



**Your
Education
Ally.**

By Teachers,
For Teachers.

Course Syllabus

Name:

Date:

Today is a Great Day to Learn Something New!

Professional learning to meet your needs.

Engaging and applicable, ELEVATE courses are the core of Teaching Channel. We offer a variety of courses that meet the continuing education needs of teachers from across the country. Teaching Channel courses work perfectly for license renewal needs, working to move up through salary schedules, or for professional learning to support improved student outcomes.

Teaching Channel provides continuing education graduate credit courses that have been approved and endorsed by regionally accredited colleges and universities from across the United States.



Current University Partners (See a current list of academic partners on our website)

Continuing Education courses are approved by our regionally accredited (HLC, NECHE, WSCUC, NWCCU) partners by review of syllabi, content, and coursework expectations.

(Indicate anticipated university/college partner below, if applicable.)

Course Creation and Evaluation:

Courses are created and evaluated by educators with a master's degree or higher in an education-related field and five or more years of classroom experience in PreK-12th grade education. Course evaluators provide personalized, specific feedback for assignments and rubric-based grading aligned with best practices in professional education.

Spring Term

Registrations Accepted
July 16-March 15
Coursework Due*
April 15

Summer Term

Registrations Accepted
December 16-July 15
Coursework Due*
August 15

Fall Term

Registrations Accepted
March 16-October 22
Coursework Due*
November 15

*Or first business day after the 15th if due date falls on a weekend.

Coursework Details

The Rigor of Teaching Channel Graduate-Level Continuing Education Courses.

Professional Learning Model

Our research-based Professional Learning Model is used to design ELEVATE continuing education courses. The model includes five elements used to guide professional learning and to positively impact student outcomes:



Course Content

ELEVATE Courses are self-paced, and per standard practice in the field, each credit carries the equivalent of fifteen hours of content and coursework. Participants explore resources that include a solid balance of research and applicability. All courses feature video clips, research-based articles, and interactive elements to enhance and support learning. To receive credit, participants must complete the following requirements according to expectations outlined in our course rubric:

Response Questions: Connect new learning from course resources to current pedagogy.

Resource Review: Find resources related to the course topic to extend learning and solve problems of practice.

Applications: Complete a variety of assignments encouraging participants to implement new learning in their classrooms or schools.

Reflection: Write a reflection paper that activates critical thinking and inspires the transformation of future professional practice.

All coursework is to be completed in the Teaching Channel online environment.

| | |
|-----------------------|---|
| Course Name | 3 Dimensions of Teaching and Learning with the Next Generation Science Standards (NGSS) |
| Course Number | OL 5148 |
| Course Credits | 3 or Flex Credit |

NOTE: This syllabus is an outline of the course requirements and is subject to change; the coursework will be completed and submitted in the online environment where you will have full access to a variety of media, links, and other online tools required to satisfactorily complete this course.

Course Description:

Whether you are new to the Next Generation Science Standards (NGSS), or have started to dig in, we're here to help you navigate! With strong resources and examples, this course will increase your knowledge on the basics of 3D Learning in Science, setting you on a path to discovery-based teaching. Find out how to use the Practices, Cross-Cutting, and Disciplinary Core Ideas to design and align your lessons with the NGSS. Apply Engineering Design to help your students create something spectacular. Finally, discover how to ensure lesson alignment to NGSS using the EQuIP Rubric. Level up your science instruction skills and leave the course with the knowledge you need to apply NGSS 3D Learning.

Course Objectives:

As a result of participation in this course, participants will:

1. Use provided prompts specific to 3-Dimensional learning to describe assumptions and insights of practitioners, researchers and self, including how the information relates to professional educational practice.
2. Design and align lessons with Science and Engineering practices.
3. Prepare an activity for students to collaborate with one another to build an artifact using the Engineering Design process
4. Implement the EQuIP Rubric in evaluating lessons
5. Develop an action plan to challenge the status quo when transitioning to 3D learning.

