

**ROBERT S. WELCH CENTER FOR GRADUATE AND PROFESSIONAL STUDIES
GOUCHER COLLEGE
TEACHERS' INSTITUTE
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SYLLABUS AND REQUIREMENTS FOR GRADUATE CREDIT

Preparing Students for Advanced Placement® Environmental Science

June 26 – 30, 2017

AP 527.200

Instructor: Anne Soos

Meeting Times: 8:30 am – 4 pm Monday – Thursday (with class unanimous consent we will begin at 8 am on Tuesday-Friday, and end at 3:30 pm Tuesday-Thursday and 12:30 pm on Friday)

Attendance Policy: lateness and absence are not permitted

Instructor contact information:

Anne Soos, 125 Hun Road, Princeton, NJ 08540 annecsoos@gmail.com

This intensive one-week course will provide an overview of the entire year of AP Environmental Science (APES). Each day, important concepts will be discussed and related specifically to the AP ES course outline, and laboratories associated with these concepts will be presented. The major goal of the course is to expose participants to both content and hands-on activities important to teaching a successful APES course. Homework for participants may consist of working up lab data, writing responses to FRQs, writing original FRQ's and multiple-choice questions, or preparing a course syllabus that correlates to the APES course outline. Participants are urged to bring electronic materials/favorite web sites to share as some class time will be reserved for sharing and question/answer sessions. Participants should bring a copy of their school calendar for the coming year, clothing that would allow visiting a garbage incinerator (shoes with closed toes are required!), a scientific calculator of some type, a laptop computer or iPad, pencils, a ruler, and a three-ring binder for hard copies of handouts. Students will be asked to write out answers to the 2017 Free Response Questions before coming to the Institute. These will be available at AP Central in mid-May. Goucher will provide participants with a flash drive so that they can download a large number of electronic handouts from the instructor.

Participants should bring a pair of safety goggles.

During this course, students will demonstrate the following AP Teacher Standards:

1. Content Knowledge
2. Teacher Certification (i.e. AP Syllabus)
3. Pedagogy and Student Learning
4. Analysis and Reflection
5. Ongoing Professional Development

In addition, students will demonstrate the following outcomes as suggested by the Maryland State Department of Education:

Graduate Programs in Education Outcomes

1. GPE001: Knowledge - Theory: Apply knowledge of psychological and educational theory, research, and/or philosophy related to AP Environmental Science.
2. GPE002: Knowledge - Assessments: Demonstrate understanding and use of the types of assessments appropriate to AP Environmental Science.
3. GPE004: Knowledge - Diversity: Demonstrate knowledge of concepts related to diversity, and the interaction between concepts related to diversity and the admission of students to AP courses. Equity and Access will be discussed.
4. GPE005: Skills - Theory: Demonstrate the ability to incorporate theory and research into practice related AP Environmental Science.
5. GPE006: Skills - Data: Demonstrate the ability to gather appropriate data and use data in problem analysis and decision-making related to AP Environmental Science.
6. GPE007: Skills - Problem Solving: Use problem solving/critical thinking strategies appropriate to AP Environmental Science.
7. GPE008: Skills - Reflection: Use reflective practice within the area of AP Environmental Science.
8. GPE009: Skills - Communication: Demonstrate effective communication and presentation skills related to AP Environmental Science.
9. GPE010: Skills - Technology: Use a variety of technologies appropriate for working in the area of AP Environmental Science.
10. GPE011: Dispositions - Service: Demonstrate service to the community, as related to specific projects related to AP Environmental Science.
11. GPE012: Dispositions - Diversity: Demonstrate positive dispositions toward diversity and equity. Equity and Access will be discussed.
12. GPE013: Dispositions - Professionalism: Demonstrate professionalism in one's demeanor, behavior, conduct, decision-making, and interactions with colleagues.

Required pre work:

- a. Join the APES AP Teacher Community, and post a comment (<http://apcentral.collegeboard.com/apc/public/homepage/4340.html>)
- b. Write out answers to all released Free Response Questions from 2017 AP ES examination and bring to first day of class. (http://apcentral.collegeboard.com/apc/public/exam/exam_information/index.html, go to Environmental Science and choose 2017 exam.) Please put the answer to each question on a separate sheet, and do NOT put your name on your papers
- c. All participants must complete the pre-class Google survey at least one week before the start of class. ***Students enrolling in this course should email Anne Soos (annecsoos@gmail.com) so that they can receive and fill out the course questionnaire before June 15th.***
- d. Try to locate in your school or purchase a copy of Environmental Science for AP by William Molnar. This lab manual is a great resource for teachers new to the course.

Materials to bring: a copy of your textbook and lab book (if any) for 2017-2018 if you have it, scientific calculator, ruler, three-ring binder, pencils and pens, note paper or a spiral notebook, sticky notes, laptop or tablet with Excel or able to access and use Google Drive Sheets, closed-toed shoes and **Safety Goggles**. You may wish to bring a camera. I will have carbonless sample lab notebooks for you, so you can use these to take notes, if you wish.

