

# Online STEM Teaching Meeting the Needs of all Learners

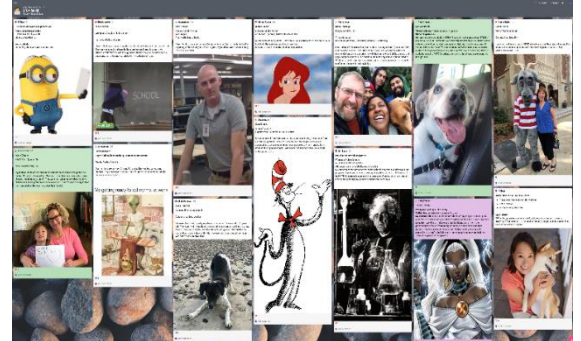
**Target Audience:** PK -12 educators, coaches and administrators

**Due to high demand, we offer three types of programs:**

## 1. Introduction to Online STEM Teaching (*Tools and Resources*)

Explore 3-5 online tools and high-quality STEM resources and get comfortable with embedding them in online assignments. Collaborate with grade level colleagues to create ***differentiated***, tasks for your students that are aligned with standards.

- **June 29 & 30, 2020** - Grades PK-5 educators and coaches
- **July 1 & 2, 2020** – Grade 6-12 educators and coaches



## 2. Advanced Online STEM Teaching (*Pedagogy and Group work*)

Designed for participants who are comfortable using a variety of online tools and resources. Collaborate with grade level colleagues to address pedagogical challenges and successful strategies for implementing group work while teaching remotely. You will apply online tools and resources and incorporate problem based learning to create ***differentiated***, standards-aligned problem-based tasks for your students.

- **July 7 & 8, 2020** - Grade PK-5 educators and coaches
- **July 9 & 10, 2020** – Grade 6-12 educators and coaches

**Hours:** Two half-day sessions + 3 hrs on your own (see dates above).

- **Pre-PD work** (*on your own*): 1.5 hrs
- **1<sup>st</sup> date**: 8:30 am – 12 pm + 1.5 hrs (*on your own*)
- **2<sup>nd</sup> date**: 8:30 am – 12 pm

**Fee:** \$110/2-day session

*(special rate for Worcester Public Schools educators; scholarships available)*

**PDPs/CEUs: 10/1.0 per 2-day session**

### 3. Online STEM Teaching for Administrators & Coaches

Unpack challenges and successful strategies to guide your staff in embracing meaningful online teaching experiences, aligned with standards. Collaborate with other administrators to discuss the legalities and privacy concerns that occur with online teaching.

**Date/Time: June 30, 2020, 1:00 – 3:30 pm**

**Fee:** \$45 (*special rate for Worcester Public Schools educators; scholarships available*)

**PDPs/CEUs: 2.5/0.25**

**Registration is NOW OPEN!**

For questions, contact Donna Taylor at [dltaylor@wpi.edu](mailto:dltaylor@wpi.edu)

# STEM/STEAM Projects

**Target Audience:** Projects for **Grades PK- 12 educators** (*Participants will be placed in grade-band groups for projects*)



**Date/Time:** July 15 & 16 + 3 hrs on your own

- **Pre-PD work** (*on your own*): 1.5 hrs
- **July 15:** 8:30 am – 12 pm + 1.5 hrs (*on your own*)
- **July 16:** 8:30 am – 12 pm

- **Registration Fee:** \$110 (special rate for Worcester Public Schools educators; scholarships available)

- **PDPs/CEUs:** 10/1.0

**Description:** This day of STEM & STEAM (science, technology, engineering, arts, and math) projects offers participants the opportunity to engage with two different design challenges aligned to grade level standards. First, participants are

introduced to the framework of STEM and STEAM and then continue with two integrated STEM/STEAM projects. Modifications for virtual settings will be discussed. Following each project educators will work in grade-level teams to modify the challenges to best fit their students' level of understanding.

