Archaeology at Marlette Jr/Sr High School

An Introduction to Archaeology Course for Pre-College Learners
Goals/Purpose:

•Expose Pre-College students to the field and study of Archaeology:

•Provide an Applied Science elective course:
  • Require students to apply learning, knowledge and skills from previous core classes:
    • Next Generation Science Standards of Cross Cutting:
      • Patterns, Cause and Effect, Scale Proportion and Quantity, System Models, Energy and Matter, Structure and Function, and Stability and Change

•Design a quality lab-based science class for upper classman
  • 1 Semester in length
  • Offered in the spring of the year
Partnerships: Needed to Provide a Real-World Archaeology Experience

- Michigan Archaeologist: Dr. John Halsey
- Michigan Archaeologist: Dr. Dean Anderson
- Michigan Archaeologist: Stacy Tchorzynski
- Smithsonian: Dr. Dennis Stanford
- University of Michigan: Dr. Dan Fischer
- University of Tennessee: Dr. Jefferson Chapman
Instructors:

• Paula McElroy: Science and History Instructor at Marlette Jr/Sr High School
  • MA – History (Oakland University)
  • MS – Applied Science Education (Michigan Technological University)
• Tom McElroy: Retired Science Teacher (Lakeville Community Schools)
  • MS – Science Education (Eastern Michigan University)
  • Archaeology: Western Michigan University (Newaygo Burial Mounds)
  • Amateur Archaeology: Fort Edward, New York
Course Design: Study of Archaeology

- First 2 weeks of class
- History, Fields of Study, Methodology, Purpose and Ethics in Archaeology
- Labs: How to Record and Classify artifacts
Course Design: History of Marlette

- 3 Weeks of Study:
  - Native American History of Marlette (Paleo to Woodland)
  - History of European Contact
  - Early American History
  - History of the Village of Marlette
  - History of Marlette High School (Current Site of Building)
  - Labs: Native American Manufacturing Lab
Native American Manufacturing Lab
Course Design: 3-D Spatialization and Mapping

- 2 Weeks
- Methods of 3-Dimensional Mapping:
  - Datum Points, Lay-Out of Pits and Pit Sites, Recording Artifacts in 3-D
  - Student generated maps of Marlette High School and surrounding area
- Labs: 3-D Mapping Lab, Marlette GPS/Mapping Lab
Ground Penetrating Radar as a Tool for Archaeology: Mapping the “void” under the parking lot.
Course Design: Dating Techniques

- 2 Weeks
- Absolute vs Relative Dating:
- Stratigraphy
- Carbon-14 Dating Methods:
- Obsidian Hydration Dating:
- Dendrochronology:
- Labs: Marlette Dendrochronology Lab
Course Design: Geology of Marlette

- 1 Week
- Review of commonly found rock and mineral types in Marlette
- In-Depth look at Soil Profiles
- Review of Marlette Geology
- Labs: Michigan Rocks and Minerals Lab, Soil Profile Lab
Course Design: Development of a Research Question and Proposal for a Dig

- 1 Week
- Students research and apply everything they have learned up to this point.
- Develop a Research Question based on their prior learning, the local area surrounding the High School building, and their own curiosity and interests.
- Pit Groups develop a Hypothesis and Research Proposal for a 3x3 ft Test Pit
- Research Questions, Hypothesis, and Research/Dig Proposals are approved by Instructors
Course Design: Dig

- 4 weeks
- Layout of Baselines and Datum Points
- Test Pits 3x3 ft square
- Collection and Recording each artifact found in dig
- Closing of Pits
Course Design: Conservation/Cleaning and Cataloguing of Artifacts

• 2 Weeks
• Artifacts are cleaned and conserved (when necessary).
• Artifacts are permanently catalogued
• Artifacts are researched and profiles are developed
• Artifacts are stored in locked, protected and permanent storage
Cleaning and Cataloguing:
Course Design: Written Reports

- 1 Week
- State of Michigan Archaeology Report
- In-depth report of students’ findings, pit and site maps, artifacts, research and dig techniques, pit soil profiles, research questions and proposals, and student conclusions and suggestions for future research.
- Students’ Final Exam for the course!
Course Design:

- Field Trip to University of Michigan
  - Department of Paleontology
  - Museum of Natural History
  - Museum of Archaeology
Course Design:

• Archaeology Current Event Reports and Presentations
  • Each student chooses a current event (in the past year) in Archeology to research and report on.
  • Students write a written report on their Current Event.
  • Students present their findings to the class including pictures and details of the dig and its importance to the Field of Archeology.
  • Give students a broad view of current work and recent findings in the field of Archeology.
Course Successes:

• Students have learned and have become more aware of the peoples and cultures that came before them from pre-history to the modern era.

• Students have produced a “real” Archaeology report filed with the State Archeologist that contributes to the field of Archaeology in Michigan.

• Students have successfully “practiced” the Methodology of Science by creating a research questions, developing a Hypothesis, carrying out a scientific experiment, interpreting the results, and finally reporting those results to the scientific community.