

### Starting Your STEM Excellence Pathway

Carnegie Science Center provides professional development to educational organizations who are seeking to develop and improve their STEM education program. This starts by establishing common language around STEM, evaluating program priorities, and building a foundation for a high-quality STEM program. Get started on your STEM professional learning journey with What is STEM?, then dive into additional workshops to explore ways to integrate STEM best practices into your program.

Workshops in this series are either **three hours** (in-person) or **two hours** (virtual) in length.



#### What is STEM?

STEM best practices can be woven into any activity or lesson plan. In this first workshop, we will 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

Participate in an action-oriented workshop that will have you collaboratively planning for the implementation of your STEM education program. Learn about employing strategic planning methods (such as creative matrices and directed brainstorming). Through guided group discussion and visualization, establish goals and an implementation plan for your STEM program.

#### Integrating STEM into Your Curriculum

STEM education is much more than just science, technology, engineering, and math. Instead of focusing on specific content, STEM education refers to skills and competencies that educators of any discipline can incorporate. Brainstorm potential avenues for subject integration and design integrated lessons/activities using a planning tool that acts as a guide for STEM integration.

#### Project-Based Learning

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

#### Inquiry-Based Education

Transitioning a traditional learning environment into one that is more question-centered does not require a total curriculum rewrite. Learn simple 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.

#### STEM Up Your Classroom

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. This workshop can be three or six hours in length.

#### Career Connections: Exploring STEM Identity

STEM Identity plays a major role in the influence of K-12 learners because it creates a set of positive expectations that lead to engaged learning. Learn how STEM Identity is defined, ways to promote genuine interest and excitement in STEM careers, and how to recognize potential inhibitors to the development of a positive STEM Identity.

#### For more information:

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## 2021–22 Professional Development Package Components: Workshops, Coaching, and Support

The Teaching Excellence Academy team works with educational organizations to create the best possible learning experience, beginning with introductory meetings to discuss needs and scheduling priorities. Every workshop is designed to train educators in STEM education best practices through active learning strategies.

Both in-person and virtual workshops can accommodate up to 30 educators.

- Any combination of workshops (in-person and/or virtual) can be used to fulfill the package requirements.
- Our **virtual workshops** utilize a blended learning model that combines instruction, independent practice, and live coaching support. Select digital tools enhance online engagement and collaboration.
- **Coaching sessions** support teams in the development of a tailored plan that strengthens any STEM education program. Hour-long sessions are designed for up to 15 educators.
- The package is active for one year (12 months from sign up). Act 48 credit is available for Pennsylvania educators.

<b>Full Package</b>	12 hours of workshops and two coaching sessions	\$8,250
<b>In-Person Workshops</b>	Three hours in length	\$1,875
<b>Virtual Workshop</b>	Two hours in length	\$1,250

*Unique opportunity for STEM Leadership teams!*



### **The STEM Excellence Endorsement by Carnegie Science Center**

utilizes a customizable online tool, professional learning, and coaching sessions to guide teams of educators toward achieving their unique goals for developing or improving their STEM education programs.

*Total cost: \$6,695*

- This Endorsement can accommodate a team of up to 10 educators working toward the same STEM goals.
- Eight STEM professional learning opportunities are facilitated to reach these goals. The comprehensive list of STEM learning offerings can be found on [our website](#).
- Participants are required to provide artifacts as evidence of their learning to receive the Endorsement. The artifacts are based on the professional learning opportunities and are submitted via a learning management system. Authentic feedback is provided by a STEM Coaching mentor based on the artifact.
- Recognition in the form of a digital badge, certificate, final report, and a listing on [STEMisphere.org](#) is awarded at the completion of the Endorsement requirements.

### *Looking for more?*

#### **Train-the-Trainer Coaching Model**

*K–12 educators/administrators/leaders • Hours vary*

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 educational organization.

Learn to equip colleagues with strategies and resources that will foster an equitable STEM learning environment, strengthen your group facilitation skills, and provide your organization with knowledge on the latest teaching approaches and technologies to strengthen STEM initiatives.

**Scan here to learn more  
about professional learning  
opportunities from the  
Teaching Excellence Academy!**

