# http://www.ric.edu/webcommunications/images/SealWithText_Small_Black.pngUNDERGRADUATE CURRICULUM COMMITTEE (UCC) PROPOSAL FORM

## Cover page scroll over blue text to see further important [instructions](#instructions): please read.

**N.B. DO NOT USE HIGHLIGHT, please DELETE THE WORDS THAT DO NOT APPLY TO YOUR PROPOSAL**

**ALL numbers in section (A) need to be completed, including the impact ones.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| A.1. [Course or program](#Proposal) | **Anthropology 235****Bones and STones: how archaeologists know** | | | |  |
| A.2. [Proposal type](#type) | **Course: creation** | | | |
| A.3. [Originator](#Originator) | **Praveena Gullapalli** | [Home department](#home_dept) | **Anthropology** | | |
| A.4. [Context and Rationale](#Rationale) | **There are a limited number of AQSR courses that do not require students to have fulfilled the math or natural science General Education distribution requirements with specific courses (i.e., that have specific pre-requisites). This course is open to students who have taken any GenEd math or natural science distribution course and therefore serves a population who might not be able to take other AQSR courses. In addition, within the Anthropology Department, those students who are interested in archaeology have few options beyond the introductory course. Bones and Stones provides them with a course that specifically addresses issues of archaeological methodology. While not all majors might be interested in this class, being able to offer it as a General Education AQSR and as a course within the major allows the department to serve both groups of students.** | | | | |
| A.5. [Student impact](#student_impact) | **This course will be another option for students who have taken any math or natural science courses to fulfill their AQSR requirement. The nature of the prerequisite makes this course accessible to all students. It also provides another archaeology course for Anthropology majors.** | | | | |
| A.6. [Impact on other programs](#impact) | **There is no impact on other programs.** | | | | |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty): | **None, current Anthropology faculty will teach this course.** | | | |
| [*Library*:](#library) | **None, existing resources are sufficient.** | | | |
| [*Technology*](#technology) | **None, existing resources are sufficient.** | | | |
| [*Facilities*](#facilities): | **None, existing resources are sufficient.** | | | |
| A.8. [Semester effective](#Semester_effective) | **Fall 2018** | A.9. [Rationale if sooner than next Fall](#Semester_effective) | |  | |
| A.10. INSTRUCTIONS FOR CATALOG COPY: This single file copy must include ALL relevant pages from the college catalog, and show how the catalog will be revised. (1) Go to the “Forms and Information” page on the UCC website. Scroll down until you see the Word files for the current catalog. (2) Download ALL catalog sections relevant for this proposal, including course descriptions and/or other affected programs. (3) Place ALL relevant catalog copy into a single file. Put page breaks between sections and delete any catalog pages not relevant for this proposal. (4) Using the track changes function, revise the catalog pages to demonstrate what the information should look like in next year’s catalog. (5) Check the revised catalog pages against the proposal form, especially making sure that program totals are correct if adding/deleting course credits. If new copy, indicate where it should go in the catalog. If making related proposals a single catalog copy that includes all is acceptable. Send as a separate file along with this form. | | | | | |

B. [NEW OR REVISED COURSES](#delete_if)  **DO NOT use highlight. Delete this whole page if the proposal does not include a new or revised course.**

