

STEM.org Certified™ For Teachers

10-12 Week Self-Paced Online Course

Issued by STEM.org Educational Research™ USA provides the leading and most affordable STEM education credentialing pathway for both informal educators (i.e. mentors, camp/after school instructors, etc.) and formal K-12 classroom educators.

Introduction

Welcome to the *STEM.org Certified™ Master Trainer* course—where educators, mentors, and enthusiasts become empowered to lead the future of STEM education! This renowned certification program equips you with the skills, strategies, and insights needed to inspire and engage young minds in science, technology, engineering, and mathematics. Dive deep into proven teaching methodologies, practical tools, and hands-on techniques to become a STEM education leader.

By the end of this course, you'll not only hold a globally recognized certification but also the confidence to transform learning spaces into hubs of innovation and curiosity. Join us, and let's build the next generation of STEM leaders together!

What is STEM?

"The term 'STEM education' refers to teaching and learning in the fields of science, technology, engineering, and mathematics. It typically includes educational activities across all grade levels — from preschool to post-doctorate — in both formal (e.g., classrooms) and informal (e.g., afterschool programs) settings." -STEM.org Educational Research™ USA

STEM stands for Science, Technology, Engineering, and Mathematics—a blend of disciplines essential to understanding and solving real-world challenges. Unlike teaching these subjects in isolation as we do in our traditional educational system, STEM emphasizes an integrated approach, encouraging students to apply knowledge across fields to spark innovation and critical thinking. From exploring the fundamentals of biology to designing complex machines or solving mathematical problems through coding, STEM education prepares learners for a fast-evolving, tech-driven world. By fostering creativity, resilience, and analytical skills, STEM opens doors to exciting careers and empowers individuals to shape the future.

Course Overview

The STEM.org Certified™ program is designed to be flexible and self-paced, with free resources that are accessible to educators worldwide. It takes approximately 25 hours to complete and is structured around a series of modules that cover a range of topics related to STEM education. These modules are designed to be engaging and interactive, incorporating multimedia resources such as videos and infographics.

One of the unique features of STEM.org Certified™ is its use of blockchain technology. Each participant's progress and achievements are recorded on a blockchain, providing a secure and transparent record of their accomplishments. This ensures that participants receive recognition for their achievements and can easily share and verify their credentials with potential employers or other educational institutions.

STEM.org Certified™ Master Trainers are highly qualified educators who have completed the STEM.org Certified™ program and demonstrated mastery of the program's content. These educators have been trained in the ToT Model and are equipped to train other educators locally. This model allows for the widespread dissemination of high-quality STEM education and ensures that educators worldwide have access to the knowledge and skills they need to effectively teach STEM subjects.

Course Outline

Chapter 0 - Getting Started

Welcome to the STEM.org Certified™ Examination!

0-1 Course Overview

0-2 Finding Your STEM Community

Find Your State Requirement for Teacher Certification Renewal

Chapter 1 - What is STEM?

1-1 History of STEM

1-2 Defining STEM

1-3 The STEM State of Mind

1-4 STEM vs STEAM

1-5 The Case for STEM

Chapter 1 Assessment

Chapter 2 - Preparing for STEM

2-1 Preparing Yourself

2-2 Models of STEM Instruction

2-3 STEM Across Grade Levels

2-4 Preparing Your Schedule

Starting a STEM Program by Josh Nichols

2-5 Are you STEM-Ready?

Chapter 2 Assessment

Chapter 3 - STEM Lessons

3-1 What is Considered a STEM Lesson?

3-2 The Engineering Design Process

3-3 STEM Lesson Assessment

3-4 The STEM Lesson Checklist

Chapter 3 Assessment

Chapter 4 - STEM in Action

4-1 STEM in Action Components

4-2 STEM Learning Centers

4-3 STEM Literacy

4-4 Assessment Portfolios

4-5 STEM Supplies

Chapter Four Assessment Preparation

Chapter Four Assessment

Chapter 5 - STEM Accessibility

5-1 General Adaptations Made in the Classroom Setting

5-2 Children with Sensory Processing Disorder

5-3 Autism Spectrum Disorder (ASD), ADHD/ADD, and The Gifted Child

5-4 Children with Vision Deficits

5-5 Children Who Have Visual Motor Difficulties

5-6 Hearing Impairment and Auditory Processing Deficits

5-7 Non-Verbal Children

Chapter Five Assessment Preparation

Chapter Five Assessment

Chapter 6 - Enhancing STEM

6-1 Coding and Gamification

6-2 3D Printing and the Maker Movement

6-3 VR and Augmented Reality

6-4 Cybersecurity and Blockchain Technology

6-5 TRIZ Methodology

Chapter 7 - Sustaining STEM

7-1 Promoting Diversity in STEM

7-2 Funding Your STEM Program

Chapter 8 - Beyond STEM

8-1 STEM Committees

8-2 Beyond STEM Activities

8-3 Career and Technical Education

Chapter 9 - STEM Internationally

9-1 STEM Around the World

9-2 Developed Countries

9-3 Developing and Underdeveloped Countries

Chapter Nine Assessment Preparation

Chapter Nine Assessment

Chapter 10 - Social Responsibility

10-1 Social Responsibility

10-2 Understanding the Significance of Compassion and Empathy

10-3 Risks and Benefits of Technology

10-4 Urgency of Conservation of the Planet's Resources

10-5 Using STEM for Peace and Prosperity

10-6 Additional STEM Resources

Chapter 11 - Capstone Project

11-1 Publishing Your Work

End of Course

Upon successful completion of the course, you will be awarded the credentials to your STEM.org Certified™ For Teachers.



Blockchain Secured Certificates Issued by STEM.org Educational Research™ USA

Support and Guidance

This certification program will be a 100% self-paced online study program for approximately 10 - 12 weeks. We shall provide you with support and guidance throughout when required to complete the certification program.

Along with the Certification, you will be inculcated with the following skills:

- ☑ STEM
- ☑ STEAM
- ☑ STEM Education
- ☑ STEAM Education
- ☑ TRIZ Methodology
- ☑ Design Thinking
- ☑ Problem Solving
- ☑ 21st Century Skills
- ☑ Lesson Planning
- ☑ STEM Careers
- ☑ Early STEM
- ☑ Homeschool STEM
- ☑ Special Needs STEM

Flexible Work Arrangements: Part-time or Full-time

Our Current STEM Centres: Kandy, Kurunegala & Colombo

"If you're eager to apply your skills in a practical setting, consider joining our team as a Part-time or Full-time Instructor."

Course Fee - ~~Rs. 60,000~~ Rs.48,000 (One Time Payment)

Course Registration Process

1. **Register & Pay Using the link:** <https://stem.edu.lk/stem-certification-for-teachers/>
2. An email confirming your credentials to STEM.org Certified Platform will be sent.
3. Start your self-paced online study program

Declaration:

STEM.EDU.LK by ANKA Technologies - Exclusive Partner for STEM.org Certified Instructor Certification in Sri Lanka

Visit our website for the STEM.org Certified Instructor Course.



<https://stem.edu.lk>

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