

Chesapeake Bay Governor's School for Marine and Environmental Science
Glenns Campus

Foundations of Science- Fall 2015/Spring 2016

SCT 111, 112 (4 credits/semester, total 8 credits)

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Course Description: Foundations of Science is a sophomore level introduction to Earth Science systems that focuses on the geology of Virginia and the ecology and issues of the Chesapeake Bay watershed. This class will emphasize the use of technology resources and introduce students to the scientific method, data collection and analysis using computer applications. Our journey through Foundations will start at the beginning- The Big Bang!, then lead us through the processes that have shaped our planet and affect our lives today. We will look critically at issues of resource utilization, especially water, and how humans impact our local, regional, national, and global ecosystem.

Course Overview:

I. Introductory Geology: Origin of the Universe, Earth formation, Wegener's Continental Drift, Plate tectonics the Rock Cycle and basic geology, Geologic History of Virginia, Geologic Resource Extraction and related environmental impacts

II. Watershed Ecology: watershed controls (hydrology, geology, climate), water chemistry; water issues and human use, pollution types, sources and mitigation. Green engineering and best management practices.

III. Introduction to Ecology: Geochemical cycles (water, carbon, nitrogen, phosphorous), community and population dynamics, ecological interaction

IV. The Chesapeake Bay Watershed: geologic history of the Bay; watershed issues, mapping, environmental concerns

V. One World is Enough for All of Us? an examination of how we as the human population of Earth affect our ecosystem every day- solid waste, energy use, sewage disposal, land use, food resources, endangered species, etc.. Is this one planet big enough for all of us?

Textbooks: *Living in the Environment*, Miller (14th Edition); readings as assigned

Grading: Your grade will be based on the following percentages:

Tests & Projects	60%
Classwork/Homework/Quizzes	30
<u>Participation & Preparedness</u>	10 (this is both for classroom and especially in fieldwork)
	100 %

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Late Work/ Make-up Policy:

** If you miss a class IT IS YOUR RESPONSIBILITY to get all notes and assignments from that class, please let me know if you will be absent in advance and I can try to help you in this.

**LATE WORK , please do not do this, it causes big problems for you, for me and is a very, very bad habit to get into, see me if you have a problem with an assignment.

Required Materials: 3-ring binder with dividers and paper for note taking, blue/black pens, pencils, Composition bound notebook (this will serve as a field notebook and journal and must be taken on all field trips). A computer "Flash" drive is required and must be brought to each class session.

Course Expectations:

1. Be respectful of your colleagues and instructors always, and respectful of the environment and critters when out in the field.
2. Follow school rules, treat equipment with care, and observe proper safety measures in class, labs and in the field.
3. Be in class every day, ready when class starts and PARTICIPATE! You cannot learn simply by osmosis, you need to be engaged, asking questions and taking notes. In the field, a can-do, adventurous attitude is a must- remember, **mud is a GOOD thing.**
4. In field activities, students will conduct themselves in a safe and mindful manner taking care to observe rules of boats, buses and teachers.

Attendance: See handbook for CBGS policy. Attendance is required, if you are absent, it is your responsibility to make up any missed assignments, and get notes. Make-up work is due within 2 days of your return to class and tests or quizzes must be made up THE DAY you return. A deduction of one letter grade/day late will be assessed for late work. Please contact me if you will be missing class so we can avoid any problems and make sure you can keep up.

Policy for Cell Phones/ Laptop Computers/ Misc. Electronic Devices/Inappropriate computer use:

No cell phones, laptop personal computers or handheld video games may be used during designated class time unless by instructor approval. Class begins promptly at the assigned time and all electronic devices must be off, put away, and not immediately available for use during time devoted to learning. Use of CBGS computers must follow appropriate computer etiquette where equipment is treated carefully and respectfully, and appropriate student content only is observed. If a student is found violating this policy the following actions will be taken:

1. First offense a verbal warning will be issued.
2. Second offence a written school referral will be issued to the student; their parents and the home school will be notified and appropriate action taken based on school policy.

Tips for Success:

A good student is fully present in class, that means they are focused on what is going on in the lecture or activity, they are actively learning, asking questions, taking

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notes and thinking about what they are doing. Start with good habits like being prepared when class begins, ready to take notes, having done homework and write down any questions you may have thought of prior to class. Write down assignments in a separate "To Do" ledger, this will help you organize your time and prioritize your assignments. I often give larger projects or papers a big block of time for completion, a few weeks even. This means that you need that much time to get organized, do research, gather sources, think, outline, write and edit. It does not mean that you have two weeks to wait to do it, i.e. the night before. A good student engages their instructor in class, and keeps in contact, asking questions, and seeks out answers when they are confused or curious. Put me to work, that's why I am here! *SCB*

CBGS Statement on Safety What to know
and do to be prepared for emergencies at
CBGS/RCC: - Sign up to receive RCC text
messaging alerts Keep your information up-to-
date
(<https://alert.rappahannock.edu/index.php?CChack=1>)

- Know the safe evacuation route from each
of your classrooms. Emergency evacuation
routes are posted in campus classrooms. -
Listen for and follow instructions from
CBGS/RCC or other designated authorities. -
Know where to go for additional emergency
information.
- Report suspicious activities and objects

Statement on Americans with Disabilities Act Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 require Schools to provide an 'academic adjustment' and/or a 'reasonable accommodation' to any qualified individual with a physical or mental disability who self-identifies as having such. Students should contact inform CBGS faculty for appropriate academic adjustments or accommodations.