

Center for Environmental and Natural Sciences

Degree Type

Specialty Programs

Environmental and Natural Sciences Pathways

The Center for Environmental and Natural Sciences (CENS) specialty at Freedom High School offers a rigorous four-year program of studies designed to include strong laboratory and field investigation components. The mission of CENS is to promote environmental citizenship and a sustainable community through challenging, hands-on collaborative learning experiences that promote innovative thinking, problem-solving, and leadership within our school and community. Freedom High School aims to create a sustainable society of students that embodies respect and care for the community of life and ecological integrity.

The program emphasizes interactive science research and projects that make use of the on-site CENS lab, greenhouse, aquarium, diverse habitats, and wet pond. Students participate in co-curricular and extracurricular activities, including community service, and become involved with business and community partnerships that enhance their understanding of environmental and natural sciences.

Students in the CENS program may choose one of the following pathways: Environmental Engineering, Environmental Science, or Law and Public Safety.

Specialized components of the Center for Environmental and Natural Sciences program include:

- Advanced science courses in Earth science, biology, chemistry, physics, ecology, and environmental science;
- Integrated advanced/AP social studies and language arts classes during grades 9 and 10 which provide interdisciplinary lessons and projects that examine history, literature, art, architecture, music, and philosophy and the influences of science and technology on each;
- Advanced Placement (AP) courses in biology, chemistry, environmental science, physics, English, social studies, and world languages that provide the opportunity to earn college credits while still in high school;
- On-site greenhouse, aquarium, wet pond, native habitat trail, mobile computer lab, and environmental and natural sciences lab; and
- Science-related extracurricular and co-curricular community activities, as well as partnerships with businesses and academia.

Program Requirements

CENS MEDAL: Environmental Science Program of Study

- Six CENS Classes: Advanced Biology, Advanced Chemistry, AP Biology (or DE Biology I), AP Environmental Science, and two CENS electives.
- CENS students must complete a research project that will be presented as a seminar requirement in grades 11 or 12.
- 80 hours of community service.

CENS MERIT: Environmental Science Program of Study

- Five CENS classes: Advanced Biology, Advanced Chemistry, AP Biology (or DE Biology I), AP Environmental Science, and one CENS elective.
- 60 hours of community service.

CENS CERTIFICATE: Environmental Engineering Program of Study

- Four CENS Classes: Advanced Biology, Advanced Chemistry, and two CENS electives.
- 40 hours of community service.

CENS PATHWAY: Environmental Engineering Program of Study

- Three science courses and one CENS elective.

*All CENS students must maintain a 'C' average in their core subject areas (language arts, social studies, math, and science) and be enrolled in at least one CENS class each year. The CENS core classes include Advanced Biology, Advanced Chemistry, AP Environmental Science, AP Biology, and DE Biology. CENS electives include all AP science classes, all DE science classes, Ecology, Advanced Earth Science, Forensics, Astronomy, Oceanography, and Physics.

Environmental Science

Grade	CENS Merit	CENS Medal
9	Advanced Biology 1	Advanced Biology 1
10	Advanced Chemistry 1	Advanced Chemistry 1
11	AP Biology or Biology 1 (DE)	AP Biology or Biology 1 (DE) and one CENS Elective
12	AP Environmental Science and one CENS Elective and 80 hours of community service	AP Environmental Science and one CENS Elective and 80 hours of community service

CENS Electives for CENS Merit and Medal Candidates:

- AP Biology
- AP Chemistry
- Biology 1 (DE)
- Biology 2 (DE)
- Biology 2: Ecology
- Chemistry 2: Forensic Sciences and Chemical Analysis
- Earth Science 2: Oceanography

Environmental Engineering

Grade	CENS Pathway	CENS Certificate
9	Biology 1 and Introduction to Engineering Design (PLTW)	Advanced Biology 1 and Introduction to Engineering Design (PLTW)
10	Advanced Earth Science 1 and Civil Engineering and Architecture (PLTW)	Advanced Chemistry 1 and Civil Engineering and Architecture (PLTW)
11	Chemistry 1 and Principles of Engineering (PLTW) PLTW Capstone	Principles of Engineering (PLTW) PLTW Capstone
12	and two CENS Electives and 40 hours of community service	and two CENS Electives and 40 hours of community service

CENS Electives for CENS Pathway and Certificate Candidates:

- AP Environmental Science
- AP Biology
- AP Chemistry
- Biology 1 (DE)
- Biology 2 (DE)
- Biology 2: Ecology
- Biology 2: Survey of Advanced Topics in Biology
- Chemistry 2: Forensic Sciences and Chemical Analysis
- Earth Science 2: Oceanography

Additional Electives:

- Statistics
- AP Statistics

Program Type

Transfer
Schools
Freedom High School