

Lafayette College
Department of Civil and Environmental Engineering

CE 322: Environmental Site Assessment

Spring 2019

Instructor: Dr. Arthur D. Kney (kneya@lafayette.edu)
Office: Acopian Engineering Center (AEC) Room 318
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Lectures: Room 327 AEC – Tuesday and Thursday: 8:00 – 11 am (See Schedule)

Course Information

Website: <http://sites.lafayette.edu/kneya/courses/courses-taught/ce-322/>

Moodle Site: <https://moodle.lafayette.edu/>

Text/Reading: All reading material will be provided by Professor – *Publications out of Print*

- 1) Environmental Site Investigation Guidance Manual, ASCE Publishing, 1996
- 2) Environmental Site Assessment, *Phase I: A Basic Guide -Second Edition*, Kathleen Hess, Lewis Publishers, NY, 1998
- 3) ASTM 1527-13/1528-14 (for educational purposes only)

Prerequisite: Chemistry 122 and/or permission of the instructor

Course Description: Environmental Site Assessment (ESA) is an introduction to preliminary site investigations (i.e., Phase 1 Evaluation) for environmental hazards. Topics include identification of wetlands, titles search, air photo interpretation for environmental hazards, visual site surveys, operation of environmental monitors, current United States Environmental Protection Agency (USEPA) regulations regarding site assessment and investigation, and sampling of surface materials.

Purpose: This elective course offers students with an interest in Environmental Engineering and/or Environmental Science experience in environmental real estate assessment with regards to identification of environmental conditions. CE 322 fulfills requirements for those students in pursuit of a Bachelor of Science (BS) degree in Civil Engineering, a Bachelor of Arts (AB) degree minor in Environmental Science and can apply to other engineering and science degrees. CE 322 is designed to be taken in a student's junior or senior year.

Course Objective: The objective of CE 322 - once a student has satisfactorily completed all requirements he/she will be able to 1) conduct a Phase 1 Environmental Site Evaluation on an average commercial property 2) with minimal guidance and 3) report the information in a manner consistent with ASTM Standard E1527-13.

Learning Objectives: CE 322 is one of a series of courses taken in the area of environmental engineering and/or environmental science/studies. The information presented in this course serves to provide students with the tools needed to evaluate a property from an environmental perspective regarding chemical and physical hazards that may be present. Specifically, students will learn how identify “recognized environmental conditions (RECs)” in addition to gaining an understanding of how to safely deal with them. The final deliverable for the course is a professional report (i.e., Phase 1 ESA Report) produced in accordance with ASTM E1527-13 and E1528-14 standards. The fundamental tools taught are necessary for a student interested in concentrating in the area of "Environmental Engineering" within the Civil and Environmental Engineering discipline. After completing this course a student should be able to:

- understand how to use ASTM standard E1527-13/E1528-14 with regard to Environmental Site Assessment (ESA).
- evaluate a commercial property through observation and inspection, records review (federal, state and local), deed search, and personal interviews.
- use various forms of technology to produce both graphical and visual documents that can be incorporated into both written and oral presentations.
- communicate oral and/or written findings gathered through an ESA in accordance with ASTM Standard 1527 in a clear and concise manner with a particular audience in mind.
- understand both the legal and ethical issues that are involved with assessing a property from an environmental perspective.
- maintain a professional relationship with all people involved in a project and uphold engineering standards with regard to the ASCE code of ethics and professionalism (<http://www.asce.org/code-of-ethics/>).

Expectations Rules and Procedures:

1. Attendance is required at all regularly scheduled lectures and field trips.
2. Assignments must be submitted by 4:00 PM on the due date. 10 % will be deducted each day an assignment is overdue. ***The first 10 % is deducted at 4:01 PM, the next 10 % the following day at 4:01 PM and so on...WEEKENDS COUNT!***
3. **Course Project:** During the semester, students (in groups of 2 or 3) will conduct a “Blind” Phase 1 Environmental Site Assessment (ESA). Each group may choose their own site; however, the site must be within Northampton County. The instructor must give final approval to the choice of site. A site visit should **not** be conducted unless approved by the instructor. Midway through the semester each group will deliver a preliminary presentation covering the professional status of group members, choice of site as well as other information available at time of presentation. On the last few days of the course all groups will deliver final presentations summarizing the results of their Phase 1 Site Assessment. Each group must also submit a project portfolio and final report.
4. **Costs:** Group members will be required to make phone calls, send letters, pay copying fees, and travel to local, state and federal agencies in order to obtain site-specific background information needed to complete Phase 1 site investigations. Group members will be responsible for covering all costs associated with these activities.

Grading Plan:

General:

Reading assignments/quizzes	- 10 %
Class attendance, participation and leadership	- 10 %

Projects:

Virtual Brownfield/Site Recon	- 15 %
Site selection presentation	- 5 %
Final presentation	- 10 %
Final Phase 1 Report	- 25 %
Phase 1 Exam	- 25 %

Federal Credit Hour Statement: The student work in this course is in full compliance with the federal definition of a four [two or one as appropriate for half and quarter unit courses] credit hour course. Please see the Lafayette College Compliance webpage (<http://registrar.lafayette.edu/additional-resources/cep-course-proposal/>) for the full policy and practice statement.

FERPA Information: Moodle contains student information that is protected by the Family Educational Right to Privacy Act (FERPA). Disclosure to unauthorized parties violates Federal privacy laws. Courses using Moodle will make student information visible to other students in the class. Students are to be aware that this information is protected by these Federal privacy laws and must not be shared with anyone outside of the class. Questions can be referred to the Registrar's Office.