

Carnegie Science Center provides professional development to schools and districts who are seeking to improve their STEM education programs. Through the Teaching Excellence Academy, educators evaluate their current STEM programs and select workshops that will enhance STEM education in their schools and districts.

Additional supports for successful implementation include:

- Pre- and post-surveys for teachers and students to collect growth-focused data
- A “What is STEM?” event designed for family engagement
- Guiding tools for teachers in the preparation and reflection of STEM-based lessons

2020-21 Package Components: Workshops, Coaching, and Support

Professional Development Workshops

18 hours of workshop instruction • Up to 30 educators per workshop
Workshops balance professional learning with hands-on exploration, and are designed to train teachers in STEM education best practices. You select workshops to customize your professional development package. Choose from the workshops listed here under **Starting Your STEM Pathway** or **Pillars of STEM**, or select additional options listed on CarnegieScienceCenter.org/TEA. Additional options include early learner and maker education workshops.

Customized Coaching/Consultation Meetings

Two 90-minute sessions • Up to 15 educators per session
Individualized coaching with select educators at your school by a Carnegie Science Center STEM expert will help you to develop a tailored plan to strengthen your STEM education program or advise you on digital fabrication technology and makerspace needs at your school.

Pricing

A Professional Development Package begins at \$10,000 • Includes workshops and customized coaching

- Discounts available (PA only) based on your school’s/district’s eligibility for free or reduced-price lunch. The package is active for a year (12 months from sign up). Additional coaching visits and workshops to facilitate STEM education at your school are offered at a discount of 15% off the regular rate. Visit CarnegieScienceCenter.org/TEA for additional workshop offerings.
- **New! Online Professional Learning Package is \$5,000** (see next page for information)

For more information:

Jeremy Bassett, Teaching Excellence Academy Manager
BassettJ@CarnegieScienceCenter.org • 412.237.1634

Toni Stith, Senior Manager of STEM Professional Learning
StithT@CarnegieScienceCenter.org • 412.237.1616

Starting Your STEM Pathway Workshops

Get ready to spark new ideas and build on existing ones as you discover STEM best practices and learn strategies for integrating them into your curriculum.

**Available as an online professional learning option.*

What is STEM?*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

STEM best practices can be woven into any classroom or lesson plan. In this first workshop, we’ll discuss factors that make for a collaborative STEM learning environment, as well as resource materials that incorporate STEM into multiple subject areas. Develop STEM buy-in with fellow stakeholders using our proven strategies.

The Next Step in STEM*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

Participate in an action-oriented workshop that will have you collaboratively planning for the implementation of your STEM education program. Learn about employing strategic methods such as creative matrices and directed brainstorming. Through guided group discussion and visualization, set your school on a successful track with the Carnegie STEM Excellence Pathway.

STEM Up Your Classroom

**K–12 educators • 3- or 6-hour workshop
Three hours of Act 48 credit**

Build your confidence and learn how to facilitate STEM best practices in your learning environment. Explore various educational technologies through inquiry. Discover practical ways to integrate engineering activities in your classroom. Stimulate curiosity through a game design challenge and express your creativity with paper circuitry.

Evaluating Learning with Authentic Assessments*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

Standardized tests are the norm in one-size-fits-all learning environments. All too often, these are unrealistic measures of the learning that occurs in STEM education. Authentic assessments, on the other hand, require students to reveal their understanding of subject matter through application and provide educators with a method for meaningful feedback. In this workshop, we’ll explore various assessment methods that mimic real-world situations and take advantage of online resources that help to make evaluation more relevant and purposeful.

Pillars of STEM Workshops

Each workshop in this series focuses on one of the four pillars that form a high-quality PreK–12 STEM education: project-based group learning, inquiry-based education, integrating curriculum, and career awareness.

*Available as an online professional learning option.

Project-Based Learning*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

Regardless of your content area, project-based learning (PBL) is sure to inspire and excite your students about STEM. Use your expertise to develop STEM projects that address real-world problems and require students to be engaged. Project resources, group work strategies, and collaborative opportunities are also included.

Inquiry-Based Education*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

Transitioning a traditional classroom to one that is more question-centered does not require a total curriculum rewrite. Learn simple classroom strategies to turn existing lessons and activities into ones driven by student curiosity that give kids the opportunity to practice and develop their STEM skills.

Integrating STEM into Your Curriculum*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

Traditionally, the concept of “siloeing,” or teaching subjects independently of one another, has been the standard within K–12 schools. In this workshop, educators will learn the value of curriculum integration and its place within the STEM universe. Participants will be asked to brainstorm potential avenues for subject integration and design integrated lessons that can be used upon leaving the workshop.

Career Awareness Through Tech Exploration*

K–12 educators • 3-hour workshop • Three hours of Act 48 credit

Learn how to illuminate career pathways through the use of innovative educational technology. Engage in hands-on exploration of different types of educational technology such as Spheros, littleBits, StikBot Studio, Puzzlets, and Bee-Bots, and bring back activities to your classroom.

Train-the-Trainer Coaching Model

K–12 teacher leaders/administrators • Hours vary • Act 48 credit varies

When implementing a STEM program, one of the biggest challenges is how to remain at the forefront of best practices while adapting to changing trends, requirements, and environments. Carnegie Science Center can train a small team to lead professional learning opportunities at your school/district. Learn to equip colleagues with strategies and resources that will foster an equitable STEM-learning environment, strengthen your group facilitation skills, and provide your school/district with knowledge on the latest teaching approaches and technologies to strengthen their STEM initiative.

Online Professional Learning Package

Connect virtually with this blended learning model consisting of live workshops, independent practice, and live coaching support.

- Each workshop can accommodate up to 30 educators and includes a different digital application that enhances productivity and engagement in the topic
- 30-minute post-workshop coaching sessions for up to 15 educators provide valuable feedback on lesson planning that implements STEM education
- Online Professional Development Package (six workshops below) is \$5,000; Act 48 credit is available

The following workshops are available as Online Professional Learning Options through our Learning Portal on STEMisphere®. Please see the full workshop descriptions under **Starting Your STEM Pathway and Pillars of STEM**.

What is STEM?

2-hour live virtual format • Cost: \$1,000 (prerequisite for The Next Step in STEM)

Use a digital application to evaluate your school's/district's current STEM program

The Next Step in STEM

2-hour live virtual format • Cost: \$1,000 (prerequisite for all other online workshops)

Use a digital application to brainstorm and create STEM education improvement goals and implementation plan

Project-Based Learning

**1-hour live virtual format with two follow-up coaching sessions
Cost: \$750**

Use a digital application to create and maintain electronic portfolios with students

Inquiry-Based Education

**1-hour live virtual format with two follow-up coaching sessions
Cost: \$750**

Use a digital application to create concept/mind maps to illuminate thinking learning

Integrating STEM into Your Curriculum

**1-hour live virtual format with two follow-up coaching sessions
Cost: \$750**

Use a digital application for online collaboration to create integrated lessons and activities

Career Awareness Through Tech Exploration

**1-hour live virtual format with two follow-up coaching sessions
Cost: \$750**

Use a digital application to create avatars to enhance public speaking skills

Presented by:

