

## **COURSE AS.389.205: EXAMINING ARCHAEOLOGICAL OBJECTS**

**INSTRUCTOR:** SANCHITA BALACHANDRAN  
**EMAIL:** SBALACH4@JHU.EDU  
**COURSE HOURS:** THURSDAY 1:30-3:50  
**OFFICE HOURS:** THURSDAY 4-5, OR BY APPOINTMENT, GILMAN 137  
**MAILBOX:** GILMAN 113

### **COURSE DESCRIPTION**

This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles to gain an understanding of historical manufacturing processes. We consider why certain materials and manufacturing methods came into, or fell out of use, and ask what this tells us about the historical and cultural contexts in which they appeared or disappeared. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art. Class meets in the Archaeological Museum (Gilman 150).

### **COURSE LEARNING GOALS**

- Learn to identify materials and fabrication technologies for ancient objects
- Introduce techniques of scientific analysis available for the study of archaeological materials, and utilize in-house non-destructive examination tools to study objects
- Analyze observed physical characteristics on ancient objects in the context of material published the archaeological, art historical and scientific literatures
- Consider the meaning(s) of different materials and technologies within their cultural and historical contexts
- Prepare and present documentation of evidence gathered from physical examination techniques and relevant literatures
- Contribute to a catalog of ancient Egyptian objects for an exhibition at the Archaeological Museum

### **COURSE MINDSET**

- Be curious and humble
- Be willing to be confused and not know what you are looking at. Openness to different interpretations is crucial
- Be ready to work collaboratively and in communication with people who have different skills and disciplinary knowledge
- Recognize that you might not get a “final answer” but that the process of learning to ask new questions is incredibly valuable
- Have gratitude and respect for the people and makers of the past
- Remember that the instructor and students are learning together

### **COURSE REQUIREMENTS**

You are expected to attend every class with all readings for that day completed. All readings will be available through Blackboard or on the Internet, as noted. Read articles in the order listed. This course is structured to introduce you to different ancient materials and specialized techniques for studying those materials each week, so missing even a single class means missing a significant amount of information. As there are no make-up classes, ensure that you attend every class and come with the reading completed and prepared to ask questions and look at objects. If you need to miss class for religious observances, notify the instructor in advance. Do not come to class if you are feeling ill; notify the instructor as soon as you feel ill and may need to miss a class. Medical excuses for missing a class may require official documentation via the Deans Office.

Each class meeting is structured in the following manner: brief quiz, discussion and lecture, 10-minute break, followed by hands-on work with museum objects. The quiz will test you on basic material introduced in the reading due for that day. Each quiz will have approximately 10 fill-in-the-blank or short answer questions. The quizzes may also include hands-on examination of objects or testing you on the use of museum equipment. I will drop the lowest quiz from the semester when calculating your final grade. The final exam will test you on concepts learned throughout the semester and will involve the examination of objects using techniques we have practiced throughout the semester. The cumulative exam is scheduled for 12/15; arrange any travel plans around this date.

Students will be assigned museum objects to examine and analyze in detail, either individually and/or in a small group. This semester, the majority of the objects will be associated with an upcoming exhibition of ancient Egyptian objects at the Archaeological Museum (see description below). As most of our class projects are ancient Egyptian, a significant portion of the readings for the course will be related to ancient Egyptian technology and culture. Each student will be contributing technical research on his/her/their assigned object for a catalog accompanying the exhibition, and will present his/her/their findings in a short class presentation. Object examinations and analyses require sustained and focused work outside of class time. You are expected to perform these studies outside of class time with the instructor; these visits will be scheduled through the instructor. You are expected to be on time for these meetings; in the case of “no shows,” these meetings will not be re-scheduled and will mean that an important part of your analyses will not be completed.

Your grade will be determined according to the following criteria:

Class participation	15%
Quizzes (lowest quiz is dropped)	20%
Final exam	25%
Object examination assignment (includes catalog entry)	20%
• First draft	
• Second draft	
Object examination presentation	20%
• 7-minute class presentation	
• Corrected and uploaded Powerpoint	

“A”s are awarded for exceptional performance in class. Simply completing the assignments as required will result in a “B” grade. In general, grades are calculated based on the following: A=95 and above; A-=92 and above; B+=89 and above; B=85 and above, and so on. In order to be graded, all work must be turned in on time. Late work receives a “0.”

