

Educational Support Services  
Professional Development Offerings



NGSS Professional Development Options & Course Descriptions	Total Time
<b>NGSS 101, 102 or 103</b>	2.5 hours
NGSS 101 - Become aware of the National Research Council's <i>A Framework for K-12 Science Education</i> and the development, intent, and design of the <i>Next Generation Science Standards (NGSS)</i> adopted by California. Learn how to read the architecture of the NGSS and example key components.	
NGSS 102 - Delve deeper into the intent and design of NGSS and some of its supporting appendices using a classroom example and learning about the progressions, analyzing key instructional shifts, and reflecting on how to adapt available resources to assist in planning for instructional changes.	
NGSS 103- Engage with the Conceptual Shifts and the NRC Framework to refine your understanding of the NGSS vision for science education for all students. Learn about the importance of developing a professional learning plan to prepare teachers for the NGSS. Discuss the types of administrative and system supports necessary to implement these learning plans.	
<b>Science and Engineering Practices</b>	3 hours
Practices 1 – Experience what an NGSS classroom might look like using a phenomenon and question. The SEP's are integrated into lesson and the Phenomenon-Question-Practice template (PQP) reviewed. Time will be allowed for development of a PQP lesson.	
Practices 2 – Experience and in-depth and coherent integration of the NGSS Scientific and Engineering Practices from the observation of a phenomenon to constructing an explanation for these observations. This session focuses on three practices: 1) developing and revising models, 2) engaging in argument from evidence, and 3) constructing explanations with instructional strategies for each practice.	
<b>Cross Cutting Concepts</b>	3 hours
Learn how the seven crosscutting concepts of the NGSS deepen understanding of the Practices and Core Ideas and lead to productive inquiry. This hands-on session will explore ways to help students use crosscutting concepts to think like scientists and engineers.	
<b>Engineering in a Three Dimensional Lesson</b>	3 hours
Experience a sample NGSS Lesson that demonstrates NGSS Engineering and how engineering can be used to address content DCIs and those that have their own PE. Leave with tools that begin addressing NGSS engineering in your classrooms.	
<b>But What Does It Look Like? (5E Learning Sequence Example)</b>	3 hours
Experience a 5E Lesson sequence for either grades K-2, 3-5, 6-8, or 9-12 and what the learning looks like in a classroom over a multi-day lesson. Develop a deeper understanding of each of the 5E lesson design components and where they fit in a lesson. Discuss with grade level colleagues how this applies to your classroom and your instruction.	

<b>NGSS Implementation Tool</b>	4 hours
Learn how to use a tool for developing a unit of instruction that creates a conceptual flow for building student understanding and identifies Performance Expectations, Disciplinary Core Ideas, Science and Engineering Practices, Cross Cutting Concepts, and assessments that support that understanding.	
<b>Integrated NGSS Models</b>	3 hours
Middle School Progressions – Explore the State Board of Education’s preferred integrated standards for middle school and the alternative discipline-specific model. Discuss possible implementation strategies for the integrated model.	
High School Progressions – Review the policy issues related to the implementation of NGSS at your high school level. Explore and compare sample HS course sequences that might be appropriate for your district. The session also includes strategies for engaging in conversations with your district teachers, administrators and stakeholders around the issue of NGSS at the high school level.	

**All courses are offered individually or in conjunction with other courses.**

**Suggested Full Day Options:**

- A. NGSS 101, NGSS 102 or NGSS 103 and Practices 1 or Practices 2 = 6 hours  
- OR -
- B. Cross Cutting Concepts and Engineering in a Three Dimensional Lesson = 6 hours  
- OR -
- C. But What Does It Look Like? (5 E Learning Sequence Example) and NGSS Implementation Tool = 7 hours