Course Objectives:

- 1) This intensive one-week program is designed for both new teachers of APES, and experienced teachers who are interested in updating their class. We will survey the entire AP Environmental Science syllabus. The aim of the course is to assist teachers new to AP Environmental Science in developing and implementing their own AP Environmental Science Curriculum, and to provide experienced teachers with additional information on best practice and updated materials.
- 2) The course will introduce participants to both content and hands-on laboratory activities important to teaching a successful AP ES course. Participants will use spreadsheets for analysis of laboratory data.
- 3) Participants will be encouraged to share successful teaching strategies and techniques with each other during the course.
- 4) Participants will practice both multiple choice and free response questions to fully understand how the AP Environmental Science exam is developed and scored.
- 5) Participants will leave this course with confidence to establish or modify their own classes and a syllabus or course outline to guide them towards success in the first year of their class if they are new to AP ES.

Tentative Syllabus (subject to change, due to weather and participant interest and availability of sample kits from suppliers)

- What an AP course is and is not
- AP equity and access
- A discussion of textbooks, review books, and lab manuals
- How the AP ES exam is scored
- How to use published AP rubrics to grade your own students' FRQs
- AP level multiple choice questions
- How to put together a tentative syllabus for your new AP course
- Using spreadsheets in your class
- Exposure to a variety of "must do" hands-on labs you will be able to use in your AP class, using Molnar's AP* Environmental Science Laboratory Investigations as one of our sources for labs during the week
- Tips on teaching your students how to solve calculation problems without the use of a calculator

Participants will go two field trips: one a short walk to a pond located on campus to do chemical water testing, the other to a waste-to-energy facility located in Baltimore, for which Goucher will provide transportation. **Close-toed shoes** are a requirement for this trip!

5. Bibliography: None

6. Requirements for Graduate Credit

Must be received by Saturday, July 7, 2017 at the latest, one week after the end of the Institute. The final submission should be clearly labeled with the participant's name, must be received by the instructor in hard copy or (better) by an email document at her home address/email address within one week of the end of the Institute, or at the end of the class on June 30, 2017. (Anne Soos, 125 Hun Road, Princeton, NJ 08540 or annecsoos@gmail.com). This submission will NOT be returned to the participant.

It is suggested but not required that participants new to AP ES who do not have a prepared syllabus should do A, and that participants new to AP ES with a prepared syllabus should do B. Experienced participants are required to do C.

A. You will design a syllabus for your AP course using your school's academic calendar for 2017-2018, using your selected textbook, Molnar's laboratory manual, and the AP course description.

Develop your course syllabus week-by-week and month-by-month or unit-by-unit by using your textbook and your school's academic calendar. Be sure to include vacation days and other days your school is not in session or your class does not meet. Build in at least 3 weather-related lost days. Use your knowledge of your students' backgrounds to estimate which units will be more difficult and take more time, which will be easier for them and require less class time. Make sure that your syllabus is in line with the AP ES course syllabus published at AP Central.

For each unit, estimate the number of days you will need, and tentatively place chapter and/or unit tests. Choose at least 1 Molnar lab for each unit, and give its title and number, as well as a brief explanation why you chose this lab and how it fits into your syllabus. Estimate the amount of time you will spend on each lab.

In addition, for each unit and lab, refer specifically to the AP course outline, and annotate your course plan with the parts of the AP syllabus each section will cover. (For example, "Unit 1 will cover I A, B, C, and II B and C). If you do a careful and complete job on this assignment, your syllabus for submission for the audit process should be well on its way to completion.

B. Since you already have a syllabus, you will focus on laboratory work, an important part of any laboratory science. You must do both parts 1 and 2,

1. Pick 5 labs from Molnar that you feel could fit into your course. For each lab that you choose, give the name and number, and do the following:

- a. explain why you picked this lab
- b. how you would need to modify the lab for your class, if at all
- c. specifically where this lab would fit in your syllabus
- d. the number of class periods you would spend on this lab
- e. what equipment you would need
- f. which specific AP Syllabus topics are included in this lab

2. For ONE of the labs we do during the summer institute, develop a grading rubric that you will use for your class next year when you teach AP ES.

C. Each experienced participant will design and share an inquiry-based lab activity (either original or modified to be inquiry based), which is appropriate for use in an AP environmental science class, and an original FRQ correlated to the AP syllabus which includes the question and grading rubric. The final submissions must include changes incorporated as a result of the class discussions following presentation. Each experienced participant must also individually prepare a short screencast (3-5 minutes) on a topic they will cover in the next academic year, and give a 5-minute presentation on a favorite web site. These will be presented to the class in the course of the Institute.

Accessing Grades and Transcripts:

Goucher College does not issue grade reports. You can obtain your grade approximately 3 weeks after concluding the course by going to the Goucher website (mygoucher) and follow the prompts to receive your grade.

If you need a paper copy of grades for tuition reimbursement, you will need to request a transcript in writing. You can fax to Student Administrative Services, or call SAS (410)-337-6504 or mail to SAS at:

Goucher College, SAS
1021 Dulaney Valley Road
Baltimore, MD 21204

There is no charge for this request. Please allow 3-5 working days to process.

To access the transcript request form, please go to <http://www.goucher.edu/x1891.xml>

Questions? Please call 410-337-6200.