#### **COURSE ETHICS AND POLICIES**

Our classroom is a space for rigorous and thoughtful discussion and debate. You are expected to respect and support the class community and its members as we delve into contentious and emotionally charged issues around the conservation of cultural heritage. As a community, we agree to communicate our ideas and our dissent respectfully and constructively.

Johns Hopkins University has laid out strict policies on ethical academic conduct. Ethical violations include but are not limited to plagiarism, forgery, unauthorized collaboration, improper use of the Internet and electronic devices, reuse of assignments and lying. Plagiarism will not be tolerated, and any work that is thought to be plagiarized will receive a failing grade, and the Dean of Academic Affairs notified.

The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

In this class, you are being given the privilege of handling and working with ancient objects, and you are expected abide by all museum protocols. Anyone seen willfully mishandling objects or treating them inappropriately will have the privilege of working with them revoked. Food, drink and gum are not allowed in the museum and should be disposed of as far from the museum space as possible. There are no digital devices allowed in the seminar room; this includes laptops, Ipads, tablets, cell phones, etc. You are expected to take notes with pencil only on paper. All other materials including coats and bags should be stored in the cubbies outside the seminar room. For more information on museum procedures, see: <http://archaeologicalmuseum.jhu.edu/visit/museum-visitor-guidelines/>

Report any violations you witness to the instructor. You may consult the associate dean of student affairs and/or the chairman of the Ethics Board beforehand. See the guide on “Academic Ethics for Undergraduates” and the Ethics Board Web site (<http://ethics.jhu.edu>) for more information.

Any student with a disability who may need accommodations in this class must obtain an accommodation letter from Student Disability Services, 385 Garland, (410)516-4720, [studentdisabilityservices@jhu.edu](mailto:studentdisabilityservices@jhu.edu)

## **PUBLICITY DISCLAIMER**

The mission of the Johns Hopkins Archaeological Museum is to engage members of the Johns Hopkins University, academic researchers, and both the Baltimore and worldwide public in an interactive, interdisciplinary and collaborative study of the ancient world through the examination, research, exhibition and conservation of archaeological objects. As such, it is important the work we do here is shared as much as possible with our many publics. Images of our class at work, or images and findings of our projects will likely show up on the museum's website ([archaeologicalmuseum.jhu.edu](http://archaeologicalmuseum.jhu.edu)) and Facebook page (<https://www.facebook.com/JohnsHopkinsArchaeologicalMuseum>). Please speak to the instructor if you have any concerns about this policy.

**EXHIBITION DESCRIPTION** (provided by exhibition curator, Ashley Fiutko Arico, Elizabeth McIlvaine Assistant Curator of Ancient Art, Department of Ancient & Byzantine Art, The Art Institute of Chicago)

This exhibition is designed to highlight works from the Eton College Myers Collection that have not previously been displayed at JHU. The theme of the exhibition is human (re)presentation in ancient Egypt. The exhibit includes 19 objects and is divided into two sections. The upper shelf of the display case deals with the topic of self-presentation in New Kingdom (ca. 1550-1069 BCE) Egypt. Highlights from this grouping include a very rare wooden wig stand (ECM 1724), a beautifully intricate box with compartments for the storage of toilette items (ECM 1782), and makeup vessels and applicators in a variety of materials and shapes. The lower shelf takes a view towards the afterlife, focusing on how depictions of people in art could be used to help Egyptians achieve a successful afterlife. A wooden kitchen model (ECM 1733) provides a view of daily life tasks in First Intermediate Period (ca. 2160-2055 BCE) Egypt. Designed to provide sustenance (and a staffed kitchen!) to the tomb owner in the afterlife, this charming model shows people at work grinding grain, brewing beer, and tending the fire. A stone round-topped stela (ECM 2174) takes a different approach to providing goods for the deceased's consumption, showing the tomb owners' family members bringing offerings to them in perpetuity. Miniature vessels and offerings like those visible on the stela highlight the importance of food and drink offerings for continued existence in the afterlife.

## **COURSE SCHEDULE**

### **9/7: Introduction to the course/Introduction to object handling**

- Read Odegaard N. and G. Katterman. 1992. *A Guide to handling anthropological museum collections*. Take a brief quiz on this material in the museum.

