**Degree and Credit Bearing Courses for Educators**

**M.Ed. in Educational Studies: Online**
The Master of Education degree program, with an option to concentrate in STEM, provides a solid educational foundation for teachers but is also appropriate for professionals in business, educational research organizations, public policy institutes, and state and national departments of education. For more information: https://online.unh.edu/med

**Master of Science for Teachers (MST) in Mathematics**
The MST in Mathematics Program is a graduate degree program in Mathematics on the Durham campus designed primarily for experienced teachers of secondary school mathematics. This program provides a broader and deeper background in several areas of mathematics and does not grant teaching certification or licensure. Teachers can take courses without being matriculated into the degree. For more information: http://ceps.unh.edu/mathematics-statistics

**Teaching and Learning Mathematics in Context**
A customized course designed to provide consistent support for K-12 teachers during either one or two semesters in the school year. The Math in Context in-service program offers a wide spectrum of topics and includes on-site support for teachers during a semester (2-4 grad credits). For more information: http://learn.unh.edu/training/math-context

**New! Elementary Mathematics Specialist Certification**
Offered by the Department of Education, this new program provides certification by the NH Department of Education as an Elementary Mathematics Specialist. Required coursework includes courses in both mathematics and education as well as a clinical experience. Pathways are available for both those possessing and those needing a masters degree. For more information: http://cola.unh.edu/education/program/elementary-mathematics-specialists

**New! Graduate Certificate in Technology Integration**
Today, K-12 classrooms are equipped with technologies that promise higher student engagement, greater access to content knowledge, and effective, efficient learning. However, technology alone cannot transform student learning. Teachers today require the knowledge and skills to effectively integrate technology into their teaching practice. For more information: http://cola.unh.edu/education/program/technology-integration-certificate

**Workshops for K-12 Educators**

**STEM Educators Summit**
**2017 Location: UNH Law School, Concord**
Saturday, May 6, 8:30 am – 4 pm, $25 (includes lunch), registration opening March 15.
An annual statewide forum for K-12 STEM educators on professional development topics that teachers identify as timely, such as innovative practices, student learning, NGSS, common core and much more. This year's keynote speaker will be Dr. Christopher Dede, Timothy E. Wirth Professor in Learning Technologies, Harvard Graduate School of Education. Dr. Dede will present his work on integrating computational thinking into ecosystems science education via modeling in immersive virtual worlds. Choose from several workshops and hear from the NH Department of Education about STEM happenings in the state. The STEM Teachers Collaborative will host this event along with the Leitzel Center for Mathematics, Science, and Engineering Education, UNH Cooperative Extensión, and the UNH Department of Education.
GIS/GPS/Mapping Workshops (K-12)
Various dates in Plymouth and Durham, $59
Upcoming workshop topics: Mobile Mapping Made Easy, Mobile Mapping for GIS Data Collection, Telling Your Story with Maps, Getting to know ArcGIS. Learn how to get a group of people (or just yourself) using mobile devices (smartphones, tablets) or a computer to collect GIS data in the field and to make maps, complete with drop-down menus and online syncing! For full workshop schedules and descriptions: [http://extension.unh.edu/GISGPS/Training-Schedule](http://extension.unh.edu/GISGPS/Training-Schedule).

Seacoast SeaPerch Educator (Gr. 6-8)
January 21, 9 am - 4 pm, UNH-Durham, $20
Sponsored by the Center for Coastal and Ocean Mapping at UNH, this day-long workshop provides formal and informal educators with methods for how to build, test and modify underwater ROVs (Remotely Operated Vehicles) in order to facilitate using this program in their classrooms. For more information contact: Tara Hicks Johnson (tjohnson@ccom.unh.edu). [www.facebook.com/SeacoastSeaPerch/](http://www.facebook.com/SeacoastSeaPerch/)

Inquiry Teaching Methods: Create your Own Continuum (K-12)
February 6, 4:30 pm - 6:30 pm, UNH-Manchester $50
Participants from the Inquiry Teaching Methods course can attend to learn how to design your own continuum based on NGSS Condensed Practices and subtle shifts made to existing lessons. Educators who have not attending the Inquiry Teaching Methods course, please contact Sarah Grosvenor. [Registration and more information here](http://extension.unh.edu/)

STEM Inquiry Connections to Food Systems Education
February 18, 9:30 am - 10:30 am, Radisson Hotel, Manchester, NH Farm and Forest Expo admission $7
In this workshop we will cover topics related to Food Systems with particular attention to how food systems can contribute to a healthy community through interrelated components, actions and results. Interwoven will be how to address Food Systems into your classroom with an emphasis on Inquiry Teaching, the Next Generation Science Standards, and the NGSS Science Practices.

