

Center for Archaeological Materials/Center for Materials Research in Archaeology and Ethnology

The mission of the Center for Materials Research in Archaeology and Ethnology (CMRAE), a consortium of eight Boston-area educational and cultural institutions, is to advance our understanding of prehistoric and nonindustrial societies through analysis of the structure and properties of materials associated with human activity. Plant and animal food remains and human skeletal material, as well as metal, ceramic, stone, bone, and fiber artifacts, are the objects of study, along with the environments within which these materials were produced and used. At the Center for Archaeological Materials (CAM) at MIT, investigators concentrate on the materials-processing technologies that transform natural materials into cultural objects. CAM is administered by the Office of the Provost.

From 1998–1999, the Department of Materials Science and Engineering (DMSE) established a new undergraduate major in archaeology and materials, Course 3-C, as well as an interdisciplinary doctoral degree program in archaeological materials. These are the only academic degree programs of their kind in the United States. The graduate students enrolled in the PhD program as well as the undergraduate Course 3-C majors who participate in the Undergraduate Research Opportunities Program all carry out their dissertation and senior thesis research in the CMRAE laboratory facilities.

In AY2014–2015, CMRAE offered its annual two-term graduate subject 3.984 Materials in Ancient Societies. The subject focused on ancient and pre-industrial ceramic materials and technologies, including pottery, bricks, glass, and cementitious materials (mortars and concrete). Eleven graduate students from among the CMRAE consortium institutions attended the class, representing Boston University, University of Massachusetts Boston, Brandeis University, Harvard University, and Tufts University. Several of the students presented papers at the annual meeting of the Society for American Archaeology on the laboratory research projects they had undertaken during the academic year.

Archaeological Science, the CMRAE/CAM undergraduate subject offered jointly by DMSE, the Department of Chemistry, and the Department of Earth, Atmospheric, and Planetary Sciences, continues to enjoy high popularity among students from CMRAE institutions. Of the 74 students enrolled, 65 were from MIT, two were from Harvard University, five were from Brandeis University, and two were from the University of Massachusetts Boston. Nine faculty members from six CMRAE institutions lectured in the subject.

During the spring term, 40 undergraduate students in subject 3.094 Materials in Human Experience were engaged in lecture and laboratory sessions that explored the development of metallurgy among ancient Andean and Mesoamerican societies. The laboratory project assigned for the Mesoamerican unit challenged students to produce lost wax castings in bronze of species of flora and fauna native to those regions of Mesoamerica conquered by the Aztec. The Aztec assembled a wide variety of plants and animals from conquered territories and placed them in large, sacred gardens in

their capital at Tenochtitlán, now Mexico City. They included in their sacred garden sculptures in stone or castings in metal of species that could not survive in the high altitude environment of their capital. The 3,094 students, having made their castings in the DMSE foundry, gathered and exhibited them, together with explanatory texts about the Aztec sacred garden, in a DMSE vitrine along the Building 8 infinite corridor.

Heather Lechtman

Director

Professor of Archaeology and Ancient Technology