Field Trips and In-School Standards-Based, Hands-On Education Programs
At the Boott Cotton Mills Museum, Lowell National Historical Park

www.uml.edu/tsongas

2018-2019
We invite you and your students to join us for exciting, student-centered experiential learning that will foster deeper understandings about the history, science, and engineering of the American Industrial Revolution.

Programs Include

- A full day of age-appropriate, hands-on workshops and experiences at Lowell National Historical Park sites
- Facilitation by professional educators
- Activities based on state and national curriculum frameworks
- Use of our brown-bag lunchroom facility
- Free online historical information and pre- and post-visit activities at www.uml.edu/tsongas

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- Bale to Bolt
- Change in the Making
- Engineer It!
- Exploring the Immigrant Experience
- Farm to Factory
- Industrial Watershed
- Power to Production
- River as a Classroom
- Workers on the Line
- Yankees and Immigrants

*Photo by Meghan Moore/Megpix. All other photos: Tsongas Industrial History Center or Lowell National Historical Park.

About Us

The Tsongas Industrial History Center is an education partnership between the University of Massachusetts Lowell College of Education and the National Park Service at Lowell National Historical Park. The mission of the Tsongas Industrial History Center is to inspire connections with and understandings about America’s industrial past, present, and future through experiential learning, using Lowell’s unique resources.

The National Park Service cares for special places saved by the American people so that all may experience our heritage. Lowell National Historical Park tells the story of America’s first planned city for large-scale textile production and the Industrial Revolution. The Park includes historic cotton textile mills, 5.6 miles of canals, operating gatehouses, and worker housing. For more information on public programs, call 978-970-5000, or visit the website at www.nps.gov/lowe.

Visit our website at www.uml.edu/tsongas.
Reservations and Information

Reservations begin May 1, 2018.

September through June

Field Trip Fees: $225 per group (no additional charge for teachers and chaperones)
River as a Classroom: $280 per group
In-School Programs: $150 for first, $100 for successive same-day programs
Group Size: Up to 30 students per group.
Chaperones: We require a minimum of two (2) adults per group—with a ratio of one (1) adult for every ten (10) students. Each group should include a teacher, one or two chaperones, plus any additional staff (aides, nurses, etc.) your group requires. Maximum of six (6) adults per group.

January Discount

Join us in January and enjoy a $40-per-class discount on field trips!
Field trips are discounted to $185 in January only.
No need to worry about the weather—we schedule snow make-up days throughout the winter months.

Frequently Asked Questions ... and Answers

Watch a video about our curb-to-curb service at www.uml.edu/tsongas/visit/plan-your-visit.aspx.

How do I make a reservation?
Call 978-970-5080 to reserve by phone. For your preferred programs and dates, call at your earliest convenience. Reservations begin May 1, 2018 for 2018-2019 school programs.

What is your trip confirmation and cancellation policy?
Prior to your visit, you will receive logistical information and an invoice. If any information is incorrect, or if you must cancel your visit, please call us. Failure to cancel a visit 30 days in advance deprives another school of the opportunity to visit. Payment by check or purchase order is due no later than 30 days prior to your visit.

Can you help us locate transportation money?
The Tsongas Industrial History Center is an approved location for Massachusetts Cultural Council Big Yellow School Bus transportation funds. Contact us or visit our website for more information.

How are the programs at the Tsongas Industrial History Center organized?
We offer two of each program a day, accommodating up to 60 students (30 per program), and four of Change in the Making—which can accommodate up to 120 students (30 per program). The schedules for each program rotate through the various activities, so all students doing a program have the same experiences but in a different order. (See website for all itineraries.)

Do your programs address curriculum standards?
Our programs are designed to help students develop understandings related to state and national standards. See our website for more details. You might be surprised by the variety of standards our programs address.

What if we are unable to arrive by the scheduled time or have to leave early?
When you make your reservation, please let us know of any scheduling issues. We will do our best to ensure that students receive the essential elements of their program.

What if the programs I reserve for my field trip have different starting and ending times?
Our teaching staff will choose from a repertoire of short and meaningful activities to fill the time between one program’s start/end time and the other’s.

Can we extend our day and add workshops?
Yes. Extend your class’s experience by adding a 60-minute hands-on workshop after your Tsongas Industrial History Center full-day program. For example, add the Workers on the Line workshop to a Bale to Bolt program. Additional fee: $100 per class.

Another option to extend your day is scheduling a self-guided visit to other Lowell National Historical Park resources that might not be included in your program, such as the “Mill Girls and Immigrants” exhibit at the boardinghouse, the Visitor Center orientation film, or the Boott Cotton Mills Museum.

What itinerary changes are permitted?
We may be able to make minor changes but must observe lunch and trolley schedules. Visits to tour spaces not already in your itinerary could be limited by the presence of other scheduled groups. (See website for all itineraries.)

