

Standards-based Instruction through STEM



Standards:

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

It also aligns to all of the McRel Teacher Evaluation Standards including Teacher Leadership, Diverse Learners, Teachers Know Content, Teachers Facilitate Learning and Teachers Analyze and Reflect.

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.

No one knows your students better than you. That's why 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, design your own STEM curriculum, and integrate standards.

STEM education is not just about doing what's "cool." It is essential that students learn how to apply what they learn in real life situations and across different subjects.



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Completion



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Quiz



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Course Outline

LESSON 1: Introduction

- 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: 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

LESSON 4: Designing STEM PK-12 Curriculum

- 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



5 Hours
of Learning



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