



Marine Science Magnet High School

130 Shennecossett Road  Groton, CT
860.446.9380
www.msmhs.com

**SCI0828 ECE Environmental Science
UConn NRE 1000E: Environmental Science
2024-2025**

Required Texts/Readings:

Environmental Science for the AP Course, 3rd ed., by Andrew Friedland and Rick Relyea, W.H. Freeman and Company, 2019.

Additional readings may be assigned by the teacher.

Course Description:

The purpose of this course is to explore human interaction with the environment. Content includes, but is not limited to, forms of pollution, conservation, environmental policy, land use, population dynamics, and major forms of energy. Laboratory investigations of selected topics in the content also include the scientific method, measurement, lab safety, and dimensional analysis.

Please note that there is a fee set by UConn for students taking this course.

Materials Needed:

Three Ring Binder, 3-ring pocket folder, Pens/Pencils, Loose-leaf lined paper

Advanced Academic Programs

The Advanced Placement (AP) Program and the Early College Experience (ECE) program at the Marine Science Magnet High School are intended to challenge and prepare students for the rigors of college. Students enrolled in courses designated as both AP and ECE must be enrolled in both programs and pay both fees associated with the courses to receive MSMHS credit. AP and ECE classes are assigned a higher weight to the GPA scale, assist students with earning college credit, and strengthen student transcripts during the college admissions process. In order to receive these added academic benefits, it is expected that students will subscribe to the understanding that the academic rigor and teacher expectations will be higher than that of the Honors level.

UConn Early College Experience (ECE)

UConn Early College Experience (ECE) provides students with the opportunity to take university courses while in high school. These challenging courses allow students to preview college work, build confidence in their readiness for college, and earn college credits that provide both an academic and financial head-start on a college degree and other postsecondary opportunities. UConn ECE instructors are high school teachers certified as adjunct professors by the University. Payment of the tuition for ECE is made directly to UConn and must be completed before deadline set by UConn. After October 20th, there will be no refunds for the courses taken within the program. UConn ECE students must successfully complete the course with a grade of C or above in order to receive University credit.

Classroom Attendance, Academic and Behavior Expectations

All MSMHS students are required to uphold the attendance, academic and behavioral expectations outlined in the school's Student/Parent Handbook which can be found on the MSMHS website.

Retake / Revision Policy

- All students will be allowed to retake/revise all interim and unit summative assessments (with the possible exception of ECE assessments).
- Retakes/revisions on any summative assessments must be completed within **2 weeks of when the assessment was returned to the student** or before the end of the quarter, whichever comes first.
- Students who want the opportunity to retake/revise a unit summative assessment must have completed all scored and graded assignments before taking the original summative assessment or the end of the quarter, whichever comes first. In addition, any part of a unit summative that is done outside of class, must be complete and turned in on time in order to be eligible for a retake/revision.
- Retakes/revisions are re-evaluations of learning; therefore, students earn the new grade not an average of the two grades, regardless of whether the new grade is higher or lower than the original.

*Note: There are no retakes/revisions for Midterms or Finals. Students with IEP or 504 accommodations for extended time should work with their teacher and/or case manager to determine appropriate application of their accommodations to this policy.

Late Work

Missing graded work/formative assessments must be completed, fully and accurately, before the unit summative assessment due date or the end of the quarter, whichever comes first, in order to receive credit. Any missing work will receive a 0 in PowerSchool until it is turned in before the summative assessment. After a unit summative assessment, work cannot be made up and will remain a 0 in PowerSchool.

All Science courses will abide by the following Late Work Policy:

No points will be deducted for late work leading up to the summative assessment. No points will be deducted for late summative assessments, **BUT summative assessments submitted late cannot be revised, and summative assessments not submitted within two weeks of the deadline or by the end of the quarter, whichever comes first, will receive a 0.**

Extra Help:

Students interested in receiving extra help from teachers, or in meeting with their teacher before or after school, need to schedule a mutually agreed upon time to meet with their teacher. Teachers may require specific procedures for requesting appointments for extra help. Please know that teachers will be unable to meet with students on Wednesdays due to regularly scheduled faculty meetings.

Cell Phones

Students are permitted to bring cell phones to school, however, they must be stored in the designated location in each classroom throughout the block, including study hall. Students may not bring cell phones with them when they leave the classroom for any reason. Students may also be required to turn smart watches or other devices to designated locations during class at the request of the teacher. Students found to have violated

these expectations will be required to turn their cell phone into school administration. Repeated offenses may result in escalated consequences. Cell phones may not be used in restrooms for any reason. Cell phones may be used before, during lunch, or after school hours.

