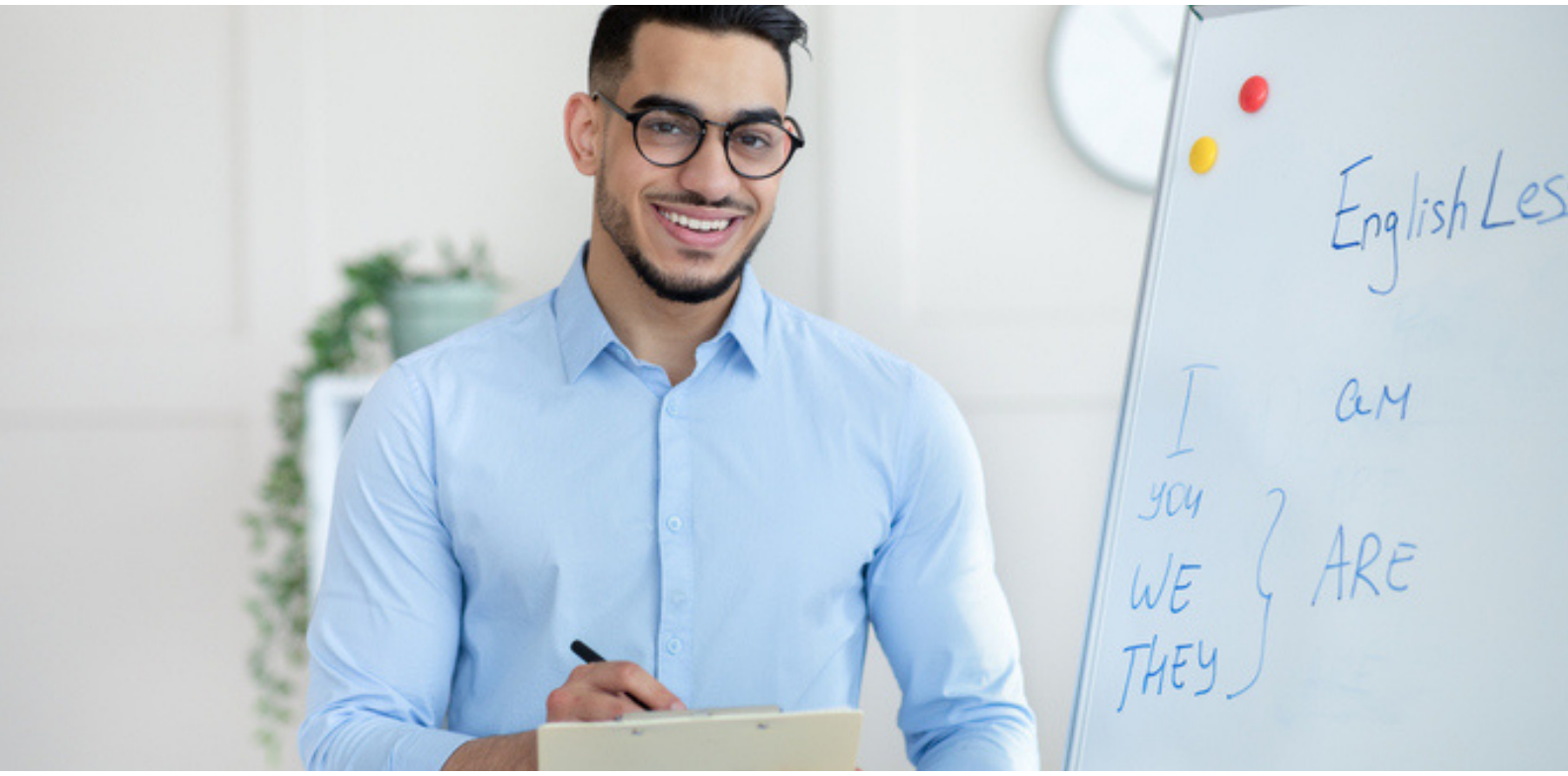
Integrated Curriculum



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 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.

The first part is designed to equip and encourage you to integrate STEM education into your classroom and design your own standards-based STEM curriculum.

The second part helps teachers understand how to incorporate math practices into any classroom. Teachers learn how to set up their classroom in a way that increases student involvement and makes math real and fun for everyone.

1 CEU

100% Online

Quizzes

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Course Outline

SECTION A: Standards-based Instruction through STEM

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

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Course Outline

SECTION B: Mathematics for All Teachers

LESSON 1: Introduction

- History of mathematics
- The truth about math
- Discrediting the different math myths
- The solution to math anxiety

LESSON 2: Math Practices

- Mathematics redefined
- NCTM and CCSS standards related to math
- Mathematical practices and strategies to employ in the classroom

LESSON 3: Facilitating Student Learning

- Motivation theories and how to apply them in the classroom
- Different learning styles
- Understanding brain power
- Content knowledge and application

LESSON 4: Setting Up

- Math and group work
- Making connections between math and real life
- Using mathematical tools
- Encouraging persistence, providing novelty, and differentiating instruction while teaching math