



ONLINE: Standards-based Instruction through STEM

“The practical examples, units plans, and research articles gave the class depth.”

- Jennifer M.

STEM integration doesn't need a huge budget, lots of technology, or a ready-to-use curriculum. It's something any teacher, any school and any classroom can integrate. This course teaches you how.

We understand that no one knows your students better than you. Therefore, this course is designed to equip and encourage you to integrate STEM education into your classrooms in ways that you think are most suitable for your students. You will learn how to plan your classroom set-up keeping in mind the needs of your students. You will also become confident to design your own STEM curriculum, while integrating the standards, including the Common Core Standards.



STEM education is not just about doing what's "cool" and "in." It is essential in today's world that our students learn to apply what they learn in real life situations and across different subjects. The STEM model helps prepare our students for the 21st century.

Standards:

This course aligns to all of the INTASC Standards including Learner Development, Learning Differences, Learning Environments, Content Knowledge, Assessment, Planning for Instruction and Instructional Strategies.

The course also aligns to the McRel Teacher Evaluation Standards including Teacher Leadership, Diverse Learners, Teachers Know Content and Teachers Facilitate Learning.

Each self-study PD course from Professional Learning Board includes:

- **Convenient access** anytime, anywhere, any device
- Interactive **online** textbook
- Implement **practical suggestions** immediately
- Demonstrate comprehension with **quizzes** and checks for understanding
- Print **certificates** of completion
- Easily assign courses to align with each teacher's **personalized PD needs**
- **Integrate** with school and district-wide initiatives
- **Low cost solution for all courses, all teachers, all school year**
- **Reports** for school administrators



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Course Outline

LESSON 1

Basics of STEM

- Definition of STEM.
- Need for STEM.
- Three STEM program attributes and five different STEM program models.

LESSON 2

Setting Up for STEM

- Characteristics of STEM students and teachers.
- Understanding STEM in the context of Math and Science.
- Integrating STEM into any classroom.
- Choosing appropriate STEM material and curriculum.

LESSON 3

Designing STEM Curriculum PK-12

- Integrating STEM into elementary, middle, and high-school classrooms.
- Designing STEM instruction for the year.
- Writing individual STEM units using Science, Math, Technology, and Literacy standards.
- Implementing effective lessons in the classroom.

LESSON 4

STEM Standards and Assessments

- Shared standards that are internationally benchmarked.
- Challenges and benefits of successful STEM assessments.
- Assessments for elementary, middle, and high school classrooms. Benefits, opportunities, and challenges of STEM integration.