### **9/14: Approaches to the Materials Analyses of Ancient Objects**

- Zakrewski, S, A. Shortland and J. Rowland. 2016. "The Biography and analysis of objects." In *Science in the Study of Ancient Egypt*. New York: Taylor and Francis. Zakrewski, S., et al. 224-239.
- Gates, Glenn Alan. 2014. "Discovering the material secrets of art: Tools of cultural heritage science." *American Ceramic Society Bulletin*, Vol. 93, No. 7: 20-27.  
<http://www.americanceramicsociety.org/bulletin/2014/pdf/sept14.pdf>
- Johns Hopkins Archaeological Museum. 2015. "Roman Egyptian Mummy Portraits":
  - <http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/roman-egyptian-mummy-portraits/>
  - <http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/roman-egyptian-mummy-portraits/week-2-appear/>
  - <http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/roman-egyptian-mummy-portraits/week-3-getting-technical/>

❖ **Talk with Ashley Fiutko Arico, 1:30-2pm**

❖ **Look at objects in class**

### **9/21: Ceramics**

- In Oakley and Jain. 2002. In *Essentials in the care and conservation of historical ceramic objects*. London: Archetype.
  - "Ceramic technology." pp. 1-8.
  - "Types of deterioration in ceramics." pp. 9-19.
- Johns Hopkins Archaeological Museum, "Mysteries of the kylix." (19 minutes)  
<http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/recreating-ancient-greek-ceramics/film-mysteries-of-the-kylix/>
- Quinn, P.S. et al. 2017. "Building the terracotta army: Ceramic craft technology and the organization of production at Qin Shihuang's mausoleum complex." *Antiquity*, 91 358 (2017): 966-979.

- Roffet-Salque, M. et al. 2017. "From the inside out: Upscaling organic residue analyses of archaeological ceramics," *Journal of Archaeological Science: Reports*, in press.

❖ **Select objects for projects in class**

**9/28: Organic Materials**

- Hornbeck, S. "Ivory. Identification and regulation of a precious material." Handout on Blackboard.
- Harvey, J. 2009 "Wooden statuary." In Willeke Wendrich (ed.), *UCLA Encyclopedia of Egyptology*, Los Angeles. <http://digital2.library.ucla.edu/viewItem.do?ark=21198/zz001nfbh0>
- Pullen, M. et al. "The Norwich shroud: Conservation and investigation of a rare Eighteenth Dynasty shroud." *British Museum Technical Research Bulletin*, Vol 6, 2012: 13-24. [https://www.britishmuseum.org/pdf/BMTRB\\_6\\_Pullan-et-al.pdf](https://www.britishmuseum.org/pdf/BMTRB_6_Pullan-et-al.pdf)
- Wills, B. and M. Hacke. 2010. "Ancient Egyptian basketry: Investigation, conservation and colour." *Proceedings of a 2007 Conference Hosted by the Institute of Conservation Archaeology Group and the Fitzwilliam Museum, University of Cambridge*. London: Archetype: 86-95.

**10/5: Pigments and painting**

- Organic and Inorganic pigments, Technical Art History Website, University of Delaware
  - <http://www.artcons.udel.edu/about/kress/historic-materials-technical-terms/inorganic-pigments>
  - <http://www.artcons.udel.edu/about/kress/historic-materials-technical-terms/organic-pigments>
- Yale University Art Gallery. 2014. "The Search for Egyptian Blue": <https://www.youtube.com/watch?v=4w2oFSesuec>
- Corcoran, L. 2016. "The Color blue as an 'animator' in ancient Egyptian art." In *Essays in global color history*. Goldman, R. B., ed. Piscataway, NJ: Gorgias Press: 41-64.
- Verri, G. et al. 2010. "The Treu head: A Case study in Roman sculptural polychromy." *British Museum Technical Research Bulletin* 4: 39-53. <http://www.britishmuseum.org/pdf/BMTRB4%20Verri.pdf>

**10/12: Metals**

- Ankersmit, B. et al. 2008. "Rust never sleeps. Recognizing metals and their corrosion products." Canadian Conservation Institute: <https://www.cci-icc.gc.ca/resources-ressources/objectscollectionsobjets/metal-metaux/reconnaitre-index-eng.aspx>
- Direct lost-wax casting (one unique bronze): <http://www.youtube.com/watch?v=JiofOv18o2M>
- Indirect lost-wax casting (multiple similar bronzes): <https://www.youtube.com/watch?v=wdTM5rSSJjk>
- Stewart, A. 2015. "Why bronze?" In *Power and pathos. Bronze sculpture of the Hellenistic World*. Los Angeles: Getty Publications: 35-47.
- Graeme, M. et al. 2015. "The Conservation and technical investigation of a hollow-cast Egyptian bronze." *British Museum Technical Research Bulletin*, Vol. 9, 111-120. [http://www.britishmuseum.org/pdf/Technical\\_Bulletin\\_Volume\\_9.pdf](http://www.britishmuseum.org/pdf/Technical_Bulletin_Volume_9.pdf)

