


Archaeology Laboratory Courses

Collaborative Assignments and Projects & Undergraduate Research

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Anthropology

One of the strengths of the Anthropology Department at IUP is its preparation of Archaeology Track students for work in Cultural Resources Management (CRM). CRM is dedicated to balancing infrastructure improvements with a respect for past cultures through state and federally mandated programs, and is the largest sector of US archaeology, representing approximately 85% of the workforce (Rocks-MacQueen 2014). As part of their preparation to work in CRM, many Anthropology students enroll in one or more specialized methods courses to gain in-depth knowledge of archaeological techniques. The faculty also use these courses to teach various "soft skills" including teamwork, critical thinking, and research design through the assignment of team-based research projects. The courses that follow this model include Historic Artifacts (ANTH 486), Geoarchaeology (ANTH 487), Geophysical Applications in Archaeology (ANTH 488), Prehistoric Technologies of Eastern North America (ANTH 489), Applied Spatial Methods in Archaeology (ANTH 490), Zooarchaeology (ANTH 491), and Soil Science (ANTH 492).

Historical Artifacts

Each instructor takes a different approach depending on the course material, but two examples will give a sense of how collaborative assignments and undergraduate research are built into the courses. In Historic Artifacts (ANTH 486) teams of two or more students are assigned portions of a real archaeological artifact collection to identify and analyze. The skills necessary to perform these tasks are scaffolded during the semester through readings, weekly activities, lectures, and quizzes, on identifying the specific artifact types, researching unknown types, database management, and analytic methods. The students are then faced with a real collection that contains problems and unknowns, but also constitutes authentic data and a bonafide contribution to the archaeological record.

Most recently the artifacts have been those collected in the 1970s at Hanna's Town, the first British county seat west of the Allegheny Mountains, located near Greensburg, PA. Working in groups the students have the advantage of a built-in support network that is bolstered by allowing class time for the project as well as the availability of the professor for out-of-class assistance with the project. The artifact database is also structured to point the students toward accurate identifications. Because the students are jointly responsible for the resulting artifact identifications, they must work collaboratively to discuss the characteristics of the artifacts and reach a supportable identification. The assignment also actively engages undergraduates in the excitement of generating knowledge based on empirical observations. These practices closely correspond to the Association of American Colleges & Universities (n.d.) statement on HIPs. As with all of the Anthropology specialized methods courses, this class is dual-listed and undergraduates are paired with graduate students to provide additional informal mentoring. The final product of the course is a team-written report describing and analyzing their portion of the assemblage. The graduate students in the class must then use the entire assemblage, compiled from all of the individual groups, to perform higher-level analyses and present them orally. This practice further models proper research and collaboration for the undergraduates.

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Geophysical Applications in Archeology

In Geophysical Applications in Archaeology (ANTH 490), teams of two or more students are assigned portions of a real archaeological site to collect and analyze geophysical data using two different geophysical systems (usually ground penetrating radar and gradiometer). The skills necessary to perform these tasks are introduced during the semester through readings, weekly activities learning to collect and process data with each system, activities on data presentation and report writing, and lectures. Exams consist of the basic physics of each system, database management, and analytic methods. The students are then faced with an archaeological question that contains real issues and unknowns, but also constitutes the production of data and results that contribute to archaeological knowledge.

Two different types of sites were examined during the last two semesters when this course was taught. In 2016, the class conducted a survey at the "Ten Commandments" worker housing complex within the former Columbia Plate Glass Company property, which operated from 1903 to 1935 in Blairsville, PA. The goal of the survey was to identify,

geophysical, below ground evidence of the houses representing potential archaeological resources to fulfill the U.S. Army Corps of Engineers obligations under Section 110 of the 1966 National Historic Preservation Act (NHPA). Section 110 of the NHPA requires federal agencies to identify and manage historic resources on their land. The legal aspects of the work are correlated with what is taught in Cultural Resources Management (ANTH 415). The most recent project was conducted in 2017 at the Brush Valley Lutheran Cemetery in Brush Valley, PA. The Brush Valley Lutheran Cemetery Association requested a geophysical survey to identify unmarked graves so that they could better manage their property. The property became occupied by a Lutheran congregation starting in 1822. There were three buildings (including a log cabin) that served as the church prior to the existing building. Within the older section of the cemetery there are large areas without grave markers, thus the church is interested in knowing if these areas not only contain unmarked burials, but if these areas may contain evidence for the previous church buildings. Working in teams, the students have the advantage of a built-in support network that is strengthened by allowing class time for the project as well as the availability of the professor outside of class. The final product of the course is a written report describing the methods used and the analysis and the interpretation of the data from their portion (typically a 20-meter by 20-meter area) of the overall geophysical survey area. Each team then presents the data, analysis, and interpretations orally.

Conclusion

These courses have tangible outcomes for students: The students learn the joys and challenges of creating original data. They learn to collaborate with their peers, both working in teams and combining several datasets to create a final project. They learn to plan their research and adapt when things do not go as planned, forcing them to think creatively and critically. Several undergraduates have used the projects in these classes as the nucleus for an Honors Thesis or presented their results at the IUP Undergraduate Scholars Forum. Some of these students also presented their research at regional and national conferences, completing the research cycle by making their findings public and giving them valuable additional experience in preparing a presentation and receiving professional critiques.

As a result of these courses nearly all undergraduate Archaeology Track Anthropology majors have exposure to collaborative original research as part of their normal coursework. Many also participate in additional independent research through the Anthropology Department Honors Program, or grant-funded research with the faculty, but by including these collaboration and independent research in our courses we better prepare every student for success as a professional archaeologist

References

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