

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 24 – 28, 2019

AP 527

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 course is designed both for new AP Environmental Science teachers and for experienced AP Environmental Science teachers who have not recently participated in a summer APSI. This intensive one-week course will provide an overview of the entire AP Environmental Science (APES) curriculum. Each day, important concepts will be discussed and related specifically to the new AP ES Course and Exam Description (CED), and participants will perform laboratories associated with these concepts. The major goal is to expose participants to both content and hands-on activities important to teaching a successful APES course. The new AP resources coming on-line in fall 2019 for students and teachers will be discussed. Participants will be expected to spend some time on homework for this institute, which could include working up lab data, reading lab activities, and planning and/or revising their courses based on the rearticulated AP ES Course and Exam Description. Experienced teachers will be asked to write and share possible FRQ's or inquiry-based labs, or to revise their course plan based on the new CED. 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 have access to a copy of their school calendar for the coming year, clothing that would allow visiting a garbage incinerator (shoes with closed toes are required!), items for doing water-testing (shoes that can get wet), a scientific calculator of some type, a laptop computer or iPad with internet access, pencils, a ruler, and a three-ring binder for hard copies of handouts. Students will be expected to have read and answered the 2019 Free Response Questions before the Institute begins.

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 the 2019 AP ES examination and bring to first day of class. Information on accessing these questions will be sent to you in May, or you can find them by going to (http://apcentral.collegeboard.com/apc/public/exam/exam_information/index.html, go to Environmental Science and choose 2019 exam.) Write out your answers in longhand, and try to be as complete as possible.
- c. Email the instructor Anne Soos (annecsoos@gmail.com) any time after May 1 so that you can receive and fill out the course questionnaire before June 15th.
- d. Students should complete the short activity they will receive from the instructor once she receives their questionnaire. Students should bring this activity to class.
- e. Try to locate in your school or purchase a copy of the lab manual by William Molnar, ISBN 9781413897166 Lab Investigations AP Environmental Science 2E. This lab manual is a great resource for teachers new to the course. Either the blue or the green cover edition is fine.

Materials to bring: a copy of your textbook and lab book (if any) for 2019-2020 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 may 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 rearticulated AP Environmental Science syllabus using the newly released Course and Exam Description (CED). The aim of the course is to assist teachers of AP Environmental Science in developing and implementing their own AP Environmental Science Curriculum in accordance with the new CED, 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) Information on new resources available for AP teachers beginning in the fall of 2019 will be demonstrated and discussed
- 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 as teachers of AP Environmental Science

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
- Overview of changes in APES for 2019-2020
- A discussion of textbooks, review books, and lab manuals
- How the AP ES is exam is scored
- What's new for FRQs
- What's new for 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, as well as a number of instructor-developed labs.
- In-depth discussion of the new course and exam description of APES

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 bus transportation. **Close-toed shoes** are a requirement for this trip!

5. Bibliography: None

6. Requirements for Graduate Credit

Must be received by Friday, July 4, 2019 at the latest, one week after the end of the Institute. My final grades are due to Goucher by July 11, 2019. 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 28, 2019. (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 all participants do option A. However, experienced participants may opt to do option B instead of option A.

Option A: (for any participant) You will design/redesign your syllabus for your AP ES course using your school's academic calendar for 2019-2020, and the rearticulated CED. You may wish to use Molnar's laboratory manual in this syllabus.

Develop or revise your course syllabus unit-by-unit *as you plan to teach it* by using your textbook and/or the CED 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. **You are aiming for about 140 45-minute periods of instruction, and about 25% of this class time should involve hands-on laboratory activities.**

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

Note that the CED has spaces in it for you to keep a diary of time spent/resources used for each unit and topic. This diary will be invaluable when you must submit your course audit in 2020.

Option B: (for experienced participants only,, unless doing option A, above) Each **experienced participant** will design and share either an inquiry-based hands-on lab activity (either original or modified to be both hands-on and inquiry based), which is appropriate for use in an AP environmental science class, or an original FRQ correlated to the new AP ES CED which includes the question and grading rubric. The final submissions must include changes incorporated as a result of the class discussions following presentation.

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 have misplaced your password, please contact the help desk and they will walk you through this procedure (410-337-6322).

If you need a paper copy of grades for tuition reimbursement, you will need to request a transcript in writing. You can fax your request to Student Administrative Services (SAS) at 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>