



Students discuss prints and photographs displayed in the Wolfgang Stechow Print Study Room for their class session.

This stop-motion image by Harold E. Edgerton, showing the splash created by a drop of milk hitting a thin layer of milk, provides information about the properties of liquids. Harold and Esther Edgerton Family Foundation, 1996.15.15

How will my students benefit?

Close engagement with a small selection of works of art may:

- Enhance visual acuity and observation skills,
- Cultivate deep attention and good communication skills,
- Allow students to practice evidentiary reasoning,
- Place students in a situation in which multiple meanings are possible,
- Enable students to grapple with uncertainty and different points of view,
- Foster creative problem-solving,
- Nurture appreciation for and understanding of cultural difference,
- Promote dialogue and collaboration among students,
- Pique interest in the course topic and its connections to real life,
- Introduce in tangible ways the complex cultural dimensions of course concepts,
- Accommodate different learning styles, and
- Increase students' self-awareness as learners.

Schedule a class visit

Please contact the Office of Academic Programs if you are interested in arranging a museum session for your class, or if you want to discuss possible connections between the collections and your course topic.

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We request that you schedule class visits at least one month in advance of your preferred date. Due to the high number of classes visiting the museum, however, we recommend that you contact the Office of Academic Programs as early as possible. Please note that we expect faculty members to take an active role in preparing for, leading, and following up on their museum class visits.