Grade/Grade Reporting:

Overall evaluation in a course is measured in a number of ways in the form of formative and summative assessments.

MSMHS uses the following language for communicating how assignments will be scored and represented in PowerSchool:

- “Graded” – The assignment is evaluated for accuracy (not completion), is given a numeric score, is entered in PowerSchool and is included in the quarter average.
- “Scored” – The assignment is evaluated for accuracy (not completion), is given a numeric score, may be entered into PowerSchool, but is not included in quarter average.
- “Recorded” – The assignment is marked as completed or not completed, not given a numeric score, may be entered into PowerSchool, but is not included in quarter average.

Course grades are calculated by using the following percentages:

Q1 = 20%

Q2 = 20%

Midterms = 10%

Q3 = 20%

Q4 = 20%

Finals = 10%

The following table shows the letter grades equivalent to numerical grades and GPA.

Letter	Numerical Equivalent	GPA Equivalent	Honors Weighting	AP/ECE Weighting
A+	97-100	4.3	4.52	4.73
A	93-96	4.0	4.20	4.40
A-	90-92	3.7	3.89	4.07
B+	87-89	3.3	3.47	3.63
B	83-86	3.0	3.15	3.30
B-	80-82	2.7	2.84	2.97
C+	77-79	2.3	2.42	2.53
C	73-76	2.0	2.10	2.20
C-	70-72	1.7	1.79	1.87
D+	67-69	1.3	1.37	1.43
D	63-66	1.0	1.05	1.10
D-	60-62	0.7	0.74	0.77
F	50-59	0.0	0.0	0.0

Evaluation

Classwork, Labs, and Assignments

There will be classwork assignments, in class discussions, labs, and take home assignments throughout the course with variable point value ranging from 10 to 50 points.

Each unit will have 2 short answer responses/reflections worth 10 points each based on the notes, readings, films, or class work completed in the prior 2 weeks. These written responses/reflections will be completed in class during

the allotted time (15-20 minutes). Handwritten notes and classwork may be used to complete the assignment. Short answer responses/reflections will be given on a bi-weekly basis, as the schedule allows.

Quizzes

Each unit will have 2 Notes Quizzes worth 20 points each based on the notes and readings from the prior 2 weeks and must be completed in the allotted time. Notes Quizzes will be timed for 20-30 minutes, and written notes may be used for the final 5-10 minutes of the quiz. Quiz corrections will be allowed and submitted within 2 weeks of the date the assessment was returned to the student. Notes quizzes will be given on a bi-weekly basis, as the schedule allows.

Unit Tests and Projects

Unit tests and projects will be worth 100 points and will be given for each unit of study. Missed tests must be made up in the study hall within one week of the original test date (or date of student return to school).

Midterm and Final Exams

The midterm and final exams are worth 200 points. The final exam will be comprehensive. Students are responsible for all assigned text material, material presented in class, as well as any reading assignments.

Grading Overview

Note: Teacher has discretion to change throughout the year.

Items	Quantity	Points
Assignments/Labs (variable points)	10	500
Classwork Assignments	10	200
Discussions, Reflections	20	200
Quizzes	6	240
Tests	5	500
Midterm Exam/Project	1	200
Final Exam/Project	1	200
TOTAL		2040

Academic Integrity:

To support academic integrity, MSMHS may use a technology tool for plagiarism prevention such as Turnitin.com. Students are required to submit major papers to this service and receive guidelines and training in its use if requested by the teacher. All work submitted by students should be a true reflection of their effort and ability. If submitted work or tests are not, then the student has manifested unacceptable academic behavior.

Plagiarism

Plagiarism is defined as intentionally or unintentionally presenting another's work as your own. Any source material (electronic, written, verbal) accessed to complete an assignment must be cited. Plagiarism includes the following:

- Copying verbatim or blending source material with your own without proper attribution,
- Paraphrasing source materials or borrowing ideas, terms, or concepts without acknowledging the source,

- Inventing sources or false attributions for sources,
- Supplying/selling your work to another or purchasing/copying another's work.

Cheating

Cheating is defined as copying all or part of an assignment or assessment or allowing another to copy your work. It is also doing someone's work or having someone else do your work. Cheating includes the following:

- Using unauthorized materials, devices, or assistance of any kind to complete your work or assessment, including on-line transfers,
- Collaborating on a task without the teacher's authorization, as well as providing or receiving information so as to give/gain an unfair advantage,
- Aiding another in cheating.

