

Kenneth P. Dietrich School of Arts and Sciences
College in High School

2023-2024

Sustainability Flash Lab
GEOL 1330--3 Credits

Description: This course provides a starting point for understanding sustainability by measuring our individual and collective impact through “home labs” designed to target specific areas of consumption. By examining energy and resource use in our own lives and homes (including electricity, water and sewage, garbage and recycling, energy use, food, consumerism, and transportation), we begin to understand the complex web of production, distribution, delivery, and consequences of human society today. We also ask broader questions: How do we measure production and consumption? How do geographical and socio-economic environments affect these things? How do we go beyond traditional measurements to quantify more comprehensive impacts and life cycles? Discussion will be aided by texts, essays, and reflection on the personal experience of working toward sustainable life changes.

Prerequisite: None.

Grading: Grading will be based on lab assignments, essays, and tangible action toward sustainable changes.

Textbooks: *No Impact Man*, by Colin Beavan. Publisher: Piatkus Hb/Tpb. ISBN 978-0749929206, and *Sustainability Made Simple*, by Rosaly Bird & Lauren DeMates, Publisher: Rowman & Littlefield, ISBN 978-1442269095

Goals and Objectives: Students will work toward more sustainable practices in their own lives, on their school campus, and/or in the local community, with the goal of having their efforts resonate far beyond the classroom. They will come to understand more about the active and passive decisions that they make every day as it relates to Energy Use, Consumer Choices, Food Choices, Personal Action, Waste Disposal/Recycling/Composting, Water Use, and Transportation.

The following topics should be covered:

What is sustainability? – Terminology and Language

Sustainability – Culture, Geography, and History

Optional Field Trip: University of Pittsburgh, Sustainability Tour

Garbage, Recycling, and Compost

Assignment Due: Home Lab Experiment 1

Optional Field Trip: Waste Management Recycling Center (Neville Island)

Kenneth P. Dietrich School of Arts and Sciences
College in High School

Food Choices and Industrial Agriculture

Assignment Due: Home Lab Experiment 2

Optional Field Trip: Local Grocery Store, Community Garden, or Farm

Heating and Air Conditioning

Assignment Due: Home Lab Experiment 3

Electrical Grid & Energy Infrastructure

Assignment Due: Home Lab Experiment 6

Optional Field Trip: Solar Array

Consumerism

Assignment Due: Home Lab Experiment 4

Optional Field Trip: Local K-Mart or Wal-Mart

Transportation

Assignment Due: Home Lab Experiment 5

Sustainability in Government: Conservation & Alternative Energy Policies

Optional Field Trip: Borough of Millvale

Water and Sewage

Assignment Due: Home Lab Experiment 7

Optional Field Trip: ALCOSAN's Wastewater Treatment Plant (Pittsburgh)

Sustainability in Business: LEED and Sustainable Building Standards

Optional Field Trip: Frick Environmental Center (Frick Park) or Conservation Consultants Inc. (South Side)

Communicating Sustainability and Strategic Planning

Optional Field Trip: University of Pittsburgh, Sustainability Tour

Personal Action and Advocacy

Assignment Due: Home Lab Experiment 8

The Future of Sustainability

****Classes should schedule a minimum of three field trips for the course so that students see sustainable practices in action****

Kenneth P. Dietrich School of Arts and Sciences

College in High School

Academic Integrity: All College in High School teachers, students, and their parents/guardians are required to review and be familiar with the University of Pittsburgh's Academic Integrity Policy located online at <https://www.as.pitt.edu/faculty/policies-and-procedures/academic-integrity-code>.

Grades: Grade criteria in the high school course may differ slightly from University of Pittsburgh standards. A CHS student could receive two course grades: one for high school and one for the University transcript. In most cases the grades are the same. These grading standards are explained at the beginning of each course.

Transfer Credit: University of Pittsburgh grades earned in CHS courses appear on an official University of Pittsburgh transcript, and the course credits are likely to be eligible for transfer to other colleges and universities. Students are encouraged to contact potential colleges and universities in advance to ensure their CHS credits would be accepted. If students decide to attend any University of Pittsburgh campuses, the University of Pittsburgh grade earned in the course will count toward the student grade point average at the University. At the University of Pittsburgh, the CHS course supersedes any equivalent AP credit.

Drops and Withdrawals: Students should monitor progress in a course. CHS teacher can obtain a Course Drop/Withdrawal Request form from the CHS office or Aspire. The form must be completed by the student, teacher and parent/guardian and returned to teacher by deadlines listed. Dropping and withdrawing from the CHS course has no effect on enrollment in the high school credits for the course.