**Note:** Projects will use household materials. Materials can be provided to anyone who needs them.

Registration is **NOW OPEN!**

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# Seeds of STEM: A Problem-based STEM Curriculum for Preschool Classrooms

- **Target Audience:** Pre-school teachers and administrators
- **Dates:** July 21 - 23  
July 21: 9:00-12:00 + 1.5 hours of individual work  
July 22: 9:00-12:00 + 1.5 hours of individual work  
July 23: 9:00-12:00
- **Registration Fee:**  
\$300 with a classroom kit  
(curriculum binder, printed color images, Panda)  
\$180 with electronic version of the curriculum
- **PDPs/CEUs:** 12/1.2

**Description:** Seeds of STEM is a research-based curriculum tested in more than 40 classrooms with great results. The interactive online PD will introduce preschool teachers and administrators to the problem-solving process and to all 8 units of the curriculum.

During the first two days of the PD participants will be asked to complete independent tasks that apply the morning learning. PD registration includes access to the electronic version of the Seeds of STEM curriculum, 146 images, and video library of short clips showing Seeds of STEM being taught in real classrooms. Participants have the option of purchasing a classroom kit that includes a binder with the printed Seeds of STEM booklets, a box with printed (not laminated) 146 color images, and Problem Panda.

**Registration** is **NOW OPEN!**

E-mail Mia Dubosarsky at [mdubosarsky@wpi.edu](mailto:mdubosarsky@wpi.edu) for more information.





# STEM Educator Certificate Course

- **Target Audience:** PK-12 educators and administrators
- **Dates:** July 27 - 31 from 8:30 am - 3:30 pm (appropriate breaks will be provided) with 2 follow-up sessions in Oct. and Nov. (attending follow up sessions remotely is acceptable)
- **Registration Fee:** \$720 (special rate for Worcester Public Schools educators; scholarships available) + additional \$780 for a graduate credit extension  
**Accommodation** on campus may be available for additional fee
- **PDPs/CEUs:** 60/6.0
- **Graduate Credit:** This course is offered as a **3-graduate credit** course from WPI (optional)  
As part of WPI's commitment to support full time PK-12 educators, the course is offered at a rate of \$500 per credit (total of \$1,500), which represents a 50% discount of the regular WPI tuition rate.

## This course awards:

- ▶ **PDP Certificate** – *awarded upon completion of the course and submission of a STEM Challenge, 60 PDP's*
- ▶ **STEM Certificate** – *awarded once your project meets the rubric for high quality STEM Challenges*
- ▶ **Graduate Credit** – *awarded upon completion of the course, submission of a STEM Challenge and submission of a research paper, 3 graduate credits*



**Description:** The STEM Educator Certificate Course guides educators on a journey to design a high quality integrated STEM Challenge that aligns with standards/objectives for their classroom or program. The course engages participants in the following topics: the engineering design process, standard-alignment, technology

integration, diversity & equity in STEM, real world connection, building collaboration skills, as well as exploring numerous STEM resources. The course is led by experienced STEM educators who model cooperative learning and STEM pedagogy.

If you are a PK-12 educator looking to develop/update an integrated STEM lesson or looking to help others do so, this is the course for you! Classroom teachers of all subject areas, coaches, administrators and out of school time educators are all encouraged to register.

**Graduate-credit requirement:** In addition to the PDP level tasks, educators who sign up for the 3 graduate-credit extension will submit a research paper related to one of the topics addressed in the course (literature and guidance will be offered by the instructors).

**Registration NOW OPEN!**

For questions, contact Donna Taylor at [dltaylor@wpi.edu](mailto:dltaylor@wpi.edu)

# Assessments Reimagined

- **Target Audience:** PK-12 educators, coaches, administrators, etc...
- **Dates:** Aug 3-7; 8:30-3:30 (appropriate breaks will be provided) + Fall follow-up sessions (dates TBD by participants)
- **Registration Fee:** \$720 (special rate for Worcester Public Schools educators; scholarships available) + additional \$780 for a graduate credit extension
- **PDPs/CEUs:** 45/4.5
- **Graduate Credit:** This course is offered as a **3-graduate credit** course from WPI (optional)  
As part of WPI's commitment to support full time PK-12 educators, the course is offered at a rate of \$500 per credit (total of \$1,500), which represents a 50% discount of the regular WPI tuition rate.