Required Text/Reading:

All Required Readings are linked within their respective assignments.

All coursework is to be completed in the Teaching Channel online environment.

Knowledge Base:

The knowledge base of this course, in part, is affirmed in the writing and research of these references:

- Cianca, S. (2020). *Teaching elementary Stem education unpacking standards and implementing practice-based pedagogy*. Routledge.
- Higgin, T. (2020, June 15). *Game-Based Learning and the NGSS*. Common Sense Education. <https://www.commonsense.org/education/articles/game-based-learning-and-the-ngss>.
- Hub, K. (2021, April 27). *Webinar : Introducing NGSS and 3D Science*. The Knowledge Hub. <https://knowledge-hub.com/2021/04/26/webinar-introducing-ngss-and-3d-science/>.
- Keeley, P., & Tugel, J. (2020). *Science curriculum topic study: bridging the gap between three-dimensional standards, research, and practice*. Corwin.
- NGSS 3D Assessment Implementation Modules.
(n.d.). <https://www.stancoe.org/division/instructional-support-services/science-stem/assessment>.
- NGSS Tools. BAESI. (n.d.). <https://www.baesi.org/ngss-tools/>.
- Smithsonian Programs: Immersive, Three-dimensional Science Instruction for K-8 from the Smithsonian Science Education Center*. Smithsonian Programs | Immersive, Three-dimensional Science Instruction for K-8 from the Smithsonian Science Education Center.
(n.d.). https://www.smithsonianstc.com/?gclid=Cj0KCQjw8vqGBhC_ARIsADMSd1AcbS9dSb2zbiB9WssVsFEcnYL8JAwOsnftujFixPGFRXQxCeSbWVkaAvMkEALw_wcB.
- Three Dimensional Learning*. Three Dimensional Learning | Next Generation Science Standards.
(n.d.). <https://www.nextgenscience.org/three-dimensions>.
- Transitioning from Scientific Inquiry to Three-Dimensional Teaching and Learning*. NSTA.
(n.d.). <https://www.nsta.org/nstas-official-positions/transitioning-scientific-inquiry-three-dimensional-teaching-and-learning>.
- What exactly IS three-dimensional learning?* Teaching Channel. (2018, October 2). <https://learn.teachingchannel.com/ngss/three-dimensional-learning>.

Teaching Channel Course Rubric

All course submissions must meet general graduate level standards through the use of correct grammar, spelling, and mechanics. Each paragraph should be clearly organized and include 5 sentences or more. If work does not meet the above criteria, it will be returned to the student for resubmission.

| Rubric | A Grade = Outstanding Performance | B Grade = Target Performance | Below Target Performance |
|---|--|---|---|
| Statement of Intention and Awareness | The evaluator will only review the Statement of Intention and Awareness for a response to each prompt. If a student does not respond to each prompt, the Statement will be returned to the student for resubmission. The student's Statement of Intention and Awareness will be evaluated as part of the Reflection. | | |
| Investigation: Read and Respond | Coursework thoroughly and accurately addresses all question components by summarizing key concepts from readings. In at least half of the responses, the participant also makes inferences related to professional practice or supports answers with professional experiences. | Coursework thoroughly and accurately addresses all question components by summarizing key concepts from readings. | Coursework will be returned to student for resubmission with evaluator instructions if it does not meet target performance. |

All coursework is to be completed in the Teaching Channel online environment.

| Investigation: Resource Review Rubric | A Grade = Outstanding Performance | B Grade = Target Performance | Below Target Performance |
|---|--|--|---|
| Summary of Resource | Coursework summarizes the main ideas presented in the resource and includes at least one instance of critical analysis (i.e. asks questions, looks for gaps in information, disputes contradictions, etc.) | Coursework summarizes the main ideas presented in the resource. | Coursework will be returned to student for resubmission with evaluator instructions if it does not meet target performance. |
| Relation to Personal Assumptions or Course Content | Coursework provides more than one detailed example of how the resource supports or challenges personal assumptions and/or course content. | Coursework provides one example of how the resource supports or challenges personal assumptions and/or course content. | Coursework will be returned to student for resubmission with evaluator instructions if it does not meet target performance. |
| Impact on Professional Practice | Coursework provides more than one clear explanation of how the information in the resource could impact professional practice. | Coursework provides one explanation of how the information in the resource could impact professional practice. | Coursework will be returned to student for resubmission with evaluator instructions if it does not meet target performance. |

