

2018 MITS Summer Professional Development Institutes

USING SCIENCE AND ENGINEERING PRACTICES TO ENGAGE YOUR STUDENTS IN INQUIRY-BASED LEARNING

July 9 - 13 or July 16 - 20



Museum Institute for Teaching Science

WHAT ARE SUMMER PROFESSIONAL DEVELOPMENT INSTITUTES?

The Museum Institute for Teaching Science brings together museums, zoos, science/technology centers, cultural institutions and nature centers to create minds-on, hands-on, inquiry-based STEM professional development programs for educators. Our programs provide teachers with the tools they need to build a strong science program in the elementary, middle or high school classroom and ensure that teachers understand and are comfortable using inquiry-based, hands-on pedagogy.

Inquiry-based, hands-on science, technology, engineering and math (STEM) professional development for K-12 teachers and informal educators.

Our Summer Professional Development Institutes, one of our hallmark programs, are offered in regions across Massachusetts. The Institutes are one-week professional development opportunities that allow teachers to work directly with research, cultural and educational organizations to experience hands-on STEM content. Teachers participate in content and skill development sessions taught by professional educators and scientists at each collaborating partner organization. Daily activities include inquiry-based experiences both in the field and in the classroom. At the end of the Institute, teachers will take home investigations to use in their classrooms as well as a collection of teaching resources and field trip ideas!

WHEN YOU ATTEND A SUMMER PROFESSIONAL DEVELOPMENT INSTITUTE, YOU WILL:

- Learn how to bring the Science and Engineering Practices into your classroom using inquiry-based investigations.
- Explore STEM resources in your community.
- Discover how to adapt your current curriculum to meet the 2016 Revised MA Science and Technology/Engineering Standards.
- Become part of a collaborative network of teachers from your region and across the state.

REGISTRATION COSTS:

\$400 per participant

\$375 per participant for a team of 2 or more teachers from the same school district

\$350 per participant for a team of 3 or more teachers from the same school district

OPTIONAL GRADUATE CREDIT AND PDPS:

Framingham State University (all regions except Berkshire): \$225 for 3 credits and 67.5 PDPs

Fitchburg State University (Central, MetroWest and North Shore Regions): \$285 for 3 credits and 67.5 PDPs

Massachusetts College of Liberal Arts (MCLA) (Berkshire Region): \$150 for 3 credits and 67.5 PDPs

40 PDPs are available without graduate credit.

QUESTIONS? PLEASE CONTACT:

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FOR MORE DETAILED INFORMATION AND TO REGISTER, VISIT WWW.MITS.ORG.

PARTIALLY FUNDED BY:

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 New England
Biolabs Foundation

Cape Cod Region

FROM LAND TO SEA: PRACTICING SUSTAINABILITY, MODELING SOLUTIONS

One Week Institute for Middle and High School Educators

- Explore the plants and animals in the coastal habitats of Cape Cod
- Discover the role of marine mammals and sea turtles in the Massachusetts marine ecosystem
- Visit a local marina and learn about innovative sustainability practices
- Dig into sustainable farming methods and their environmental impact
- Investigate the ecological and economic benefits of oyster farming
- Engage with scientists at the Woods Hole Oceanographic Institute and discover new resources for your students

Partners: National Marine Life Center (Lead Institution), Mass Audubon's Long Pasture Wildlife Sanctuary, YMCA Camp Burgess Farm & Hayward, Massachusetts Maritime Academy

Dates: July 9-13, Half Day Introductory Session June 9

Graduate Credit: Framingham State University

Housing is available for this region.