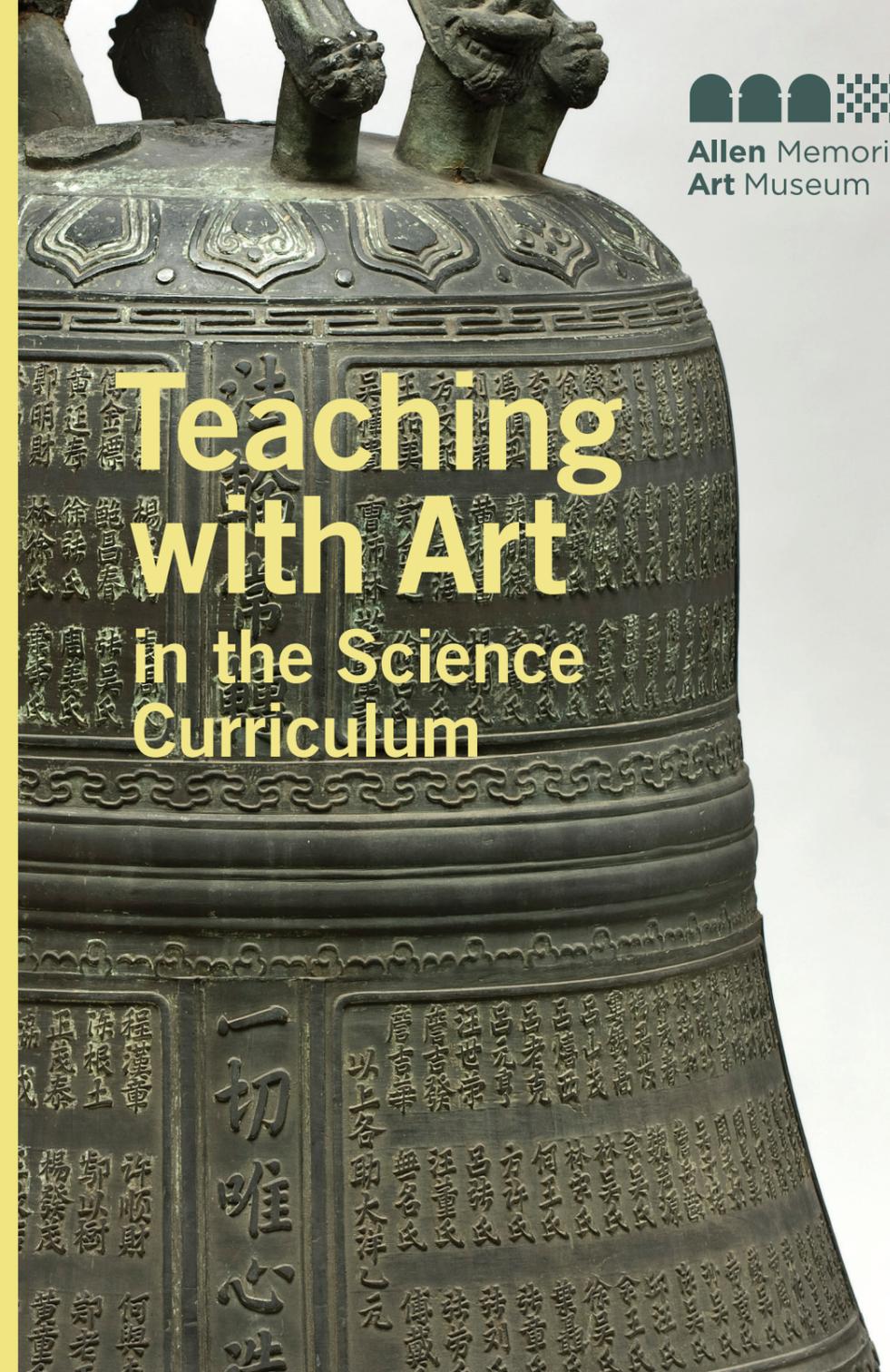
Useful links

Search the museum's collection online: allenartcollection.oberlin.edu
For more information on teaching and learning with the AMAM collection: oberlin.edu/amam/academic.html



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Teaching with Art in the Science Curriculum

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One of the leading college and university art museums in the country, the Allen Memorial Art Museum (AMAM) has an encyclopedic collection that includes paintings, sculptures, works on paper, and decorative arts from nearly every time period, culture, and geographic region. Utilized by numerous courses at every level of the curriculum and by more than 30 academic departments and programs, the museum's rich holdings serve as vital and effective tools for teaching and learning on campus.

Direct interaction and critical engagement with original works of art form an indispensable part of the liberal arts education offered at Oberlin College. Each academic year the museum's galleries and Wolfgang Stechow Print Study Room welcome hundreds of class visits coordinated by the Office of Academic Programs, which facilitates the use of the collection in interdisciplinary ways that support course goals and provide a diverse and active learning experience.

The AMAM regularly collaborates with humanities and social sciences departments, and increasingly with faculty members in astronomy, biology, chemistry,



computer science, geology, mathematics, neuroscience, and physics. Science classes use the museum as an alternative lab space where students can view artworks that encourage them to think about course material in new ways and further acquire or strengthen skills highly applicable across their college education, as well as to their future studies, training, and careers.

Students in the course *Volcanoes and Human History* viewed this geological feature as depicted by artists in different cultures. Utagawa Hiroshige's woodblock print juxtaposes Mt. Fuji's imposing presence with the bustle of life in 19th-century Tokyo. Mary A. Ainsworth Bequest, 1950.1383

“The Allen’s collection has been a priceless resource for students in the STEM fields. From physics students who gain a better understanding of force and velocity from Harold Edgerton’s magnificent photograph of a football player’s foot just as he kicks the ball, to biology students who learn to observe closely, describe with precision, and collaborate on interpretations, the Allen has become a place of deep and transferable learning for our science students.”

—Steven Volk, professor of history and director of Oberlin’s Center for Teaching Innovation and Excellence (CTIE)

Collaborations

The museum’s collections have been integrated in meaningful and varied ways in many courses across the science curriculum. Science faculty bring their classes to the museum for different types of curricular engagement, from thematic explorations of art as a primary text or cultural document to using art as the basis for group or individual assignments. Faculty members also bring students to the museum to view artistic counterparts to, or applications of, scientific concepts. This brochure describes some of our recent collaborations.

Biology

Associate Professor of Biology Taylor Allen’s *Physiology* class visits the museum to practice visual analysis, to discuss representations of emotions such as depression, fear, and love, and to propose mini-exhibitions on themes relevant to the course and drawn from their readings. The class examines closely British artist Claire Leighton’s wood engraving *The Frightened Shepherd Boy* and then reads her childhood recollections of her dread of nighttime bombings during World War I.