All coursework is to be completed in the Teaching Channel online environment.

| Application Rubric | A Grade = Outstanding Performance | B Grade = Target Performance | Below Target Performance |
|--|---|--|---|
| Planning, Development and Execution | Coursework shows complete planning, development and/or execution of application, clear articulation of details and inclusion of polished required artifacts. | Coursework shows complete planning, development and/or execution of application and inclusion of required artifacts. | Coursework will be returned to student for resubmission with evaluator instructions if it does not meet target performance. |
| | Coursework includes creative or innovative application of new knowledge and skills from course content to professional practice. | Coursework includes application of new knowledge and skills from course content to professional practice. | |
| Written Requirements | Coursework provides clear, logical, and organized responses to any writing prompts in the application. It also includes at least one detailed connection to course objectives, student learning goals or transformation of professional practice. | Coursework provides clear, logical, and organized responses to any writing prompts in the application. | |

All coursework is to be completed in the Teaching Channel online environment.

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| Reflection Rubric | A Grade = Outstanding Performance | B Grade = Target Performance | Below Target Performance |
|--|--|--|---|
| Connection to Statement of Intention and Awareness | Coursework includes an evaluation of both learning goals articulated in the participant's Statement of Intention and Awareness from Module 1. Participant includes one future learning goal related to course content. | Coursework includes an evaluation of one of the learning goals articulated in the participant's Statement of Intention and Awareness from Module 1. | Coursework will be returned to student for resubmission with evaluator instructions if it does not meet target performance. |
| Summary of Learning | Coursework includes three or more detailed connections to specific assignments completed or course content viewed (assigned readings or videos). | Coursework includes two general connections to course content. | |
| Description of Positive Influence or Transformation | Coursework includes two or more specific ideas for changes in one's professional practice with timelines. OR Coursework includes two or more detailed action steps with timelines for positively impacting other stakeholders. | Coursework includes one general idea for changes in one's professional practice. OR Coursework includes one action step for positively impacting other stakeholders. | |

All coursework is to be completed in the Teaching Channel online environment.

Module 1

1. Tell us about yourself!

Before we begin with course content, write 1 sentence about yourself. You will be asked to include this background in each of the modules submitted for the course. This provides context for your responses and enables the course evaluator to respond with feedback tailored to your specific role in education. Here are three examples to guide you:

- I'm a 4th grade teacher and teach all subjects.
- I'm a middle school counselor.
- I'm out of the classroom on leave this year, but next year I'll be back teaching 9th grade science.

2. Intention and Awareness Statement

At Teaching Channel, we want your learning to be purposeful and applicable to your professional practice. To do that, research says learners need to first identify their motivations and goals. Next, learners assess prior knowledge and previous experiences so they can create deeper connections to the course material.

Using the guidelines below, please address the following in your Statement of Intention and Awareness, in a total of two paragraphs, or more:

- Describe your motivation for learning about 3-dimensional learning and teaching.
- Summarize your previous knowledge about or experience with 3-dimensional learning and teaching.
- List two learning goals you have for the course.

In Module 1, your evaluator will review your Statement of Intention and Awareness to ensure it is complete. It will be graded within your Reflection Requirement in Module 3, where you'll revisit your Statement of Intention and Awareness to identify your growth and learning from the beginning of the course to the end.

3. Investigation: Read and Respond

After reading the assigned resources, please respond in one paragraph or more for each prompt (unless otherwise noted). Please be sure that each paragraph meets our length requirement of 5 sentences, or more.