Central Region

PARTS AND PURPOSE: USING INQUIRY TO EXPLORE STRUCTURE AND FUNCTION IN NATURE'S LABORATORY

One Week Institute for Grades 3-8 Educators

- Take advantage of nature's laboratory right outside your door
- Create models to explore the interplay between structure and function
- Explore structures in animals and plants that help them prosper and reproduce
- Sample populations of organisms from pond, forest and field habitats
- Safely explore adaptations that make bees good pollinators
- Monitor pollinator health with the "Bee-cology" citizen science program
- Create inquiry-based experiences for your own classroom

Partners: Mass Audubon's Broad Meadow Brook Wildlife Sanctuary (Lead Institution), Mass Audubon's Wachusett Meadow Wildlife Sanctuary, Tower Hill Botanic Garden, Worcester Polytechnic Institute

Dates: July 9-13, Half Day Introductory Session June 9

Graduate Credit: Framingham State University; Fitchburg State University



MetroWest Region

LANDSCAPES FOR LEARNING: A NATURAL CONFLUENCE OF SCIENCE, LITERACY, MATHEMATICS AND PLACE-BASED PEDAGOGY

One Week Institute for Grades 3-8 Educators

- Explore landscapes that have inspired a meeting of scientific, historical and literary ideas for centuries
- Collect and analyze data from local forests and ponds
- Connect to your local environment through artifacts
- Learn strategies for using nature journals and other literacy tools
- Investigate how geography and climate have shaped lives in the region
- Build skills in observation and evidence-based reasoning

Partners: Mass Audubon's Drumlin Farm Wildlife Sanctuary (Lead Institution), Concord Museum, The Walden Woods Project

Dates: July 9-13, Half Day Introductory Session June 9

Graduate Credit: Framingham State University; Fitchburg State University



Berkshire Region

GOING GREEN WITH YOUR STUDENTS: THE SCIENCE AND ENGINEERING BEHIND CLEAN ENERGY

One Week Institute for Grades 3-8 Educators

- Explore the Berkshires' expanding clean energy industry
- Survey the historic science and engineering behind mills and hydropower
- Experiment with solar, hydroelectric, wind, and biomass technologies
- Evaluate possible solutions to help meet state and national energy goals
- Infuse engineering design into renewable energy projects
- Integrate science content with science and engineering practices

Partners: Flying Cloud Institute (Lead Institution), Trustees of Reservations, Center for EcoTechnology

Dates: July 9-13, Half Day Introductory Session June 16

Graduate Credit: Massachusetts College of Liberal Arts (MCLA)



North Shore Region

INVESTIGATING ECOSYSTEMS AND ASSESSING HUMAN IMPACT

One Week Institute for Grades 3-8 Educators

- Participate in citizen-science projects
- Learn how your schoolyard can become a “Monarch Watch certified way-station”
- Investigate what living things can tell us about our water and air quality
- Receive a copy of “Save Our Stream!”, written by scientists involved in local research
- Venture into the field with local scientists
- Collect, analyze, and communicate field data
- Learn how you can engage your students and introduce them to scientific research

Partners: Mass Audubon’s Endicott Wildlife Sanctuary (Lead Institution), Glen Urquhart School, Plum Island Ecosystems LTER

Dates: July 16-20, Half Day Introductory Session June 16

Graduate Credit: Framingham State University; Fitchburg State University



Southeast Region

INQUIRING MINDS WANT TO KNOW: HOW TO USE MARINE SCIENCE AND TECHNOLOGY IN THE CLASSROOM

One Week Institute for Grades 3-8 Educators

- Dive into data at the Marine Science Lab at UMass Dartmouth
- Discover the technology and engineering behind marine science
- Engineer prosthetics for ocean animals
- Test and analyze water quality at the shoreline
- Liven up physical science with marine connections
- Make marine science more accessible to students

Partners: Lloyd Center for the Environment (Lead Institution), Battleship Cove, National Marine Life Center, University of Massachusetts Dartmouth School for Marine Science & Technology (SMAST)

Dates: July 16-20, Half Day Introductory Session June 16

Graduate Credit: Framingham State University



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Make a splash this summer with hands-on, minds-on, inquiry-based science!

Our Partners:

