Dominican International School
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COURSE SYLLABUS

School Year	2025-2026
Subject	Environmental Science
Grade Level	12
Teachers	Ms Janice Doyle
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COURSE DESCRIPTION

Students in high school continue to develop their understanding of the core ideas in the physical sciences and Earth Science. These ideas include the most fundamental concepts from chemistry, but are intended to leave room for expanded study in upper-level high school courses. These performance expectations blend the core ideas with scientific and engineering practices and crosscutting concepts to support students in developing useable knowledge to explain ideas across the science disciplines. In the performance expectations at the high school level, there is a focus on several scientific practices. These include developing and using models, planning and conducting investigations, analyzing and interpreting data, using mathematical and computational thinking, and constructing explanations; and to use these practices to demonstrate understanding of the core ideas. Students are also expected to demonstrate understanding of several engineering practices, including design and evaluation.

The content of the Earth Science performance expectations is based on current community-based geoscience literacy efforts such as the Earth Science Literacy Principles (Wysession et al., 2019), and is presented with a greater emphasis on an Earth Systems Science approach.

The performance expectations in **HS. History of Earth** help students formulate answers to the questions: “How do people reconstruct and date events in Earth’s planetary history?” and “Why do the continents move?”

The performance expectations in **HS. Earth’s Systems** help students formulate answers to the questions: “How do the major Earth systems interact?” and “How do the properties and movements of water shape Earth’s surface and affect its systems?”

The performance expectations in **HS. Weather and Climate** help students formulate an answer to the question: “What regulates weather and climate?”

The performance expectations in **HS. Human Impacts** help students formulate answers to the questions: “How do humans depend on Earth’s resources?” and “How do people model and predict the effects of human activities on Earth’s climate?”

COURSE OBJECTIVES

Students must follow NGSS standards (as mentioned below) for their curriculum:
Students should be able to:

HS. History of Earth

HS-ESS1-5. Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.

HS-ESS1-6. Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth’s formation & early history.

HS-ESS2-1. Develop a model to illustrate how Earth’s internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.

HS. Earth’s Systems

HS-ESS2-2. Analyze geoscience data to make the claim that one changes to Earth’s surface can create feedbacks that cause changes to other Earth systems

HS-ESS2-3. Develop a model based on evidence of Earth’s interior to describe the cycling of matter by thermal convection.

HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-6. Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere

HS-ESS2-7. Construct an argument based on evidence about the simultaneous coevolution of Earth systems and life on Earth

HS. Weather and Climate

HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth systems result in changes in climate.

HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems

HS. Human Impacts

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity

HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.

GRADING SYSTEM / ASSESSMENT

All work done by the students will be graded and used for formative or summative assessment. A variety of assessment tools will be used to evaluate performance. Homework and Classwork are graded based on content, thoroughness and completion by the due date. Students are responsible for checking the assignments' due dates given to them, and/or posted on Google Classroom.

Tests and Quarterly Exams are announced in advance. Pop Quizzes are unannounced and can be given at any time during the class so students must come to class prepared.
Grades will be computed following the school wide policy of **30%** Class work, Homework and Projects, **30%** Quizzes and Tests, **30%** Quarter Exam (Presentation) and **10%** Deportment.

HOMEWORK RULES

- All assignments must be turned in on, or before, the due date.
- If work is handed in early, students get extra credits, (max 7 points) per assignment.
- If work is a day late, **10%** is deducted; if more than a day late, students have to go to Project I to complete the assignment, and they will receive a **maximum** of **60%** for said assignment.
- If a student has been absent, it is his/her duty to submit any work due.
- Students who miss a scheduled test or quarterly exam are responsible for requesting a make-up test/exam ASAP on return to school. The student must bring a medical certificate or proof of an emergency on the day he/she returns to school. FAILURE TO DO SO WILL RESULT IN A **ZERO** BEING GIVEN FOR THE TEST/EXAM. If the student does not make up the test/exam at the earliest on return, then a score of ZERO will be given. The make-up test/exam may be different and more challenging than the originally scheduled test/exam.

PRIMARY TEXTBOOKS AND OTHER RESOURCES

- Inspire Earth Science: Geology, the Environment, and the Universe, **Authors**; Francisco Borrero, Chia Hui, Dinath Zike et al. **Copyright**@ 2020 by The McGraw-Hill companies, Inc.
- https://www.khanacademy.org/science/cosmology-and-astronomy/earth-history-topic.
- Internet for added information/research
- Notepaper and writing utensils

ADDITIONAL INFORMATION

Please see Google Classroom for more information and reminders. Class code: **ff2bxujh**

ACADEMIC DISHONESTY

Academic Dishonesty means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at DIS. Academic dishonesty includes but is not limited to, the following:

- Purposely incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's work;
- Representing another's intellectual work, such as photographs, paintings, drawings, sculpture, research, or the like, as one's own, including failure to attribute content to an AI.
- Employing a tutor, using Artificial Intelligence without acknowledgment, getting a parent to write a paper or do an assignment, and paying for an essay to be written by someone else and presented as the student's work.
- Committing any act that a reasonable person would conclude, when informed of the evidence, to be a dishonest means of obtaining or attempting to obtain credit for academic work.