Please read the following:

- From Sadler Science responding to the question, "What is 3D Learning?"
- The Next Generation Science Standards' (NGSS) explanation on 3-Dimensional Learning
- "Inquiry Learning and Engineering Design in STEM," by Michael Griffin
- Now, please watch this video about inquiry based learning:
 - A. In your own words, explain the concept of 3D learning.
 - B. Choose and share one of the three aspects of 3D learning that most aligns with your current teaching practices.
 - C. We expand our knowledge by stretching our instruction. Which aspect of 3D learning will stretch your instruction the most, and why?

All coursework is to be completed in the Teaching Channel online environment.

- D. Considering discovery-based and traditional teaching practices are on opposite ends of the spectrum, express where and why your practice falls on that spectrum.
- E. Based on your response for the above question, share one action step you could complete to move towards the discovery-based end of the spectrum.
- F. Detail two of the differences between scientific inquiry and engineering design.
- G. Explain how you will modify your practice to make your instruction more "3D-friendly."
- H. Summarize how you think 3D learning in science affects students' thinking and problem-solving in other academic classes and outside of school.

Module 2

1. Tell us about yourself!

Provide a one sentence or longer explanation of your role in the field of education.

2. Application: Innovate

The first dimension we'd like to unpack is the Science and Engineering Practices governing how scientists do their work. NGSS combines engineering design and scientific behaviors to define practices, which are ways students can learn how knowledge and skills work together. Please complete the following steps for this application requirement.

If you have not yet fully aligned your instruction to NGSS:

Step 1: To begin this application, read through pages 382-400 in Appendix F: Science and Engineering Practices in the Next Generation Science Standards.

Step 2: Please watch a professional development session specifically about the Science and Engineering Practices to see teachers complete a performance using the Practices.

Step 3: Please review the following infographic, explaining the Science and Engineering Practices. This will help you use the information from Appendix F to put each Practice into an action you might see reflected in your classroom (from the Smithsonian Science Education Center)

Step 4: Choose a science topic, lesson or unit and connect it to the Science and Engineering Practices. Complete the option below that works best for you and your professional role.

Option 1: Line 'em Up!

Review a science lesson that is ready to go, and weave your content through the practices, feel free to align to all of them!

Option 2: Focus In

Focus on a particular skill, or focus a lesson on 1-2 practices.

Using the examples of practices in each grade band in Appendix F to help you, please complete the assignment in the document, "Science and Engineering Learning Practices," and share the link with your evaluator as part of your module submission.

All coursework is to be completed in the Teaching Channel online environment.

Note: we will be using this as an example to create a new aligned lesson in Module 3, so keep this assignment handy!

If you have aligned your instruction to NGSS:

You are likely well-versed enough to provide feedback regarding quality and fidelity to NGSS' Science and Engineering practices. Please complete the following assignment:

Step 1: Go to the "Quality Examples of Science Lessons and Units," and select 2 grade appropriate lessons.

- For the first lesson, under the "Rating" link on the left, choose "High-quality if improved," or "Quality works in progress."
- For the second lesson, choose, "Examples of high-quality NGSS Design."

Step 2: Review both lessons according to the ratings you assigned, without looking at the EQulP rubric feedback, and according to page 2 of the NGSS Screener*, illustrating features of quality work and benchmarks for NGSS Alignment.

*You are welcome to use the screener more in depth if you prefer. For the purposes of this assignment, we'd like to keep it relatively simple.

Step 3: Using our Screener template, complete the appropriate fields for each of the lessons you chose.

Step 4: Submit your completed template with your Module 2 coursework.

3. Application - Crosscutting Concepts

Crosscutting concepts, or "an organizational schema for interrelating knowledge from various science fields into a coherent and scientifically based view of the world," (NSTA) is dimension 2 for NGSS. Crosscutting can serve as an organized way to connect knowledge from various points of discipline together. The NGSS are onto something!