Ocean Resources Webinar - Informal Educators
March 8, 12 pm - 1 pm, Online, FREE
Learn about the many educational resources available at UNH on ocean topics. From our Ocean Exploration Trust Community STEM program, to exciting programs brought to you by the UNH Marine Docent program, to the Seacoast SeaPerch Challenge, we have a program for you! Emphasis on informal education in grades 6-8, but all are welcome. [Registration and more information here](http://extension.unh.edu/)

Inquiry Teaching Methods: Grounding STEM Education Programs in Science Practices (K-12)
March 8 - May 10, UNH-Manchester, $250
Participants will learn the fundamentals of inquiry-based instruction and how to integrate NGSS science practices including how to ask investigable questions, planning an investigation and sharing results. You will conduct an inquiry investigation on their own and learn how to “shift” or change existing science activities into authentic inquiry-based activities that integrate NGSS science and engineering practices. This 24-hour course includes 7 classes on Wednesday evenings from 3:30-6:30. Class meets on March 8, 15, 22, 25, 29, April 12 and May 10. One full day class is on March 25 from 9-4pm. Some scholarships are available, please email sarah.grosvenor@unh.edu for scholarship information. For more information: Register Here: [http://bit.ly/2fCLRq8](http://bit.ly/2fCLRq8)
**Program a Raspberry Pi (Gr. 6-12)**

**March 25, 9 am - 3:30 pm, UNH-Manchester, $175**

The Raspberry Pi is a tiny and affordable computer that you can use to learn programming, weather science, engineering and physics through fun, practical projects. In this workshop, you'll learn how to use a Raspberry Pi in your STEM subject area. You'll learn enough basic Python to program a mini weather station or a basic alarm circuit, and have time to develop a lesson plan for your students based on state standards. Hop on the Pi wagon and see what fun you can have with your students’ imaginations. [Registration and more information](#).

**Co-sponsored by UNH Professional Development and Training**

**Exploring the Deep Ocean with NOAA (Gr. 6-12)**

**April 8, 8 am - 4 pm, UNH-Durham, FREE**

Educators are invited to join NOAA OER facilitators to learn Why We Explore (Volume 1) and How We Explore (Volume 2) the deep ocean. Participants will learn about the importance of ocean exploration and the advanced technological capabilities of the NOAA Ship Okeanos Explorer used to explore the deep ocean. This 7-hour professional development will introduce standards-based, hands-on activities and online resources that guide classroom teaching and learning. Ocean energy, sophisticated underwater mapping technologies, unique deep-sea ecosystems, remotely operated vehicles and telepresence are just a few of the topics covered. [Registration and more information here](#).

**Implementing Digital Portfolios that Engage Students (K-8)**

**April 14, 9 am - 3:30 pm, UNH-Manchester, $159**

Student portfolio development can be a powerful tool to support personalized, performance-based learning; student voice; world class knowledge and skills; and anytime/anywhere learning. It can be a system of support for students having difficulties. Portfolio development engages students in new and innovative ways that deepen the learning experience by adding metacognitive practices into the learning and assessment system. You will create a lesson plan that results in a digital portfolio artifact that will be uploaded into an online digital portfolio platform. [Registration and more information here](#).

**Co-sponsored by UNH Professional Development and Training**

**Ocean Exploration in the Classroom (K-12)**

**April 18, 9:30 am - 4:30 pm, Granite State College - Conway, FREE**

UNH has joined Dr. Robert Ballard’s Ocean Exploration Trust (OET) to bring STEM experiences and ocean exploration to New Hampshire classrooms. A one-day teacher workshop highlighting STEM elements in professional deep-sea exploration, will show how to use cutting edge technologies in the classroom, spotlight STEM careers, provide new resources for your students, and introduce teachers to the New Hampshire OET Community STEM Program. [Registration and more information here](#).

**Essential Curriculum Components to Build Number Sense (K-8)**

**April 19, 9 am - 3:30 pm, UNH-Manchester, $159**

Develop your students' mathematical confidence by learning ways to build a stronger number sense. A strong number sense is the foundation needed for students to be flexible with their thinking about mathematics. In this workshop you will explore hands-on activities, daily routines, and the essential components to turn your students into confident mathematicians. [Registration and more information here](#).

**Co-sponsored by UNH Professional Development and Training**

**Alternative Access to Math for Struggling Students (Gr. 4-9)**

**May 10, 9 am - 3:30 pm, Portsmouth-Pease, $175**

Students with LD, ADHD, and Executive Function weaknesses need alternative approaches in order to access the math curriculum. This day-long workshop will combine what we have learned from the field of cognitive psychology with what we know about the current trends in math curriculum design. Teachers will learn about the developmental factors that affect math, discuss the ways different types of learning problems affect the acquisition of math skills, and share differentiated math learning strategies. A combination of direct instruction, discussion, and interactive activities will enable teachers to create materials and learn about techniques that they can use to reach their students who struggle. [Registration and more information here](#).