Allen acknowledges the success of the museum experience: “As we talked in class about the short- and long-term effects of fear and anxiety on the body...my students saw *The Frightened Shepherd Boy* (above) in a new light, one informed by the severe stress the artist suffered as a child... Importantly, the artwork, in combination with the childhood reminiscences, brought to life in a way unmatched by any text the health consequences of stress.”



Left: Clare Leighton’s 1930 wood engraving was done as an illustration for the book *Wuthering Heights*. Gift of Mrs. Malcolm L. McBride, 1944.119

Above: Staff members take measurements of a 6th-century Greek cup, or *kylix*. General Acquisitions Fund, 1967.61A



Chemistry

With her *Topics in General Chemistry* class, Associate Professor of Chemistry Catherine Oertel views ten high-speed, stop-motion photographs by the legendary mechanical engineer and innovator Harold Edgerton. Professor Oertel’s goal is to use the images to help students “think about different time scales, how fast things happen, and what methods are needed to study fast events.” In drawing connections to the very rapid motions of molecules and techniques for studying them, Oertel discovered that students were able to connect, for example, with their athletic interests as well as to science.

Mathematics

Students in Assistant Professor of Mathematics Christoph Marx’s *Calculus I* course explore a diverse group of artworks that serve as palpable and relatable evocations of ideas encountered in class. For example, works by Anna von Mertens, Henri-Edmond Cross, and Pablo Picasso visually illuminate the movement of objects, differences in scale, and the curvature of shapes. Students complete a museum assignment in which they calculate the weight of a ceremonial bell from 19th-century China or compute the volume of an ancient Greek wine cup, or *kylix*, shedding light on the serving size of wine for the ancient Greeks.

“While visiting the museum with my biology course, we gained an invaluable understanding of the importance and easily accessible nature of visual data, and the ability of works of art to function as primary documents. These skills cultivated at the museum were used time and again as I navigated graphs, tables, images, and real life situations both in lecture and in lab.”

—Lodewijck (Oidie) Kuijpers (OC ’15), double major in neuroscience and studio art

Above right: Neuroscience classes have used Paul Cézanne’s 1882 oil painting *Viaduct at L’Estaque*—with its composition of lines and planes of color—in discussions about how the brain processes visual information. R.T. Miller Jr. and Mrs. F. F. Prentiss Funds, 1950.3



Neuroscience

Assistant Professor of Neuroscience Leslie Kwakye brings her *Sensory Neuroscience* class to the AMAM to link what students learn about the brain’s processing of visual information to a real-world situation. The students examine a selection of works from the museum’s Op Art holdings and then complete an assignment that asks them to formulate plausible hypotheses as to how the visual system allows them to experience the optical illusions present in the artwork. Professor Kwakye confirms the effectiveness of the museum experience: “I’ve found that our trip to the Allen inspires them to engage more strongly with the material in the class.”

Remington Schneider (OC ’15), a neuroscience major who took Kwakye’s seminar, discussed neuroaesthetics freely when his class visited the museum. “As a fan of neuroscience and art, I read scientific publications and frequent museums,” Schneider said. “Standing next to the paintings, which we viewed at different angles and distances, and the assorted levels of expertise in neuroscience and art in the room, allowed for a far more enriching study than I would get by merely looking at the works in my own time and reading an article at the library by myself,” he said.

Choose your class experience

The AMAM offers many types of curricular contact with art:

- Interactive class visits to the galleries and/or the Wolfgang Stechow Print Study Room during which works brought from storage may be displayed for class purposes,
- Exercises in close looking and argumentation based on visual data,
- Oral or written assignments based on works in the collection,
- Focused tours and discussions of special exhibitions,
- Curation of mini-exhibitions on themes relevant to the course subject,
- Art viewings (drop-in hours) in the Print Study Room,
- Group activities focused on individual works or a selection of several thematically related works, and
- Interdisciplinary teaching exhibitions.