There are several resources on crosscutting concepts for your science instruction. Please review all of the following resources, then complete the assignment that follows.

- Article, "Crosscutting Concepts in the Next Generation Science Standards," via the National Press, Appendix G.

All coursework is to be completed in the Teaching Channel online environment.

As you now know, there are seven cross cutting relationships outlined in 3D learning, as shown here:



Let's see what these Relationships are all about, and create something lovely for your students!

Step 1: Refer to the article, "Crosscutting Concepts," at National Science Teachers Association (NSTA) to skim over each of the Relationships in crosscutting.

Step 2: Select one Relationship to click on and learn more, including how that Relationship is scaffolded for elementary, middle school, and high school.

Step 3: For the crosscutting Relationship you chose, create a new lesson (or modify an existing lesson) to try with your students. Your lesson should be detailed enough that a colleague could teach it in your place, and should be 1 page or more in length. In your submission, please include:

- Learning Objective
- Materials needed
- Step by step procedure
- A 1-paragraph or more description of how you will explicitly include this crosscutting concept in the lesson.

Note: If you are already familiar with Crosscutting/Relationships, in 1 page or more, provide 2 detailed examples of how you have implemented crosscutting in your lessons, and how that implementation has helped to focus your instruction.

4. Application: Disciplinary Core Ideas

Let's talk about Disciplinary Core Ideas/Dimension 3/the topics you teach when you are "sciencing."

Please begin by watching the Teaching Channel video, NGSS Disciplinary Core ideas.

To complete this application, please analyze NGSS Core Ideas based on your current science curriculum. Here's how to do just that!

If you have not yet aligned to NGSS, please complete Option A. If you have already adopted NGSS, please complete Option B.

All coursework is to be completed in the Teaching Channel online environment.

Option A:

Step 1: Select 1 specific Core Idea (or topic) included (or you would like to be included) in your curriculum. We recommend you select a focused idea you could address in 1-2 lessons.

- Note: Broad topics (ie, photosynthesis), likely will connect to more than one core idea, which is fine! To keep the workload manageable, we recommend choosing one idea or topic.

Step 2: Use this video series from Bozeman Science (scroll down to the Core Idea section to see the menu) to dig deeper into any Core Idea to see educator Paul Anderson walk through learning progression for each item in the Core Ideas.

Step 3: Compare your Core Ideas/topic against the table from NGSS@NSTA: 4 Domains for Core Ideas, using bullet points:

- Complete our template, or create a similar table to show:
 - 1 or more differences, and
 - 1 or more similarities between NGSS Core Ideas and your curriculum's topics. Be sure to explain the differences and similarities in context.
- 1 or more differences between the learning progression prescribed, and the learning progression for your curriculum.
- Finally, reflect on this exercise in 2 paragraphs or more (included in the table document), noting observations and new learning that will help you align your curriculum with the NGSS.

Option B: Adopted NGSS

We'd like you to take this opportunity to evaluate the fidelity of a Core Idea alignment. Please complete the following steps:

Step 1: Select 1 specific Core Idea (or topic) included in your curriculum that's aligned to NGSS.

Step 2: Using the NGSS Screener as information, rank the fidelity of the Core Idea inclusion from 1-5 (1= Needs Revision, 5=Exemplary) on each of the following:

- a. Relevance and Authenticity: The lesson motivates student sense-making or problem-solving by taking advantage of student questions and prior experiences in the context of the students' home, neighborhood, and community as appropriate.
- b. Student Ideas: The lesson provides opportunities for students to express, clarify, justify, interpret, and represent their ideas (i.e., making thinking visible) and to respond to peer and teacher feedback.
- c. Building on Students' Prior Knowledge: The lesson identifies and builds on students' prior learning in all three dimensions in a way that is explicit to both the teacher and the students.

