

School: Plymouth Regional High School

Department: Science

Teacher: Ms. Ina Ahern

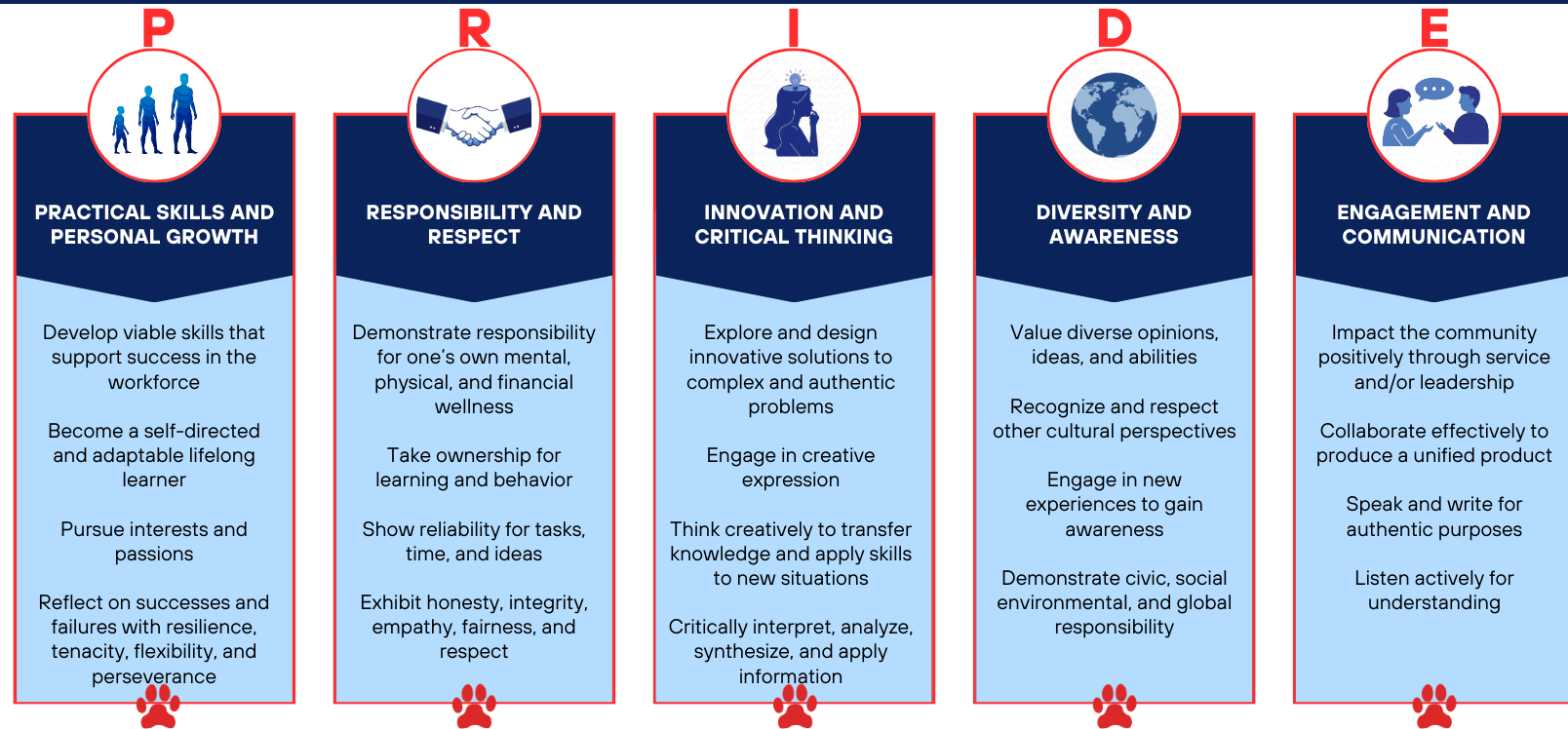
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Course Syllabus for 2026-2027 (subject to change)

