



Request for Approval and Biology Course of Study Updates

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Introductions



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Goal of Presentation



Share updated course of study document for Biology

Seek approval for new course of study document
for Environmental Science



10 minutes



Agenda



Background



Course Overview



Next Steps



Background: Science – High School

Suggested Science Sequence

Grade 9	Grade 10	Grade 11/12
Environmental Science	Biology	Chemistry/Physics

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New COS

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Updated COS



Curriculum Writing Teams

Environmental Science

CB East	Kyle Dennis Jennifer Yeager
CB South	Stacy Caldwell Christy Gillespie
CB West	Matthew Coverdale

Biology

CB East	Colleen Haag Judith Elinow
CB South	Cheryl Choe Michelle Spera
CB West	Diane Liddington Kelley Peloquin



Curricular Components for each of Course of Study Document

Curricular Structure

- **Course Overview**
- **Pacing Guides**
- **Resources** (Required & Supplementary)
 - Environmental Science: Cengage National Geographic Environmental Science
 - Biology: HMH Biology
- **Course Grading**
- **Unit Overviews:**
 1. **Desired Results:** Enduring Understandings, Essential Questions, Knowledge & Skills, and Priority/Supporting Standards
 2. **Acceptable Evidence:** Performance Tasks, Formative and Summative Assessments
 3. **Learning Experiences & Instruction:** includes differentiation options and language development.

Course Highlights

- Phenomena-Based Learning
- 5E Approach to Instruction and Learning (Engage, Explore, Explain, Elaborate, Evaluate)
- Common Assessments
- Performance Based Assessments
- Hands-on activities and labs
- Guaranteed and Viable curriculum: all teachers follow the course of study, pacing guides, and administer common unit assessments.



Biology – Update Only

Course Overview

- Offered at Practical, Academic and Honors level
- Builds a strong foundation in life science through the study of cells, energy, genetics, evolution, and biodiversity.
- Prerequisite: Environmental Science
- Aligns with the STEELS Life Science Standards

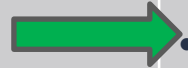
Course Content

- **Unit 1: From Cells to Organisms: Structure and Function** – Explores how cells, tissues, organs, and organ systems work together to maintain life.
- **Unit 2: From Light to Life: Carbon, Photosynthesis, and Cellular Respiration** – Energy and matter flow through living systems to support life processes.
- **Unit 3a: From Genes to Generations. Part 1: Inheritance and Variation of Traits** – Investigates how genetic information is passed from one generation to the next and contributes to variation among organisms.
- **Unit 3b: From Genes to Generations. Part 2: Natural Selection and Evolution** – Explores how populations change over time through natural selection, adaptation, and evolution.

Environmental Science - Changes

Grade 9 Science (previous)

- Geosphere
- Biosphere
- Hydrosphere
- Atmosphere
- Sustaining Earth's Systems



Environmental Science (current)

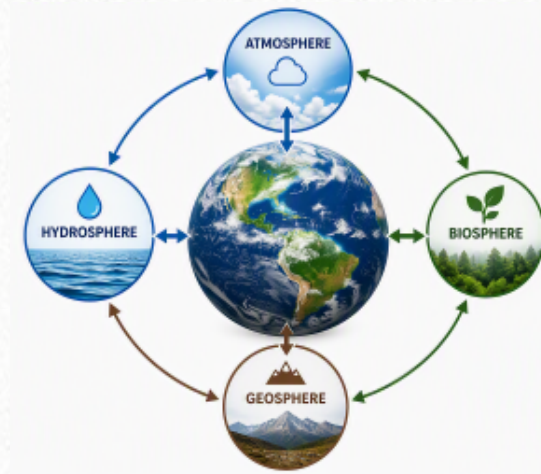
- **Earth's Systems Interactions:** Examines Earth's four spheres as Interconnected Systems
- **Ecology and Ecosystem Dynamics:** deeper look into the biosphere
- **Human Impact and Sustainability**
- **Environmental Literacy and Action**

Key Benefits:

- Provides students with a deeper understanding of how Earth's systems, ecosystems, and human actions are interconnected, reflecting the complexity of real-world environmental challenges.
- Builds critical thinking, scientific literacy, and responsible decision-making skills that prepare students for college, careers, and life.



Environmental Science – Seeking Approval



Course Overview

- Offered at both Academic and Honors level
- Introduces students to a foundational understanding of Earth's interconnected systems.
- Prerequisite: Grade 8 Science
- Aligns with the STEELS Earth Science, Life Science, and ELS Standards

Course Content

- **Unit 1: Earth's Systems Interactions** - Exploration of the geosphere, hydrosphere, atmosphere, and biosphere, and how these systems interact.
- **Unit 2: Ecology and Ecosystem Dynamics** - Examination of ecological relationships such as energy flow, biodiversity, and population dynamics.
- **Unit 3: Human Impact and Sustainability** - Study of natural resources, human influences on the environment, and strategies for conservation.
- **Unit 4: Environmental Literacy and Action** - Development of skills to think critically about environmental topics and sustainability.



Next Steps

- Implementation of Science Curriculum in classrooms
- Continued monitoring and optimizing based on teacher and student feedback.