance and familiarity that students need to engage in scientific inquiry fully. Providing students opportunities to investigate and understand the places and phenomena that mean the most to them offers more students the chance to find success in science. This course establishes the necessity of providing relevant science curricula to students and then asks educators to develop strategies to integrate relevant science investigations, highlighting local and familiar phenomena to the region where the educator teaches.

Course Objectives

At the end of this course you should be able to:

1. Understand the importance of place and locality in science teaching and learning.
2. Examine strategies for reimagining the classroom as an environment for observing and understanding science.
3. Produce learning experiences that address the needs of learners individually in each learning context.
4. Implement new tools for putting students in charge of making sense of science phenomena in inquiry-driven situations.
5. Implement classroom learning in context for the understanding of global scientific phenomena.
6. Consider systematic means of implementing inquiry and empathy in design thinking strategies for understanding science-based problems in local communities.
7. Connect learning in science with learning in other disciplines.
8. Create an action plan for implementing place-based strategies in the science classroom.

Modules

- Module 1: Why Place Matters, Quiz 1
- Module 2: Community as Classroom, Quiz 2
- Module 3: Learner-Centered Teaching, Quiz 3
- Module 4: Inquiry-Based Learning in Science, Quiz 4
- Module 5: Local to Global Perspective for Students, Quiz 5



- Module 6: Design Thinking, Quiz 6
- Module 7: Interdisciplinary Learning in Science, Quiz 7
- Module 8: PBL How-Tos, Quiz 8

Grading:

Each quiz must be passed at an 80% or higher (retakes allowed).

Format

This is a self-paced, asynchronous (no required live meetings) course. Throughout the PD course, you will find it helpful to take notes along the way to assist with the quizzes. Within each module, you will find reflection assessments that are not graded but will help in your journey through the course.