Any act of academic dishonesty will result in an automatic zero on the entire assignment

https://apastyle.apa.org/style-grammar-guidelines/citations/plagiarism

GR. 12 ENVIRONMENTAL SCIENCE 2025-2026 S1
1st QUARTER TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
Week 1 (August 12 to 15) **12 - General Assembly ~ Gym** 15 - Opening Mass & Assumption of Our Lady	**Introduction** to course: Class Rules/Expectations **Google Classroom:** sign in **UNIT 1: Composition of Earth** Module 1: Introduction to Earth Science
Week 2 (August 18 to 22) 18 - St. Dominic Feast Day Celebration ~ Monday Assembly 20 - House Shirt & Blue Jeans Day 22 - Club Orientation & Sign-up	**UNIT 2: Surface Processes on Earth** Module 5: Weathering, Erosion, Soil Lesson 1: Weathering Lesson 2: Erosion and Deposition
Week 3 (August 25 to 29) 27 - High School Talk 29 - First Club Meeting	Module 7: Water Lesson 1: Surface Water Movement Lesson 2: Streams, Lakes and Freshwater Wetlands Lesson 3: Groundwater Lesson 4: Groundwater Weathering and Deposition
Week 4 (September 1 to 5) 1 - World Day of Prayer for the Care of Creation ~ Assembly 5 - House Ceremony	**UNIT 3: The Atmosphere and the Oceans** Module 8: Atmosphere Lesson 1: Atmospheric Basics Lesson 2: Properties of the Atmosphere
Week 5 (September 8 to 12) 8 - Holy Mass: Nativity of the Blessed Virgin Mary & VIP Induction 10 - House Mini Games Start	Lesson 2: Properties of the Atmosphere Lesson 3: Clouds and Precipitation
Week 6 (September 15 to 19) 15 - Catholic Bridge Program: New Students 19 - Athletics / Sports Orientation	Module 9: Meteorology Lesson 1: The Causes of Weather Lesson 2: Weather Systems
Week 7 (September 22 to 26) 22 - International Peace Day Celebration Peace Pole Ceremony ~ Monday Assembly 26 - Teacher's Day Celebration 24 to 26 - Pre-Exam Days	Lesson 3: Gathering Weather Data Lesson 4: Weather Analysis and Prediction
Sept 29	***Confucius Day Holiday***
Week 8 (Sept. 30 to Oct. 3) 29 - Launch of Holy Rosary Month ~ Monday Assembly Oct. 1 & 2 - First Quarter Exams 3 - Record Day	**Q1 EXAM ~ Oct. 30** **Q1 EXAMS – Oct. 1 & 2**
Oct. 3	***DIS Teachers and Staff Recognition Day/ Record Day*** ***Recollection for Aunties and Uncles (no classes for students)***
Week 9 *(Oct 7th to 9th)*	***Teachers' Conference***

2nd QUARTER TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
Week 1 (10) (October 13 to 17) **13 - Second Quarter Begins** 14 - Visit of Mother Mary to Classrooms (During morning prayer) 15 - Monthly Career Talk ~ College Prep	**Overview** of 2nd quarter work schedule Module 10: The Nature of Storms Lesson 1: Thunderstorms Lesson 2: Severe Weather Lesson 3: Tropical Storms
Week 2 (11) (October 20 to 24) 20 - Jubilee: Marian Exhibit Opening ~ Monday Assembly Campus Safety Talk for Students 24 - Book Fair, Sr Escape Room	Lesson 4: Impact of Human Activities
Week 3 (12) (October 27 to 31)	Module 11: Climate Lesson 1: Defining Climate Lesson 2: Climate Classification
Week 4 (13) (November 3 to 7) 3 - Feast of St. Martin de Porres Mass ~ Monday Assembly 5 - Monthly Career Talk ~ College Prep	Lesson 3: Climatic Changes and Patterns
Week 5 (14) (November 10 to 14) Health Week	Lesson 4: Impact of Human Activities
Week 6 (15) (November 17 to 21) 17 - Launch of Mental Health and Anti-Bullying Month 21 - Young Shakespeare Play Contest	**UNIT 4: The Dynamic Earth** Module 14: Volcanism Lesson 1: Volcanoes Lesson 2: Eruptions Lesson 3: Intrusive Activity
Week 7 (16) (November 24 to 28) 24 - Peace Pole Day ~ Assembly, Lighting of Christmas Tree (pm) 25-27 - Pre-Exam Days 27 - Thanksgiving Family Day Thanksgiving Potluck (Faculty) **28 - Gr. 12 Second Quarter Exam**	**Q2 EXAM – Nov. 27**
Week 8 (17) Q3 W1 (December 1 to 5) 1 - 1st Week of Advent: Lighting of First Advent Candle ~ Monday Assembly **Gr. 12 Second Quarter Exam** 3 - Monthly Career Talk – College Prep 5 - Nativity Play, Christmas Fair	**UNIT 4: The Dynamic Earth** Module 13: Plate Tectonics Lesson 1: Drifting Continents Lesson 2: Seafloor Spreading
Week 9 (18) Q3 W2 (December 8 to 12) 8 - Solemnity of the Immaculate Conception Second Week of Advent Foundation Day Mass, cake ceremony & Class Party (half day) 10 - Gr. 12 Advent Immersion 11 & 12 – 2nd Quarter Exams	Lesson 3: Plate Boundaries Lesson 4: Causes of Plate Motions
Dec 15 to Jan 2	***Christmas Break***