High-Impact Informal Education:
Implementing the
Next Generation Science Standards

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This two-week course, High-Impact Informal Education: Implementing the Next Generation Science Standards, will help informal educators to better support classroom education goals when they are delivering programs for K-12 students. Successfully doing this will help three parties: the students, who will have a more consistent language for their learning experiences across different contexts; the classroom teachers, who will be able to better integrate the out-of-classroom experience with the in-classroom work; and the hosting informal education facility, which will be able to market their programs as supportive of the NGSS and deliver such alignment consistently.

The instructional goal for this course is that learners will be comfortable with the language and structure of the NGSS, and they will be able to apply that information in the context of their own program.

The terminal objective of the course is that learners will be to apply the NGSS to an informal education program that they facilitate. Two enabling objectives support this: first, learners will be able to identify and describe the three dimensions of the NGSS, and second, learners will be able to identify opportunities to use NGSS language and content in out-of-classroom programs.

This course is suitable for educators in any stage of their career; the only prerequisite is a basic familiarity with at least one informal education program, as this will be the context for which learners build connections and questions throughout the course. Learners should be comfortable navigating basic Web sites and using word processing software. Course content includes reading, online video, written discussion, and interactive modules.

All learners are expected to model honest and thoughtful practices throughout the course, including creating their own original work, appropriately citing others' work when it is referenced, and maintaining courteous discourse with all peers and instructors. Learners may contact the instructor by email at any time with questions or concerns; she will respond within 48 hours.

Schedule and Grading

All Week 1 components (Part 1 and Part 2) must be completed by Sunday, June 9 at 5:00 PM Eastern.

Week 1, Part 1: The Next Generation Science Standards
Reading: Welcome!
Video: Introduction to the Next Generation Science Standards
Resource: Crosscutting Concepts
Resource: Practices of Science & Engineering
Peer Discussion: Science Education Then and Now
Quiz: NGSS Comprehension Check (Formative Assessment 1)

Week 1, Part 2: Connecting to Informal Education
Interactive Module: NGSS and Informal Education (Formative Assessment 2)
Peer Discussion: The Diversity of Informal Education

All Week 2 components must be completed by Sunday, June 16 at 5:00 PM Eastern.

Week 2: Applying NGSS to Your Program
Reading: Welcome Back!
Resource: BEETLES
Video: Navigating the NGSS Website
Resource: EQuIP Rubric
Interactive Module: Crafting Productive Questions (Formative Assessment 3)
Resource: Productive Questions Worksheet
Peer Discussion: Your Productive Question
Final Reflection: Supporting NGSS in Your Program (Summative Assessment)

Unless an arrangement is made in writing with the instructor *before* the deadline, no work will be accepted late.

Grades will be comprised of the following:

Assignment	Grading Mode	Percentage of Final Grade
Peer Discussion: Science Education Then and Now	Complete/Incomplete	10%
Quiz: NGSS Comprehension Check	Automatically scored	10%
Interactive Module: NGSS and Informal Education	Complete/Incomplete	10%
Peer Discussion: The Diversity of Informal Education	Complete/Incomplete	10%
Interactive Module: Crafting Productive Questions	Complete/Incomplete	10%
Peer Discussion: Your Productive Question	Complete/Incomplete	10%
Final Reflection: Supporting NGSS in Your Program	Scored by instructor (see rubric below)	40%

Scoring Rubric for Final Reflection

Prompt:
Consider an informal educational program that you facilitate or that you are designing. Describe the program in 2-3 sentences, then identify one DCI, one Crosscutting Concept, and one Practice that you could support during that program. For each of these three standards, write two questions that you could ask of your students to directly support the standard. Also include a 1-2 sentence description of each of the three dimensions of the NGSS.

	Fully Articulated (3 points)	Partially Realized (2 points)	Present (1 point)	Absent (0 points)
Definition of the three dimensions of the NGSS	All three dimensions are correctly defined	Two of the three dimensions are correctly defined	One of the three dimensions is correctly defined	None of the dimensions are correctly defined
Description of informal education program	Program is clearly explained with critical details including the learning context, the audience's age, and the type of activity/ies to be facilitated	Program is explained well with two of the following critical details: context, audience age, and activities	Program is explained vaguely with no critical details	Program explanation is not included
Productive questions to support the NGSS	Reflection includes at least two appropriate questions for each of the three dimensions, for a total of at least six questions.	Reflection includes at least one appropriate question for each of the three dimensions.	Reflection includes questions, but they are not aligned with the three dimensions.	Reflection does not include any questions.

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