|  | Old ([for revisions only](#Revisions)) Only include information that is being revised, otherwise leave blank (delete provided examples that do not apply) | New Examples are provided for guidance, delete the ones that do not apply |
| --- | --- | --- |
| B.1. [Course prefix and number](#cours_title) |  | **ANTH 235** |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title) |  | **Bones and Stones: How Archaeologists Know** |
| B.4. [Course description](#description) |  | **Students learn about scientific and mathematical tools used to investigate archeological questions like, how old are these bones, how were those tools used, and what did ancient people eat?** |
| B.5. [Prerequisite(s)](#prereqs) |  | **Completion of any mathematics or natural science general education distribution** |
| B.6. [Offered](#Offered) |  | **Annually** |
| B.7. [Contact hours](#contacthours) |  | **4** |
| B.8. [Credit hours](#credits) |  | **4** |
| B.9. [Justify differences if any](#differences) |  | |
| B.10. [Grading system](#grading) |  | **Letter grade** |
| B.11. [Instructional methods](#instr_methods) |  | **| Lecture |Small group | discussion** |
| B.12.[Categories](#required) |  | **Free elective**  **Restricted elective for Anthropology** |
| B.13. Is this an Honors course? |  | **NO** |
| B.14. [General Education](#ge)  N.B. Connections must include at least 50% Standard Classroom instruction. |  | **YES**  **category: AQSR** |
| B.15. [How will student performance be evaluated?](#performance) |  | **Attendance | Class participation | Exams | Papers | Projects |** |
| B.16. [Redundancy statement](#competing) |  | **N/A** |
| B. 17. Other changes, if any |  | |

| B.18**.** [**Course learning outcomes**](#outcomes)**: List each one in a separate row** | [**Professional Org.Standard(s)**](#standards)**, if relevant** | [**How will each outcome be measured**](#measured)**?** |
| --- | --- | --- |
| Critical and Creative Thinking |  | Students will learn about the types of questions that can be answered through archaeological investigations and through the application of archaeological science. They will learn when these techniques can be used, how to understand the results, and – as importantly – the limitations of those results. Knowing what we cannot say is as important as knowing what we can say. These issues are woven into the course throughout the semester: in the exercises that students do; in the case studies that we discuss; and in the formal writing assignment that asks them to specifically address the limits of scientific analysis. |
| Quantitative Literacy |  | In exercises students will interpret archaeological data (provided to them in a variety of formats including tables, graphs and maps) to form the basis for their interpretations of what was happening at their sites. Examples of exercises include determining the best sampling strategy for their site given their goals; determining subsistence practices from botanical and faunal remains; reconstructing environmental conditions over time based on pollen data; creating a dating strategy based on what types of materials are excavated – and understanding the limitations and error ranges of the results; interpreting skeletal remains to understand mortality rates. Students will compile their analyses, which will give them certain types of information about their site. They will discuss these results and create an interpretation of what they might tell us about the people and their society. |
| Scientific Literacy |  | This course is structured as an archaeological project investigating a group of ancient sites. Students will learn how to pose questions of the archaeological record and to identify the relevant scientific techniques that will yield the necessary information. They construct a plan of archaeological research and analyze data sets that provide information about their site. At the end of the semester they will put all of the information together to create a ‘site report’ that details their data, analyses and interpretations. Based on this, they will formulate other questions that they might want to ask and identify the archaeological and archaeometric methodologies that could be used to answer these questions. Students will also integrate their information with that of their groupmates (whose sites are in the same region) to create an interpretation of the region and to see how their information affects each other’s understanding of their site. This report will be presented orally, with visual aids. |