**Description:** This course weaves together theory and practice. Participants are introduced to the five keys of quality classroom assessment (Chappuis et al.) and examine each individual key by reflecting on a unit of study from their classroom.



Through classroom tasks, individual reflections, and small group discussions, participants will review their selected unit, identify formative and summative assessment components, clarify learning targets for the unit and assessments, pinpoint opportunities for student involvement, and develop an assessment plan. The final course assignment is a performance assessment, in which participants select one formative and one summative assessments for redesign based on elements of quality.

**Graduate-credit requirement:** In addition to the PDP level tasks, educators who sign up for the 3 graduate-credit extension will attend an additional Fall follow-up class (date TBD by participants) and will submit a research-based assessment design. (Guidance will be offered by the instructors).

**Registration NOW OPEN!**

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# NEW! PBL Institute: An Immersive Experience for PK-12 Educator Teams



Building upon WPI's strengths of empowering PK-12 educators with high-quality STEM and exemplifying project-based learning (PBL) at the university level, the STEM Education Center is happy to offer a new, immersive experience for PK-12 educator teams this summer.

**PBL** is a pedagogical model that organizes learning around projects. These projects are complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities, that allow students to work autonomously over

extended periods of time. Projects culminate in realistic products or presentations, providing students with the opportunity to develop professional skills (*John W. Thomas, 2000*).

This PK-12 PBL Institute allows school teams already somewhat familiar with PBL to delve deeper in their understanding and planning of PBL experiences for their students. This offering is also an excellent follow-up program for the schools that have participated in the [Strategic STEM Integration Program](#), although that program is not a requirement for the PBL Institute.

Teams (made up of at least 2 teachers and 1 administrator) will be guided in working together to design a STEM or non-STEM PBL experience for their school/program.

- **Target Audience:** Teams of PK-12 teachers and administrators
- **Dates:** Aug 18-20, 9:00-12:00 & 1:00-3:30
- **Registration Fee:** (*Discounted for our first cohort*)
  - \$975 for a 3-participant team
  - \$1,150 for a 4-participant team
  - \$1,275 for a 5-participant team
  - \$1,375 for a 6-participant team(*Note: Teams must include at least one administrator and two teachers*)
- **PDPs/CEUs:** 20/2.0

**Description:** This PK-12 Project Based Learning Institute accepts teams of educators (*minimum of 2 teachers + 1 administrator*) that will be working to design a STEM or Non-STEM immersive PBL experience for their school/program.

## The 3-day institute will...

- ▶ provide a template for a high quality PBL Challenge
- ▶ engage participants in hands-on experience of high quality projects
- ▶ review PBL pedagogy (including forming teams)
- ▶ address performance assessments and rubrics
- ▶ provide time for participants to develop/adapt a PBL unit to deliver in the fall
- ▶ include an administrator-only session
- ▶ culminate in team presentations of their unit

Don't miss out on this unique opportunity to collaborate with teacher-teams from across the country!

**[CLICK HERE TO REGISTER YOUR TEAM](#) \***

\* Please review the following documents before registering your team:

1. [Administrator support letter](#)
2. [PBL Institute application questions](#)

E-mail Mia Dubosarsky at [mdubosarsky@wpi.edu](mailto:mdubosarsky@wpi.edu) for more information.