Course Title:	Environmental Science
Length of Course:	1 year
Prerequisite(s):	Biology, Introduction to Chemistry & Physics, Chemistry strongly recommended.
Course Description:	Environmental Science is a third year science elective offered to those students interested in the study of the biosphere. The goal of this course is to raise students' awareness of environmental issues and foster the development of environmentally conscious citizens – as we examine the essential questions of “How do humans impact the environment?” and “How do I?”. This will require students to apply biology, math, and language/communications skills learned in previous classes as they sample, explore, and act as environmental scientists. Students will apply insights and skills gained through their hands-on local investigations to understand complex, real-world, global environmental problems. While investigating topics in a variety of environmental focus areas including water, invasive species, landscape history, forests, climate, and marine science. An evening presentation to a local conservation group may be required.
Text:	<u>Field Manual for Water Quality Monitoring</u> by Mitchell & Stapp. Kendall Hunt. 1997 <u>Freshwater Fishes of New Hampshire</u> by John Scarola <u>Reading the Forested Landscape</u> by Tom Wessels <u>Soil Science Simplified</u> by Helmut Kohnke <u>Life on Intertidal Rocks</u> by Cherie Hunter Day <u>Env Sci Binder</u> (a collection of materials for this course)
Units & Topics Covered	Exact topics to be covered will be determined based on the interests and desires of the class and may change from year to year. Likely topics include invasive species, fish and water quality, soils, applications of geospatial technologies (GNSS, maps, and GIS), conservation land use planning, forests, and marine science. Field trips form an integral part of the learning experiences for this class. During the 2026-2027 school year, students will have an opportunity to earn an “industry recognized credential” (IRC) as a forestry technician and participate in a research project on moss in streams!
Skills	Lab safety, describing, analyzing, concluding, observing, organizing, problem solving, laboratory and field work, use of technology, and presentation skills.
Writing	Review questions, lab reports, presentations
Assessments	Grades are based on daily work, projects, field trips, laboratory activities, homework, papers, quizzes and tests. An evening presentation to the Plymouth Conservation Commission or another environmental organization will likely serve as the final exam for the course
At the end of this course students will be prepared for:	Other science electives.



Bobcat Vision of a Graduate



PLYMOUTH REGIONAL HIGH SCHOOL - PRIDE AND TRADITION

Pride and tradition, two cornerstones in the foundation of our school culture, are a legacy from our past and a vision for our future. Plymouth Regional High School is committed to preparing students to become productive and engaged citizens in a global community. Therefore, in addition to acquiring a core body of knowledge through local curriculum that reflects state and national standards, all students will develop the above skills and dispositions

Ms. Ahern's Schedule: (all classes are scheduled in Rm. 122)

Pd	A Day	B Day
1	Intro Physics-Hon/Intro Chem-Hon	?Prep or Duty?/Prep
2	Intro Chem-2/?Prep or Duty?	Env Sci
Bobcat Block		
3	Prep (A lunch)/Intro Chem-2	Intro Phys-H/Intro Chem-Hon (A lunch)
4	Intro Chem-2/?Prep or Duty?	?Prep or Duty?/Intro Chem-2

Grading Criteria: Grading in this course is based on a point system.

Tests, Papers, Projects – Usually 50 (short papers) to 250 (tests & projects) points

Quizzes – Usually 5-50 points

Homework – Usually 20-50 points

Final Average is computed as follows:

Quarter Averages (4 X 20% = 80%)	80 %
Midterm Exam (10%)	10%
Final Exam (10%)	<u>10%</u>
	100%

Grade System: Although major assignments are often assigned a letter grade, many assignments will be graded on the check system.

Percentage equivalents are as follows:

√ ++ = 125% (Rarely given, outstanding work)	√ = = 50%
√ + = 100%	√ = = 25%
√ = 85%	NHI = Not Handed In
√ - = 70%	

Please review the description of the school grading system in the student handbook for the meaning of each letter grade.

You'll quickly discover that not every assignment that is given is graded or even checked. That doesn't mean that they are not important. The primary purpose for completing the assignments is so that you learn the material. It also means that those assignments that are graded may be worth a significant portion of the quarter grade. Avoid getting NHI's!

Attendance/Make Up Work (see student handbook)

- Attendance is a critical component of your success. There is, in most cases, a very clear positive relationship between attendance and grades. You are responsible for all content covered in the course—even if you are tardy, absent, dismissed, or sign out. When you miss class time, you miss content and experiences that can never be fully made up, particularly in a science class as what happens cannot often be replicated in a homework assignment. Also realize that if you miss a 90 minute class, it will usually take you 60-90 minutes to make up what you missed and this will most likely have to be done either during my prep period or after school. It is important to attend class so you learn the “soft” skills that are so important in life such as working well with others, effective communication, and so on.
- If you are absent, you are responsible for getting any work missed. It is expected that you get the work you missed from someone in your class and see me the first day you are back—even if you do not have class that day. You will be expected to have your assignments completed and be prepared for whatever is planned for the next class, including tests or quizzes
- If you arrive at school late and miss class, then your assignment(s) must be turned in as soon as you enter the building. If a quiz or test is missed due to a late arrival to school, then you are expected to take the test that same day.
- If, in extenuating circumstances, you have been permitted to make up work (such as a lab or project) after it is due and has been collected, the work should be turned in either the day it is made up or the very next day if there are follow-up questions that can be completed as homework. Do not wait until the next class to turn the assignment in.