| B.19. [**Topical outline**](#outline)**: Do NOT insert whole syllabus, we just need a two-tier outline** |
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| **Possible texts (chapters/readings excerpted)**:  Gilberto Artioli. *Scientific Methods and Cultural Heritage: An introduction to the application of materials science to archaeometry and conservation science*. Oxford University Press.  D.R. Brothwell and A.M. Pollard. *Handbook of Archaeological Sciences*. Wiley.  Cambridge Manuals in Archaeology Series. Cambridge University Press.  Rosalie David, ed. *Egyptian Mummies and Modern Science*. Oxford University Press.  Howell Edwards and Peter Vandenabeele, eds. *Analytical Archaeometry: Selected Topics*. Royal Society of Chemistry.  Colin Renfrew and Paul Bahn. *Archaeology: Theories, Methods, and Practice*. Thames and Hudson.  Michael Shermer. *Why People Believe Weird Things: Pseudoscience, superstitions and other confusions of our time*. WH Freeman and Company.  Christina Warinner and Jessica Hendy, eds. *“Adventures in Archaeological Science” Coloring Book*. Max Planck Institute for the Science of Human History.  **Possible Weekly Topics** (all of these cannot be covered in a semester; class time will also be dedicated to students working on their analyses and in other individual and group work):  **I. Review** – scientific and quantitative reasoning  The difference between scientific and other forms of reasoning  **II. Archaeology** – what is it and what does science have to do with it?  Archaeological ways of knowing the past  How does archaeology differ from other ways?  Archaeological and scientific methodology  **III. Survey** – how do we decide where to dig?  Sampling strategies  Eliciting and understanding patterns from a data set  *Activity: sampling RIC’s campus – a surface survey*  **IV. Excavation**  Why patterns are important and why palaces aren’t that great  What preserves and what doesn’t  *Activity: creating lithic typologies*  **V. Dating**  Radiocarbon dating  Other radiometric methods  *Case study:* *How old is the Shroud of Turin and how can we find out?*  Or *How the mummies helped to challenge radiocarbon dating*  **VI. More Dating**  Dendrochronology  Seriation  *Activity/Case study: How old is this tree? How dendrochronology saved radiocarbon*  **VII. Diets**  Bone chemistry  Dentition  *Case study: Tracing the adoption of corn through cavities*  **VIII. Burials**  Skeletal analysis  Paleopathology  DNA  *Case study: Who were the women of the Central Asian steppe?*  **IX. Food and Beverages**  Residue analysis  Archaeochemistry – Ancient wine and beer  *Case study: Recreating King Midas’ feast (and his beer)*  **X. Environment**  Paleoethnobotany  Paleoecology  Geology  *Case study: when did the Anthropocene start?*  **XI. Animal Bones**  Domestication  Culling patterns  *Case study: Kebabs, curds or kilims: what was happening at Neolithic Gritille?*  **XII. Stone and other tools**  Use wear analysis  Metallography  *Case study: experimental archaeology pits steel, bronze and stone axes*  **XIII. Trade**  Geology  Provenance  **XIV. Pulling it all together** |

## D. Signatures

* Changes that affect General Education in any way MUST be approved by ALL Deans and COGE Chair.
* Changes that directly impact more than one department/program MUST have the signatures of all relevant department chairs, program directors, and relevant dean (e.g. when creating/revising a program using courses from other departments/programs). Check UCC manual 4.2 for further guidelines on whether the signatures need to be approval or acknowledgement.
* Proposals that do not have appropriate approval signatures will not be considered.
* Type in name of person signing and their position/affiliation.
* Send electronic files of this proposal and accompanying catalog copy to [curriculum@ric.edu](mailto:curriculum@ric.edu) and a printed or electronic signature copy of this form to the current Chair of UCC. Check UCC website for due dates.

##### D.1. Approvals: required from programs/departments/deans who originate the proposal. may include multiple departments, e.g., for joint/interdisciplinary prposals.

| Name | Position/affiliation | [Signature](#_Signature" \o "Insert electronic signature, if available, in this column) | Date |
| --- | --- | --- | --- |
| Praveena Gullapalli | Chair, Anthropology |  |  |
| Earl Simson | Dean, FAS |  |  |
| Gerri August/Julie Horwitz | Co-Dean, FSEHD |  |  |
| Jeffrey Mello | Dean, School of Business |  |  |
| Jane Williams | Dean, School of Nursing |  |  |
| Sue Pearlmutter | Dean, School of Social Work |  |  |
| James G. Magyar | Chair, COGE |  |  |

##### D.2. [Acknowledgements](#acknowledge): REQUIRED from OTHER PROGRAMS/DEPARTMENTS IMPACTED BY THE PROPOSAL. SIGNATURE DOES NOT INDICATE APPROVAL, ONLY AWARENESS THAT THE PROPOSAL IS BEING SUBMITTED. CONCERNS SHOULD BE BROUGHT TO THE UCC COMMITTEE MEETING FOR DISCUSSION

| Name | Position/affiliation | [Signature](#Signature_2) | Date |
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