# Coding and Computational Thinking for PK-12 Educators

- **Target Audience:** PK -12 educators, coaches and administrators

Due to high demand, we offer three types of Coding programs: Participants can choose to attend 1, 2, or all 3 dates. *(no prior experience necessary)*

- June 29 & 30, 2021

**Postponed until Summer 2021**  
**Available for In-School PD**

for Worcester Public Schools educators; scholarships available

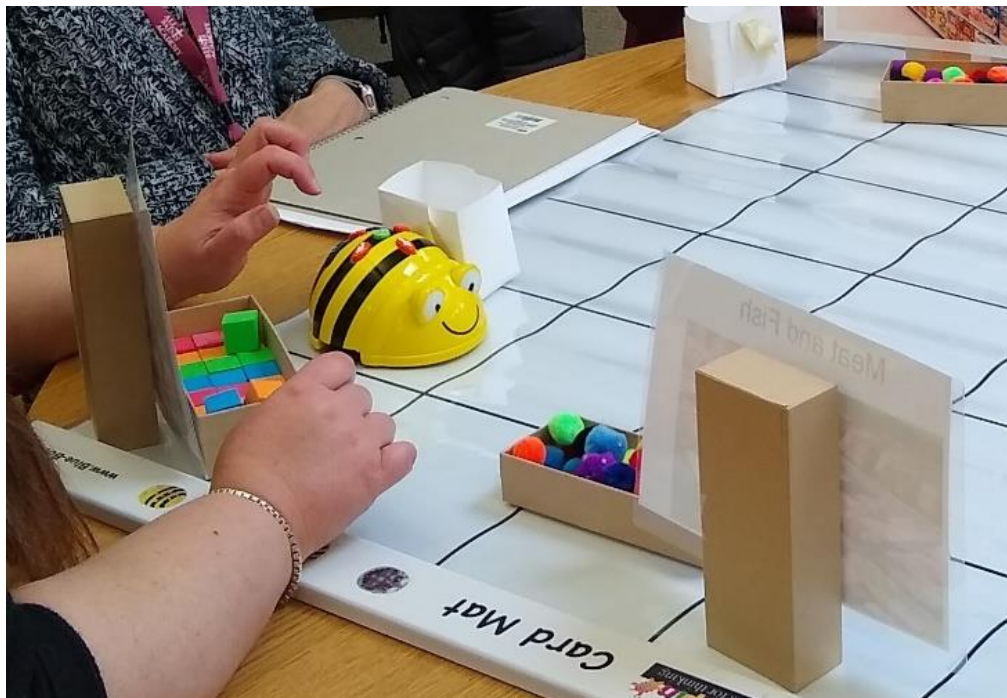
\$0.50/0.65 per 2-day session

**Description (for all levels):** Participants will be guided to use computational thinking and coding in their classrooms and/or schools. They will use multiple tools including BlueBots, Code & Go Mouse, Edison and others. This PD will align with the DESE Digital Learning and Computer Science Standards competency requirements and STE/M standards specific to each participant.

**Great News! These tools will be available to borrow from the Central Mass STEM Network Lending Library, FREE of charge!**

**Registration is NOW OPEN!**

For questions, contact Donna Taylor at [dltaylor@wpi.edu](mailto:dltaylor@wpi.edu)





# What's Inside My Technology? + Makerspace Exploration

- **Target Audience:** Grade 5 - 8 educators, science/math teachers
- **Date & Time:** July 21, 8:30-10:30

**Postponed until Summer 2021**

**Available for In-School PD**



**Description:** In this workshop, developed in partnership with an electrical engineer, participants will investigate various types of technology (old phones, remote controls, walkie-talkies, radios, etc...) to determine "what's inside." They will explore the materials that each component is made of, as well as, the properties of material that make it good for each component. In addition, they will examine the technology as a communication system and apply it to systems engineering. Following the activity, participants will tour WPI's newest building, the Foisie Innovation Studio and hear from one of the people that assisted with its design so that they can get ideas to take back to their classrooms.

**Registration is NOW OPEN!**

For questions, contact Donna Taylor at [dlTaylor@wpi.edu](mailto:dlTaylor@wpi.edu)