Other Academic Misconduct

Other forms of serious academic misconduct include:

- Altering grades,
- Stealing or obtaining test/assessment materials or answers,
- Submitting the same (or nearly the same) work for more than one class without disclosure or approval,
- Falsifying information on school related documents and forms.

ANY behavior that can be defined as cheating/plagiarism represents a violation of mutual trust and respect essential to education at MSMHS. Students suspected of cheating should expect to be questioned by their teacher. Students violating this rule are subject to the following penalties:

- Re-do of the assignment, notification to parents/caretakers; disciplinary consequence, written summary of event and action taken given to administration.
- If a student is found to have cheated/plagiarized a second time or is involved in a particularly serious act of cheating/plagiarism, the student will be referred to administration for appropriate penalties beyond those listed above. Additional penalties include such consequences as notification to award and scholarship committees; suspension from class or school and notification to the student's prospective colleges; loss of or disqualification from honors/privileges and positions (e.g. NHS, school leadership position).

Course Objectives Overview

Upon successful completion of this course, you should be able to:

1. Discuss the field of environmental science, environmental indicators, and the scientific method.
2. Explain human population growth and their limits, and how they have altered the environment.
3. Discuss the forms of energy and the basic components of the environment.
4. Explain growth models and biodiversity in ecology.
5. Discuss the formation of the earth, soil, and water, and its impact on food production.
6. Describe uses of resources for production of energy, and its impact on pollution.
7. Explain waste and waste management.
8. Discuss human and animal health in relation to environmental issues.
9. Describe climate change and environmental sustainability.

Course Unit Outline - Enduring Understandings and Tentative Dates:

Note: Teacher has discretion to change throughout the year.

Unit I -The Living World

Quarter 1

Enduring Understandings

- The field of Environmental Science is interdisciplinary and explores the interactions between natural and human systems.
- Environmental science explores human interactions with the world and the impacts we have on our environment while environmental ethics and economics involve values which are shaped by our cultures and worldviews.
- Energy and matter cycle through a functioning ecosystem in a systematic and predictable way.

Textbook Chapter(s): 1, 3, 4 (Modules 12-13), 6

Unit II – Biodiversity and Evolution

Quarter 1 - 2

Enduring Understandings

- Biodiversity is measured in terms of species richness and relationships among species can be illustrated using a phylogeny.
- Genetic diversity is created through mutation and recombination.
- Evolution can occur through artificial or natural selection and random processes.
- Environmental change can alter the distribution of species and cause extinctions.

Textbook Chapter: 5

Unit III – Human Population

Quarter 2

Enduring Understandings

- Population growth rate can be predicted or determined using specific demographic characteristics.
- Human population growth has social, economic, and environmental factors which interact to impact the environment.

Textbook Chapter(s): 7

Unit IV – Earth's Systems and Resources

Quarter 3

Enduring Understandings

- Earth's systems are powered mainly by radiation from the sun, geothermal heating from the planet's core, and gravitational interactions among Earth, the sun, and the moon.
- Healthy soil is vital to successful agriculture.
- Groundwater, surface water, and atmospheric water are the major water sources; humans alter the availability of water.

Textbook Chapter(s): 2, 8-11

Unit V – Energy and Pollution

Quarter 3-4

Enduring Understandings

- Since the industrial revolution, nonrenewable fossil fuels have become our primary source of energy.
- Conventional energy alternatives and renewable energy sources can provide a solution to the problem of energy demand in our increasing population.
- Anthropogenic air and water pollution includes primary and secondary pollutants from point and nonpoint sources.
- Solid waste everywhere is increasing as a result of growth in population and in consumption.
- Identify and understand risks of pollution to human and animal health in relation to the environment.

Textbook Chapter(s): 12-13, 14-17

Unit VI – Global Change and Sustainability

Quarter 4

Enduring Understandings

- Our planet is changing due to human activities in predictable patterns.
- Human land use affects the environment in many different ways.
- Human activity and population growth are fueling climate change in irreparable ways.
- Achieving sustainability requires sound environmental science and economic analysis.

Textbook Chapter(s): 18-20

Evaluation of the Course

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.

UConn Student Conduct Code

All students have the responsibility to uphold the University of Connecticut Student Conduct Code. Violations of the Student Conduct Code related to this course will be brought to the attention of the student and possibly the Dean of Students with appropriate actions. The UCONN Student Code can be found at <https://community.uconn.edu/>