- If class will be missed due to a field trip or early dismissal (including co-curricular activities) arrangements should be made ahead of time to turn in the assignment before leaving and to take the test/quiz that day.
- If you are absent on the day that a group assignment is due, send in your portion with someone you can trust
- If you arrive late with a pass, place the pass on the keyboard of the teacher computer.
- If you require a variance to any of these procedures due to extenuating circumstances, then you should set up a time with the teacher to have a private discussion about the variance.

Behavior: see handbook and lab safety contract. In addition,

- It is expected that you will come to class every day prepared to learn
- It is expected that you will give your best effort...in class, on homework, on tests and quizzes, on projects, etc.
- It is expected that you will complete your own work and appropriately document thoughts and ideas that are not your own
- It is expected that you will contribute to a classroom climate that is respectful, honest, and polite.

Extra Help: Come see me during Bobcat Block! I am also available for brief consultations before school, and generally for longer help sessions or lab make up after school. Sometimes I may also be able to provide some assistance during my prep period but please check with me ahead of time. Depending on the class activity, it is sometimes possible to make up labs or quizzes during another class, but again you should check with me first to see if that is an option.

Assignments:

- Unless otherwise assigned, all assignments are to be completed by the individual in an effort to demonstrate the student's level of understanding. If you "get help" from anyone, you will be expected to be able to explain and justify how you got the answer, if you do not have that level of understanding, do not simply copy their answer as it will result in a zero on the assignment.
- PRHS recognizes that AI supports learning, but does not replace thinking. Expectations for AI use may vary by course, teacher, and assignment. Students are responsible for following these guidelines, appropriately citing AI use when permitted, and ensuring submitted work reflects their own thinking and learning.
 - Use of AI outside of established expectations may be considered academic dishonesty, as outlined in the PRHS Student Handbook.
 - If you wish to use generative AI on an assignment, please consult with me **in advance** to discuss appropriate use and documentation.
- Heading for assignments should be placed in the upper right hand corner of the paper and must include name (first & last), date, class, period, and a title/description of the assignment. Standard size white lined paper and pencil or blue/black ink should be used for handwritten work unless otherwise specified. Word processing is encouraged for longer writing assignments.
- Unless otherwise indicated, assignments are due at the beginning of class. (Ignore Google Classroom's default 11:59)
- Assignments collected non-electronically are usually turned in by placing them in the red basket at the front of the classroom.
- Google Classroom will be utilized as one of the primary technological tools for accessing course material. It will include a link to the daily lesson plans for the course and to assignments. Utilize these resources each class
 - The lesson plan spreadsheet, at the top of the Google Classroom Stream is a critical reference for the course. Here's how to interpret it:

Reading the Lesson Plan Sheet

The diagram illustrates how to interpret the Lesson Plan Sheet using a sample table. Annotations with arrows point to specific features:

- 48 Friday, January 29, 2021** (Blue row): "Blue row indicates class was held in-person"
- 1 Emergency Procedures:** "White rows indicate planned activities"
- 1** (Number): "This number indicates this the 48th day (A or B) of the year"
- Factor Label Problems-- Review One Step & Multi-Step** (Struck through): "Strikethrough indicates activities not completed"
- HW Study, study, study (lab safety test, Measurement Quantities Chart Quiz)** (Green row): "Green rows indicate homework"
- Factor Label Problems-- Semester 2 Review Pkt #:** (Yellow row): "Yellow rows indicate items collected to be graded"
- Col 05 Learning By Accident--Physics Scenarios** (Purple row): "Purple row indicates class was held remotely"
- 47 Wednesday, January 27, 2021** (Purple row): "Purple row indicates class was held remotely"
- 1 Finish Understanding Electricity Video (pick up from 19 minutes--Hoover Dam)** (White row): "White rows indicate planned activities"
- 2 Learning By Accident--Physics Scenarios** (White row): "White rows indicate planned activities"
- HW Study, study, study** (Green row): "Green rows indicate homework"
- HW Measurement Quantities Chart Assignment** (Green row): "Green rows indicate homework"
- HW Finish Learning By Accident--Physics Scenarios** (Green row): "Green rows indicate homework"
- Col 03 Remote Classwork Block #47** (Yellow row): "Yellow rows indicate items collected to be graded"

