

Falmouth High School

Curriculum Guide

Science Department



Course Numbers 4120 & 4121
Environmental Science CP & Environmental Science
Developed by Rupert Gordon, Claudio Palhais, Cory Dubuque,
Heather Goodwin, and Scott Crocker
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Course Rationale

the purpose of this course is to develop in students the habits of mind to become lifelong learners who are readers, writers, problem solvers, information seekers and gathers, and presents as described in the FHS skills rubrics. Students will use the scientific method to investigate the Earth's living and nonliving systems and the impacts humans have on them.

Course Description

4120 Environmental Science CP (Year)

Grade 10 4 Credits

4121 Environmental Science (Year)

Grade 10 4 Credits

Environmental science is the study of how life on Earth is sustained, the causes and effects of environmental problems, and how these problems can be solved. This interdisciplinary science draws upon the fields of biology, earth science, and chemistry. Students will investigate ecology and ecosystems, evolution and biodiversity, extinction, agricultural and mineral resources, renewable and nonrenewable energy sources, climate change, water and air pollution, and population growth. Classroom activities will include case studies of environmental issues, hands-on and virtual labs, and individual and small group projects.

Student Audience

Grade 10 Credit Level - CP; inclusion classroom 4 credits

Environmental Science Core Text and Instructional Resources

Environmental Science, 2008, Holt

Teacher Resources - Reading and Study Workbooks; Computer Test Bank; Investigations in Environmental Science - Land Use, Energy Conservation, Water Management; Environmental Science Activity Kit

Content Specific Essential Questions

Essential Questions

- How do humans impact the environment?
Environmental science is the study of the impact of humans on the environment. Humans impact the environment through consumption of energy, mining of natural resources and pollution.
- How do living things interact with each other and with their nonliving environment?
Ecology is the study of how living things interact with each other and with their nonliving environment. All living things depend on other biotic and abiotic factors to continue life.
- What are the causes of changes in population size and biodiversity?
Changes in population size and biodiversity result from the following: natural causes, changes in climate, human activity, and the introduction of invasive, non-native species.

- How does pollution impact the environment?
Pollution has many sources and has environmental impacts on the atmosphere, the geosphere, and the hydrosphere.
- What distinguishes a renewable from a non-renewable resource?
Resources can be classified as renewable and nonrenewable, the uses of which have both advantages and disadvantages. Renewable energy sources can be re-established at a sustainable level. Non-renewable cannot be counted on for future energy resources.
- How do different types of pollution have economic, political, and health impacts on a local and global scale?
Different types of pollution have economic, political, and health impacts on a local and global scale. Pollution impacts the environment through loss of biodiversity, loss of jobs, and increased healthcare costs.
- How do the actions and habits of people help to protect the environment?
People's actions and habits can help to protect the environment by recycling, limiting CO₂ emissions, decreasing carbon footprint, utilizing renewable energy resources and other conservation methods.

Student Learning Outcomes

Grading Policy

Weighting of Grades

Teachers in the science department will weight tests and quizzes as 60% of the quarterly grade. In general 2 or 3 quizzes will be considered the equivalent of one test. Labs, including formal lab reports, major projects, and homework will be weighted 40% of the quarterly grade. Alternatively, teachers may weigh labs, projects, and homework for 30% of the quarterly grade and include a 10% participation grade. The participation grade will consist of objective measurements such as notebook check, class work, and ungraded homework assignments checked for completion. Tardiness and absences will not be included in the participation grade. Midterm and final exams will be weighted 10% each 20% if only a final exam is given.

Averaging of Grades

Teachers in the science department will use the mean of test/quiz scores and the mean of scores on other student work during the quarter. These means will be weighted 60/40 or 60/30/10 in determining the quarterly grade. Major projects and lab reports will be counted more heavily than routine homework assignments.

Retaking Tests and Quizzes

Students may not retake tests except at the discretion of the teacher as specified in the classroom management plan. Only students in good academic standing, that is those who are consistently turning in class assignments, will be allowed to retake a test. The grade on the retake test will replace the first grade.

Late Work

Students are expected to turn in all assignments on the assigned date. Any late assignments may be accepted for reduced credit as outlined in the individual teacher's classroom management plan for up to 2 class days following the due date. No work will be accepted after the assessment on that particular unit. Students may make up tests until the end of the quarter. However, if a student does not make up the test by the end of the quarter, he or she will receive a grade of zero on that test. Students should recognize that the longer they wait to make up a test, the lower their score is likely to be.

Use of Zeros

Any assignment for which no work is turned in will receive a grade of zero. Long term or multiple step projects will receive partial credit based on the amount and quality of the work turned in.