**Co-sponsored by UNH Professional Development and Training**
STEM: Design Thinking (K-12)
May 12, 9 am - 3:30 pm, UNH-Manchester, $159
Become part of a learning experience that allows learners to apply science, math and design concepts in an environment driven by problem-solving, discovery, exploratory learning, and active, hands-on engagement. In this experiential workshop, you will learn about the design thinking approach to solving problems. You will solve an engineering problem using the design cycle of research, prototyping, data collection, evaluation, product refinement, and marketing/presentation. Leave with an understanding of the design thinking approach and materials you can use for your own teaching. Registration and more information here.
Co-sponsored by UNH Professional Development and Training

"Unpacking" Next Generation Science Standards for Effective Science Education & Assessment (Gr. 6-12)
May 17, 9 am - 3:30 pm, UNH-Manchester, $159
Engage in a thorough discussion of the Next Generation Science Standards to more fully understand implications for curriculum and instruction. Small group activities will focus on analyzing the standards for content, depth of knowledge, performance expectation, pedagogical approach, and assessment for an authentic classroom context. Products of the small group work will be reviewed and discussed. A limited number of scholarships may be available for this offering. To request consideration of a scholarship, please contact Mark Wiley at mark.wiley@unh.edu. Scholarships are based on a "first come, first served" basis. Registration and more information here.
Co-sponsored by UNH Professional Development and Training

Differentiated Math Instruction (K-8)
May 24, 9 am - 3:30 pm, Portsmouth-Pease, $159
In a heterogeneous math classroom it seems impossible to meet the needs of all. Some students struggle to learn concepts and never gain a full understanding, because the class moves on to its next concept. Meanwhile, others would benefit from an accelerated pace and more challenges. Create a classroom that provides success and challenge for diverse students by developing student-motivated groups and individual goal work. Different grouping strategies to ensure success will be covered along with methods to provide student accountability and motivation. Registration and more information here.
Co-sponsored by UNH Professional Development and Training

Engineering is Elementary Workshops for Teachers (K-6)
June 25-30, UNH Durham, $600
Engineering is Elementary is the Boston Museum of Science’s award-winning curriculum that provides a hands-on approach to discover how engineering and the engineering design process can be brought into the classroom. Learn to solve real-life problems and how everyday items work while embedding science and engineering into your existing ELA curriculum. This summer opportunity will provide ideas, practical projects, and resources to help integrate exciting engineering lessons into the K-6 classroom. To register, email sandy.coit@unh.edu.

Creative Coding with Scratch (K-8)
August 11, 9 am - 3:30 pm, UNH-Durham, $175
Coding is a necessary skill for the 21st century. You and your students can learn how to code within minutes using a simple programming language, Scratch. With Scratch, you will be able to implement coding in the classroom while teaching content and meeting state standards; enhance teaching and learning while students learn to create their own academically rich internet content; teach and apply Common Core math skills through the creation of games, stories and videos. Registration and more information here.
Co-sponsored by UNH Professional Development and Training
Research Experiences for Teachers of Engineering (RETE) (Gr. 6-12)

Registration opens soon!
Funded by the National Science Foundation’s RISE program, RETE is an intensive summer research experience for middle- and high-school teachers, pre-service teachers, and community college teachers with a particular focus on STEM learning and engineering. For more information and application: [http://leitzelcenter.unh.edu/RETE/index.html](http://leitzelcenter.unh.edu/RETE/index.html)

SPIRALS (Gr. 5-8)
The SPIRALS project-based curriculum, designed at UNH in partnership with *UNH Cooperative Extension* and funded by NSF, provides a framework for exploring sustainability, natural resources, and human impacts on earth systems found within Earth Space Science disciplinary core ideas and science and engineering practices for NGSS. Curriculum training and planning support for teachers available. (5-8 grade educators) For more information: [http://www.spirals.unh.edu/index.shtml](http://www.spirals.unh.edu/index.shtml).
For more information about the STEM Teachers Collaborative, email STEM TC Director, Laura Nickerson  
laura.nickerson@unh.edu or stem.teachers.collaborative@unh.edu

The STEM Teachers Collaborative is generously supported by

ALBANY INTERNATIONAL

Join the STEM Teachers Collaborative at http://leitzelcenter.unh.edu/STEM-Teachers-Collaborative/ for the most up-to-date information about workshops and professional development opportunities.

The STEM Teachers Collaborative also provides on-demand STEM professional development for teachers, schools, and school districts for a fee. Please contact laura.nickerson@unh.edu for more information.