Assignment numbers match those in PowerSchool

48	Friday, January 29, 2021
1	Emergency Procedures:
	---Evacuation
	---Active Threat
	---Earthquake
2	Room Diagram
3	Safety in the Physics Lab Summary Sheet
4	Measurement Quantities Chart Card Sort
5	Factor Label Problems-- Review One Step & Multi-Step
HW	Study, study, study (lab safety test, Measurement Quantities Chart Quiz)
HW	Factor Label Problems-- Semester 2 Review Pkt #:
Col	05 Learning By Accident--Physics Scenarios
Col	04 Measurement Quantities Chart Wkst HWC
47	Wednesday, January 27, 2021
1	Finish Understanding Electricity Video (pick up from 19 minutes--Hoover Dam)
2	Learning By Accident--Physics Scenarios
HW	Study, study, study
HW	Measurement Quantities Chart Assignment
HW	Finish Learning By Accident--Physics Scenarios
Col	03 Remote Classwork Block #47

- Some assignments are given electronically in Google Classroom and can be completed on the document provided.
- Some assignments are on paper handouts and will generally be turned in during class
- You may be asked to submit some handouts by photographing the assignment and submitting the photos by inserting them into a Google Doc in Classroom. If turning in an assignment that way, please be sure the images are well lit, right side up, clear and readable, cropped of extraneous material, and large. I should be able to open the electronic document and read it without difficulty. (Mr. Frasier has provided video instructions for doing this with your Chromebook and it is located on the Google Classroom Stream) **Do not attach the individual images to the assignment. Be sure to insert them into the provided Google Doc.**
- Even though Google Classroom may show a grade it is not accurate for this class. Your official grades are on Alma.

Notebook: A 3 ring binder is required for this course and must be kept organized. Students are expected to be able to find the papers and other work in their notebook. Lined paper should also be available for classwork. Instead of providing handouts each day, I will generally provide you with one or several units at a time. This makes accessing work easier if you are absent, but also makes it imperative that you keep the notebook organized so that you can find things. **Env Sci:** For this class you will be provided with a three ring binder that can be left in the classroom, a folder, and a small field notebook. Generally you will only need to take the folder home.

Computers: As much of the course content will be delivered via Google Classroom it is really important that you **bring your school issued Chromebook to class every day and that it is fully charged.** The district has access to “GoGuardian” which allows teachers to assist students in utilizing the chromebooks more efficiently. I will make use of this software in a variety of ways, so you need to be sure you are using the school issued Chromebook.

Other:

- In addition to assigned homework, students are expected to study after every class and come back prepared to ask questions on the material
- Although I will attempt to let you know in advance, there is always a possibility that we will doing a “quick lab” on any given day. For this reason, it is expected that you will come to all classes with appropriate attire for lab, including closed toe shoes.
- Please keep all your possessions that you are not using and are not required for class in your backpack. Your backpack, coat, etc. must be kept at **your** desk station and must not block the aisles
- Emails (either sent directly or notifications via Google Classroom) is an important communication tool in this class. You are expected to check your school email at least once a day, and are expected to read (and respond if appropriate) to emails that are sent.

Responsibilities: (see handbook)

Rules: (see handbook and lab safety agreement)

Supplies/Materials:

- Organized 3 Ring Binder with paper and handouts [Env Sci students will be issued one and you can leave in classroom!]
- Assignment Book (if you use one)
- Writing utensil
- School Issued Fully charged Chromebook

Course Outline:

Culminating Project: Each year the Environmental Science class conducts a study focused on a specific geographic area or topic. From the first class, you’ll be gaining skills and learning content that we’ll apply to this final project.

Quarter 1& 2: Invasive species, fish, water quality monitoring, forestry, and digital data collection and documentation. We’ll plan to spend as much time as possible outside this fall and hopefully quite a bit of it down at the Baker River. You’ll learn how to identify fish and two field trips are scheduled for Q1....a water quality monitoring trip along the entire Baker River Watershed and an electrofishing field trip with NH Fish and Game to collect specimens for our classroom aquariums. You’ll learn how to test for a

variety of water quality factors using both traditional methods and probeware and we'll use GIS and GPS technology to analyze causes and impacts. We'll also start work on our Forestry Technician Industry Recognized Credential program.

Quarter 3: Habitat assessments, reading the landscape, forests, and climate change. We'll examine these topics and apply the content to our culminating project.

Quarter 4: Introduction to the Gulf of Maine watershed and marine habitats, Wrap up and completion of final culminating project. It is planned that we will take a field trip to Odiorne Point State Park to learn about the marine environment on site, look at issues connected to coastal resilience, possibly conduct management activities on invasive species or coastal resiliency, and then sail around Portsmouth Harbor on the Gundalow to explore human impacts on watersheds

This outline is not very specific or detailed for two reasons. First of all, one of the wonderful things about the Environmental Science course is that we have quite a bit of flexibility in terms of curriculum. Unlike most courses, where there is very specific content that must be covered to prepare students for other courses or their further education, the primary goal of this course is to provide you with the knowledge, skills, and abilities to be responsible environmental citizens. Secondly, the course tends not to have specific units, but flow and build as you gain skills and work towards the culminating project.