

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.

The Center for Archaeological Materials is administered by the Office of the Provost. In 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.

Eleven students have graduated from the 3-C program and one PhD degree in archaeological materials has been awarded by DMSE. In AY2013, one PhD student, one master of science student, and three Course 3-C undergraduate majors were enrolled in the DMSE/CMRAE programs.

In AY2014, CMRAE did not offer its annual two-term graduate subject 3.984 Materials in Ancient Societies. We used the academic year to overhaul parts of the CMRAE Graduate Laboratory and to prepare for the AY2015 graduate subject in ancient ceramic materials and technologies.

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 52 students enrolled, 48 were from MIT, two were from Harvard University, and two were from the University of Massachusetts. Nine faculty members from six CMRAE institutions lectured in the subject.

During the spring term, 40 undergraduate students in 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 stone or cast metal sculptures of species that could not survive in the high altitude environment of their capital. Students in this subject made their castings in the DMSE foundry. These castings were then gathered and exhibited—along with explanatory texts about the Aztec sacred garden—in a DMSE vitrine along the Building 8 infinite corridor.

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