Are your facilities accessible?
Yes. Every workshop and tour location is accessible, and our professional teaching staff is skilled at teaching students with special needs. When making a reservation, please notify us of the special needs of any students. We also have private rooms for medical needs and first aid/CPR certified staff on site.

Want to stay informed about what’s happening at TIHC?
Email us: tihc@uml.edu.

To reserve school programs, call 978-970-5080.
Change in the Making  
(Grades 3 & 4)
Local history meets Lowell’s history in an engaging program that addresses curriculum frameworks. Students actively explore changes in land use, the transition from a farm economy to a mill economy, and technological innovations. Students
• Use historical artifacts and dress in 19th-century clothing to discover how people’s lives changed when they moved from farm to factory.
• Engage in a hands-on, multisensory story comparing regional land and water use from the time of native settlements through colonial farming to industrialization.
• Create their own inventions and use a working model of a cotton gin to explore the impact of technology on work and workers.
• Visit a 19th-century boardinghouse where Lowell’s famous “mill girls” lived.

Yankees and Immigrants  
(Grades 4–12)
The Industrial Revolution depended on people who ran the machines in factories. In the early days, those machines were largely operated by Yankee “mill girls” from farms all over New England. Soon they were joined by successive groups of immigrants from other parts of the world. Students
• Role-play an immigrant or refugee who traveled to America.
• Unpack luggage and examine cultural artifacts.
• Participate in a “town meeting” to debate an issue that troubled Lowell’s native-born and Irish in 1830, after viewing “A School for Kids Like Me,” a short, powerful film that introduces students to the controversy and prepares them to engage in the debate.
• Explore the “Mill Girls and Immigrants” exhibit at the boardinghouse.

Workers on the Line  
(Grades 4–12)
During the Industrial Revolution, the new factory workplace changed the nature of work and the relationships between workers and management. In this high-energy program, students examine past, present, and future work when they
• Immerse themselves in producing printed “cloth” on an assembly line and experience dramatic fluctuations in work conditions.
• Consider joining a union to gain power in the corporate system, possibly engaging mill management in collective bargaining.
• Investigate child labor—in the U.S. and abroad—using Visual Thinking Strategies with historic and modern photographs.
• Explore the Boott Cotton Mills Museum and boardinghouse to gather information to form and support an opinion about work and life in a mill town.

Bale to Bolt  
(Grades 4–12)
As textile production shifted from homes to factories in the early 19th century, the northern mill economy relied on cotton grown by enslaved people on Southern plantations. Through hands-on activities, students examine the advantages and disadvantages of economic and technological change as it affected life and work for Americans—enslaved and free. Students
• Weave their own cloth on handlooms to better understand the time-consuming process of producing cloth by hand.
• Use primary source quotes and historical artifacts to compare the experiences of workers in the 19th-century industrial North and agricultural South, and then contrast those experiences with those of today’s foreign workers.
• Inspect a cotton gin and power loom to identify how changes in technology affected work on plantations and in factories.
• Explore the boardinghouse to find out how Lowell’s “mill girls” spent their leisure time and what their “home” life was like.

“The wonders of the past change the future.”
—Student, Winchester, MA

Visit our website at www.uml.edu/tsongas.
Engineer It! (Grades 3–12)
Lowell led the way in engineering and mechanical innovation in early industrial America. Engineers solved many different types of problems, choosing certain materials and incorporating simple machines into systems that made the mills function. Students
• Collaborate in teams to design/build a device using the engineering design process.
• Visit the exhibit “The River Transformed” at the historic Suffolk Mill to investigate technology and materials used to solve real manufacturing problems.
• Explore the Moody Street Feeder Gatehouse to see how simple machines controlled waterpower in Lowell (fall and spring).
• Apply engineering thinking skills to solve safety problems associated with a historic loom at the Boott Cotton Mills Museum (winter).

Power to Production (Grades 4–12)
At the start of the Industrial Revolution, water from the Merrimack River powered mechanical systems that allowed Lowell’s machines to produce cloth faster than ever before. As engineers and scientists, students test for solutions to the problem of effectively harnessing waterpower. They work in teams to
• Test waterwheels’ speed and strength, digitally recording their data and analyzing graphs to determine which wheel works best.
• Design and build a functioning mill-and-canal system.
• Discover how water’s potential energy was transformed into kinetic energy to power Lowell’s machines.
• Manipulate cams, belts and pulleys, and gears to explore how energy was transferred from water to loom in the historic Suffolk Mill.

Engineer It!, Power to Production, and Industrial Watershed include the multisensory experience of the operating power looms in the Boott Cotton Mills Museum Weave Room. Engineer It! and Power to Production include a ride on Lowell National Historical Park’s replica trolley. Please note that trolleys do not operate between November 22, 2018 and March 3, 2019; therefore, schools must arrange to keep buses in Lowell for use during this time.

