

CSforMA Summer Professional Development Workshops

The CSforMA Professional Learning Institutes for 2020 features intensive train-the-trainer courses in emerging technologies that track closely to our Digital Literacy and Computer Science standards and licensure requirements. Each course is estimated at \$1500-\$1800 in costs, but thanks to significant contributions from the Digital Literacy Now Grant and our business partners, we are able to offer scholarships for educators in MA public schools and private schools that serve a large number of underrepresented minorities or economically-disadvantaged populations. We hope to be able to host in-person workshops, but we will communicate any changes about the format and timing of workshops as we learn more about Massachusetts' reopening guidelines. It is our goal to provide professional learning in an impactful way that ensures every participant's health and safety.

Courses are 4.5 days each and are delivered by subject matter experts from across our state. All courses will start at 8:30AM and run until 4:30PM (with an earlier release on Friday). You may only attend one course per week but you're welcome to attend multiple weeks. Breakfast, lunch and parking are provided. In addition, a limited number of hotel rooms will be available for educators who are traveling from a distance. PDPs will be awarded based on contact hours.

Week of July 27 – 31, 2020 – Southbridge Hotel and Conference Center, Southbridge, MA

Code.org CS Discoveries (Grades 6-10) Professional Learning Institute

Computer Science Discoveries is appropriate for 6 - 10th grade students and can be taught as a semester or year-long introductory course (3-5 hours per week of instruction for 18 or 36 weeks). The 9- day professional development (five summer and four academic year) prepares educators to deliver the course which opens a wide lens on computer science by covering topics such as programming, physical computing, HTML/CSS, and data. The course inspires students as they build their own websites, apps, games, and physical computing devices. Apply at <https://code.org/educate/professional-learning/middle-high>

Computer Science Resources for K-5 Educators

Are you a K-5 educator? This workshop will combine resources from Code.org's CS Fundamentals; several physical computing devices such as Makey Makey, Micro:bits and Wonder Workshop Dash; and curriculum modules developed by the MA Dept of Elementary and Secondary Education and Education Development Center to teach DLCS in Math and Science, and more. Register at

<http://events.constantcontact.com/register/event?llr=fhtrgobab&oeidk=a07egzrfqyf55a38946>.

Bootstrap Algebra

Bootstrap:Algebra is an integrated, evidence-based curriculum that applies foundational math concepts and programming principles towards creating a simple video game. Our materials are designed to align with National and State Standards for Mathematics, CSTA Standards, and K12-CS frameworks. This series of modules can be taught as a separate, standalone STEM or CS class or can be integrated into a mainstream math class, delivered by a math teacher with little to no prior CS experience. In this 5-day workshop, teachers will go through the curriculum as a student with support and guidance from the facilitators. They will outline and design their game and use mathematical concepts such as the coordinate plane, order of operations, ratio and proportion, domain and range, function composition, word problems and the distance formula to detect collisions, handle keystrokes, and determine how their characters move and interact. The facilitators will also provide proven

classroom strategies and supplements, as well as helping individual teachers make a plan for integrating the curriculum into their unique classroom environment. Register at <http://events.constantcontact.com/register/event?llr=fhtrgobab&oeidk=a07eh2pg4evc2e471de>.

MicroControllers in Action: Raspberry Pi, Arduino and Micro:Bits

This five-day workshop will introduce participants to the Raspberry Pi, Arduino, and Micro:Bits - inexpensive controller platforms that can do amazing things. Learn, Play and Create with these devices while participating in discussions as to how these devices can be used to drive interest in your programs. Register at <http://events.constantcontact.com/register/event?llr=fhtrgobab&oeidk=a07eh2b9dat9716ab64>.

Introduction to Amazon Web Services (AWS) Certified Cloud Program

This five-day workshop combines AWS cloud foundation essentials, real-world exercises, and educational experts to demonstrate how high school teachers can link the AWS suite of preparatory courses to explore curriculum and career opportunities in cloud computing. This introductory course is designed for technical and non-technical teachers who are looking for new ways to engage students, unlock their potential, and ready them for the 21st Century workforce. Register at <http://events.constantcontact.com/register/event?llr=fhtrgobab&oeidk=a07eh2bhlrseb3facac>.

Week of August 3-7, 2020 – University of MA Boston, 150 Mt. Vernon St. Boston, MA

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Code.org CS Principles (Grades 9-12) Professional Learning Institute

Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. The 9-day professional development (five summer and four academic year) prepares educators to deliver the course which covers many topics including the Internet, Big Data and Privacy, and Programming and Algorithms. More than a traditional introduction to programming, CS Principles is a rigorous, engaging, and approachable course that explores many of the foundational ideas of computing so all students understand how these concepts are transforming the world we live in. It is designed to prepare students (and teachers) who are new to computer science for the AP CS Principles exam. Apply at <https://code.org/educate/professional-learning/middle-high>.

CSAwesome Professional Development (Grades 10-12):

CSAwesome is an Advanced Placement CS A curriculum equivalent to a first-semester, college-level course in computer science. The course emphasizes both imperative and object-oriented design and problem solving using Java, covering fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential

solutions, and the ethical and social implications of computing. The CSAwesome curriculum is available for free on Runestone Academy, an interactive e-book platform with many hands-on activities, sample AP questions, and programming challenges. The CSAwesome professional development workshop will introduce the curriculum and teacher lesson plans as well as inclusive teaching practices to recruit and retain underrepresented students in computing. The professional development is 40-60 hours total; 4.5 days (~36 hours) will be completed on-site with the remaining hours completed as pre-work. Those new to Java will be assigned 20 hours of pre-work in Java specific PD before attending the in-person PD. Follow up support during the 2020-21 academic year is also included, led by the PD facilitator. Please apply at <https://bit.ly/CSAwesomeBoston>.

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Data Visualization for Educators

This five-day workshop will focus on data visualization techniques. Participants will learn how to define, clean and present data; consider data ethics and responsible behaviors; and create aesthetically pleasing data visualizations that tell a story. They will leave the workshop with a project that they can implement in their classroom. Register at <http://events.constantcontact.com/register/event?llr=fhtrgobab&oeidk=a07eh2bb8nj3305e07d>.