Step 3: In one page or more total, please:

- Provide a summary of the selected lesson containing the Core Idea
- Share your rank, and your rationale for that ranking
- Show evidence from the lesson to support your ranking

All coursework is to be completed in the Teaching Channel online environment.

- Insights you've gained about the fidelity of your Core Idea to NGSS

Please submit your 1 page or more response with your Module coursework.

5. Investigation: Resource Review

To complete the Resource Review, identify two resources related to (but not directly from) the course content to enhance your professional practice, and deepen your understanding of the course content.

Resources may include blog posts, podcasts, websites, videos, documentaries, films, articles, books, or journals, published within the last five years. To find a resource, we suggest a web search (Google, Bing, etc.) using terms or ideas from the course you'd like to learn more about, or that relate to your specific professional learning needs.

Please provide the resource title, author, copyright or publishing date, and URL (if applicable). Then, in two paragraphs or more per resource, respond to one or more of the following:

- Share information about how the resource information could impact your professional practice
- Explain how each resource supports or challenges your professional assumptions
- Summarize any questions that remain, i.e.: gaps in information or contradictions

To meet "A" criteria as outlined in the course rubric, for each resource, include two or more different examples of how the resource supports or challenges assumptions, and explain two ways this resource will impact your professional practice.

Module 3

1. Tell us about yourself!

Provide a one sentence or longer explanation of your role in the field of education.

2. Application: Collaborate

Strengthening student understanding of the engineering aspects from the Next Generation Science Standards (NGSS) will help students clarify how to connect science, technology, engineering, and mathematics (the four STEM fields) to everyday life. Watch this introductory video about the engineering design process from PBS.

We want to help our students understand that each component is part of the Engineering Design framework, so let your students complete the process on their own!

To complete this application:

Step 1: Please begin by watch this "older-but-still-great" video series (click the arrows on the sides to move forward or back) from Design Squad Nation to walk through the steps of the engineering design process. The Design Squad creates furniture out of cardboard, wheels on bike, and an onion dispenser!

All coursework is to be completed in the Teaching Channel online environment.

Step 2: Next, watch Teaching Channel's Using Engineering Design in the Classroom, where educator Tom Jenkins asks students to develop a system to create a rocket by going through the Engineering Design process.

Step 3: Now, consider a topic you teach. Create a lesson or unit plan that asks students to collaboratively develop an artifact or action plan using all elements in the engineering design process. As part of your 2 pages or more complete lesson or unit plan, please include the following:

- Substantial detail and information so a colleague could hypothetically teach the lesson/unit tomorrow.
- 1 paragraph or more description of the included collaborative element, and how it is integral to the Engineering Design Process.
- Description of how you will assess the artifact or action plan.

3. Application: Implement

The cycle that is NGSS 3-D Learning is about to close by learning how to assess instructional materials for alignment to the NGSS!

This video from the Teaching Channel gives a great overview of how to use the EQulP Rubric (Educators Evaluating the Quality of Instructional Products):

Now, please complete the following:

- Read pages 5-14 in the EQulP Detailed Guidance document, for detailed specifics on how to use and understand the EQulP rubric
- Skim pages 1-14 in the EQulP Rubric for Science 3.0, paying close attention to the 5-step review process on pp.4-5

Now, you'll use the rubric to review a lesson plan you just created in Application 2. This document is very dense and detailed, but fear not! You are well EQulPped to pull apart the applicable information in the EQulP Rubric. Let's go!

For this application, you may also use a lesson plan of your choosing, but since you just created a lesson- why not take it for a test drive? Here's what to do:

Step 1: Either save this rubric document to the desktop on your device (ensuring work is saved - please do not skip this step!) or open this Word version of the document.

Step 2: Complete the appropriate pages of the rubric for your lesson in one of the three categories:

- Category 1: NGSS 3D Design: pp 6-7, lesson criterion A-C
- Category 2: NGSS Instructional Supports: pp. 9-10, lesson criterion A-C and D or E
- Category 3: NGSS Monitoring Student Progress: pg.12, criterion A-D

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Step 3: Save the appropriate completed pages to the desktop on your device, and upload them as an attachment for submission (more than one attachment is ok).