**10/19: Stone**

- Look at <https://www.learner.org/interactives/rockcycle/>. Take the quiz at "Test your skills" and send a pdf or screenshot of your test to the instructor by class time.
- Harrell, J.A. and Storemyr, P. 2009. "Ancient Egyptian quarries—an illustrated overview." In *QuarryScapes: Ancient stone quarry landscapes in the Eastern Mediterranean*. Abu-Jaber, N. et al, eds. Trondheim: Geological Survey of Norway Special publication 12: pp. 7–50. [http://www.ngu.no/upload/Publikasjoner/Special%20publication/SP12\\_s7-50.pdf](http://www.ngu.no/upload/Publikasjoner/Special%20publication/SP12_s7-50.pdf)
- Wootton, W., Russell, B., and Rockwell, P. (2013). "Stoneworking tools and toolmarks (version 1.0)", *The Art of Making in Antiquity: Stoneworking in the Roman World*. <http://www.artofmaking.ac.uk/content/essays/2-stoneworking-tools-and-toolmarks-w-wootton-b-russell-p-rockwell/>
- Blackwell, N.G. "Making the Lion Gate Relief at Mycenae: Tool marks and foreign influence." *American Journal of Archaeology* 118, no. 3 (2014): 451-88.

**10/26: Faience**

- Nicholson, P.:
  - "Faience technology." *UCLA Encyclopedia of Egyptology*. pp. 1-13. <http://escholarship.org/uc/item/9cs9x41z>
  - "Stone... That Flows": Faience and Glass as Man-Made Stones in Egypt." *Journal of Glass Studies* 54 (2012): 11-23.

- Eccleston, M., 2008. "Replicating faience in a bread oven at Amarna." *Egyptian Archaeology* 32, 33–5.
- Emory University, Carlos Museum. 2012. "Investigating the original color of ancient Egyptian Old Kingdom faience beads." <https://www.youtube.com/watch?v=9dtbtTYMGGU>

**11/2: Glass**

- In Koob, S. 2006. *Conservation and care of glass objects*. London: Archetype.
  - "Chemistry and technology of glass." pp.11-12
  - "Preservation and deterioration of glass." pp.13-18.
- Grossman, R.A. 2002. *Ancient glass*. Yale University Art Gallery: New Haven. Skim for different types of glass techniques.  
[http://artgallery.yale.edu/sites/default/files/files/Coll\\_An\\_ancient\\_glass.pdf](http://artgallery.yale.edu/sites/default/files/files/Coll_An_ancient_glass.pdf)
- Shortland, A.J. 2007. "Who were the glassmakers? Status, theory and method in mid-second millennium glass production." *Oxford Journal of Archaeology* 26, 3: 261-274.
- Varberg, J. et al. 2016. "Mesopotamian glass from Late Bronze Age Egypt, Romania, Germany, and Denmark." *Journal of Archaeological Science*: 184-194.

**11/9: Human Remains**

- In Boydell and Brewer, *Curating Human Remains: Caring for the Dead in the United Kingdom*. 2013:
  - "International perspectives towards human remains curation," 13-24.
  - "Archaeological human remains and laboratories: Attaining acceptable standards for curating skeletal remains for teaching and research," 123-134.
- Shaw, H. et al. 2016. "Identifying migrants in Roman London using lead and strontium stable isotopes." *Journal of Archaeological Science* 66: 57-68.
- Toner, M. 2017. "The fates of very ancient remains." *American Archaeology Magazine*, 21, 2: 41-46.
- ❖ **First draft of object report/catalog entry due to instructor by the beginning of class. Bring printed version to class.**

**11/16: Open session**

No assigned reading or quiz. Use this time to look at your objects and finalize your reports and presentations on your individual objects.

**11/23: NO CLASS—THANKSGIVING BREAK**

**11/29: Upload powerpoint presentation to JHBox by midnight. Late uploads receive a '0.'**

**11/30: Student presentations/ Final Exam Review**

- ❖ **7-minute individual presentations**
- ❖ **Second draft (final) of object report/catalog entry due. Bring printed version to class.**

**12/15 (FRI): FINAL EXAM—2-5pm**

- ❖ **Corrected powerpoints to be uploaded today**