Renew a Teaching License

by Professional Learning Board

ASHLAND UNIVERSITY PROFESSIONAL

GRAD ONLINE: Academic Interventions

"I learned a lot about the STEM curriculum and concepts that we are implementing in our classrooms. I will think more about how I approach the students, keeping every learning style in mind."

- Maureen E.

The implementation of standards across the curriculum provides a real-world approach to learning and teaching. It is increasingly essential for educators to develop students who not only are critical thinkers but innovators as well. This course helps teachers to build up such students.

Standards-based Instruction through STEM, brings together four major disciplines: Science, Technology, Engineering, and Mathematics into one cohesive system. This section includes the benefits and opportunities associated with this new education paradigm and guides teachers to customize classroom instruction so that students develop the skills they need to survive in today's knowledge-based world.

Mathematics for All Teachers**,** focuses on standards for Mathematics and how educators can apply those mathematical principles to everyday life. This section contains ideas, tools, and activities that teachers can use to make math interesting and fun for their students.

Student-centered Learning, helps teachers introduce the concept of student-centered learning in their classrooms. When students clearly understand their learning goals, and are able to work towards them, they are self-motivated. This approach to learning allows teachers to customize and differentiate curriculum for each student. Teachers facilitate learning by being a coach and mentor.

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 online graduate PD course includes:

- **Convenient access** anytime, anywhere, any device
- Interactive **online** textbook
- Implement **practical resources and tools** in your classroom
- Demonstrate comprehension with quizzes and checks for understanding
- Align with your **Professional Learning Plan**
- Course Action Plan
- **Official Transcript** from regionally accredited university

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Course Outline

SECTION A: ***Standards-based Instruction through STEM***

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: 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 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

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Course Outline

SECTION B*: Mathematics for all Teachers*

LESSON 1: Math for All

- History of Mathematics
- Standards and Mathematics today
- The truth about Math
- Discrediting the different math myths
- The solution to math anxiety

LESSON 2: Standards-based 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 conceptual basis of math facts and procedures
- Teacher attitudes about Math

LESSON 4: Reaching Standards

- Math and Group Work
- Making connections between math and real life
- Using mathematical tools
- Encouraging persistence, providing novelty, and differentiating instruction while teaching math
- Assessing students and encouraging self-assessment
- Modifying the physical classroom setting to promote learning

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SECTION C: *Student-centered Learning*

LESSON 1: Introduction to Student-centered Learning

- Meaning, characteristics and principles of Student-centered Learning
- Comparison between teacher-led and student-centered approaches
- Dispelling myths regarding student-centered classrooms
- Student-centered Learning and the standards

LESSON 2: Setting Objectives and Providing Feedback in the SCL Classroom

- Developing student-centered learning objectives
- Facets of understanding
- Staying on track through learning logs
- Assessment and feedback techniques

LESSON 3: SCL Strategies for the Classroom

- Understanding the teacher's role in a student-centered classroom
- Teaching and learning methods
- Ensuring student motivation
- Classroom strategies for integrating SCL techniques

LESSON 4: Setting up for Success

- Potential of technology in key areas of learning
- Tools that enhance learning in student-centered classrooms
- Getting parents involved in learning
- Extending learning opportunities outside of school hours

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