Step 4: In 2 paragraphs or more, summarize your plan for making improvements in the areas you found in your lesson.

Need a bit more? The NGSS article, "EQulP Rubric for Science," provides a plethora of tools to help! Scroll past the video to see the resources.

4. Application: Challenge the Status Quo

Time to challenge the status quo around transitioning from inquiry to 3D learning, through "Elevator pitches" and "Sell sheets."

Resources to help with this application:

- Please watch the following video to learn about transition:
- The article, "Transitioning from Scientific Inquiry to Three-Dimensional Teaching and Learning," is a NSTA position statement on transitioning from inquiry-based instruction to 3D Learning
- This resource from Science Georgia Standards of Excellence (GSE) titled, "Science in 3D – an Overview for School Leaders," provides a guide for how 3D Learning in Science can be implemented successfully in schools, along with pitfalls to avoid.

To complete this application, you will create and submit either an "Elevator Pitch" or a "Sell Sheet" (Informational Overview) tailored to the scenario you select.

- Elevator Pitches are just as they sound- a quick chance to convince others and those in leadership roles to approve an idea. Please describe what you hope to accomplish, along with your pitch, in a total of 3 or more paragraphs in length.
- A Sell Sheet (Informational Overview) is one concise page containing data, benefits, and impact of your idea. The Sell Sheet* should include 3 or more data points and 2 paragraphs of explanation, along with anything helpful to someone considering your idea. It should be easy to read, clean, and uncluttered. Make it look Add illustrations if you like!

*Here's a Google search for "examples of sell sheets" for inspiration!

Please choose one of the following scenarios to create your Elevator Pitch or Sell Sheet

Option 1: Intrinsic Motivation

It's your 8th year as a science teacher, and your teaching team is still teaching science the way they have been teaching since time began. The team is great about sharing resources, but there is little interest in creating something new. You've been to two workshops (and taken this course!) on the NGSS framework, and you believe strongly NGSS will change students' science class experience for the better- in knowledge, applicability, and learning. You want to share this knowledge with your team, and to encourage your colleagues to work towards adoption of NGSS.

All coursework is to be completed in the Teaching Channel online environment.

Option 2: Extrinsic Influence

Any school or district leadership team plays a critical role in the implementation and success of teaching and learning areas, including implementation. Your administration has always been hesitant about adopting new ideas or frameworks within the approved curriculum. They have looked through the NGSS documents and it's just too daunting to squeeze in one more in-service along with password security and attendance. They don't feel capable teaching the NGSS to the science teams (I mean, have you seen that rubric?) and they don't want to hire someone to provide instruction. As an eager practitioner, you know your students will miss out on the NGSS, which could affect their ability to further their learning in science.

Option 3: NGSS Aligned

You are already aligned with the NGSS, and considered someone who can speak with authority about the standards. You and your team are asked to travel to a neighboring district to share the successes you

Note: Got other science curriculum scenarios that fit better than these? Write your scenario, use your learning thus far to focus your elevator pitch and sales sheet on providing resolution for that scenario.

5. Reflection Requirement

In 2 or more double-spaced pages (12pt font), synthesize your learning by summarizing how your learning in this course has evolved your professional practice. To meet "A" criteria as outlined in the course rubric, your reflection should include:

- A comparison of your learning goals from your Statement of Intention and Awareness in Module 1 with your new learning, to assess how you've grown.
- One key takeaway from your learning.
- One future learning goal related to course content.
- Three or more detailed connections to specific course applications, information from readings, and other completed course activities.

And your choice of *one* of the following:

- Two or more specific ideas for changes to your professional practice with timelines for implementing changes.
- Two or more detailed action steps you'll take to positively influence others (students, parents, colleagues, administrators, community members, etc.), including implementation timelines.

All coursework is to be completed in the Teaching Channel online environment.