Environmental Impacts of Industrialization
Industrial Watershed (Grades 7–12)
Nineteenth-century industrial and municipal waste adversely affected the Merrimack River watershed, source of the city’s drinking water. The pollution generated by the growing industrial city had consequences that we are still learning from today. Weaving together historical incidents and scientific investigation, students
• Use simulation tanks to explore how human activity pollutes both groundwater and surface water.
• Solve a mystery to find the origin of an 1890s typhoid epidemic in Lowell.
• Tour an operating weave room and study a canal to hypothesize how pollution traveled from the source into the watershed.
• Examine Lowell’s industrial past to make more informed choices about how we can protect our environment today.

River as a Classroom (Grades 5–8)
The Merrimack River watershed—shaped by human and natural forces—serves as a living laboratory for the study of ecosystems and earth science. In the role of scientists, students
• Travel by boat on the Merrimack River or in Lowell’s canals (depending on flow rates) to explore how natural and human forces are changing the Merrimack Watershed.
• Collect water samples, perform tests, and analyze data.
• Build and test water filters to assess their ability to clean polluted water.
• Use models to explore how the world’s water is distributed.


PLEASE NOTE: Schools must arrange to keep buses in Lowell for use during River as a Classroom. Students may be outdoors for an extended period of time and should dress appropriately.

To reserve school programs, call 978-970-5080.
In-School Programs: Bring Our Hands-on Workshops to Your Classroom!

Our in-school programs supplement your curriculum or make a great previsit activity for trips to TIHC. The programs are highly participatory—no bus fees required, because we come to you within a 50-mile radius of Lowell.

Fees per class of 30 students: $150 for first school program, $100 for successive same-day programs.

Rent Our Primary Source Kit

“The World of Barilla Taylor” (Grades 6–12) In 1843, 15-year-old Barilla Taylor left rural Maine to work in Lowell’s mills, dying of unknown causes only two years later. This unique, interdisciplinary kit provides a first-hand view of farm life, city life, factory work, and boardinghouse life. Students read Barilla’s personal letters and examine primary sources such as maps, mill timetables, corporation hospital records, and even shopping receipts! Rental fee of $40 includes UPS school pick-up. Three-week rental period. Call 978-970-5080.

Online Resources

Visit our website (www.uml.edu/tsongas) for a collection of pre- and post-visit activities, videos, lesson plans, curriculum units, and primary sources to help prepare your students for their visit and to continue their learning afterwards. The website also describes educational materials and novels such as *The Bobbin Girl* and *Lyddie* that complement our programs and are available at the National Park’s bookstore.

In *Bringing History Home*, a choose-your-own-adventure game, students take on the role of Eliza Paige, a farm girl who has just come to Lowell, and make a series of choices that mill girls like Eliza would have faced. Each choice has a consequence and leads to new choices and a new future for Eliza. The game can be played multiple times, with students making different choices for Eliza to see how those choices alter her fate.

Visit our website at www.uml.edu/tsongas.
TIHC for Teachers!

Professional Development
Let us know if you would like to collaborate with us any time of year to create a professional development workshop that enhances your curriculum and sets your students up for an enriching visit at the Tsongas Industrial History Center. The Tsongas Industrial History Center, an approved PDP and CEU provider, offers a variety of professional development opportunities that especially appeal to teachers of history, STEM, and English language arts.

Visit our website (www.uml.edu/tsongas) for notices of teacher workshops and institutes, or join our mailing list.

Teach Using Our Spaces
Want to layer math or ELA skills over our existing workshops? Interested in using our workshop spaces to facilitate your own lessons? We are happy to help you design your own program using our hands-on resources, or we can co-teach with you. Just give us a call!

Teachers Take Over TIHC
Looking for professional development activities on Tuesday, November 6, 2018 while your school is being used as a polling place? Teachers are taking over TIHC on Election Day 2018! Book a program for yourself and your colleagues. Engage in professional development while participating in activities that are usually just for students. Call us for details: 978-970-5080.

“Tsongas Industrial History Center is a gift to teachers in New England—convenient location, relevant content, hands-on activities, and beautiful facilities. Everything is so well-maintained, and our students always feel welcomed and accepted.

THANK YOU SO MUCH!”

—Teacher, Boston International Newcomers Academy

TIHC for Colleges and Universities
Faculty at colleges and universities can use TIHC for:
- Hands-on, place-based programs (like those described in this brochure) especially adapted for college-aged students
- Research-based projects
- Faculty professional development

To reserve school programs, call 978-970-5080.
2018-2019

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View videos on our YouTube channel: http://bit.ly/1rSAApf

#bestfieldtripever