



Biology Syllabus Jason Beavers

Class: Oceanography

Location: 2411

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Tutorial Days & Hours: Thursdays from 3:20pm until 3:45pm

Course Description: The Oceanography curriculum is designed to emphasize the interconnectedness of multiple science disciplines and the power to stimulate learning and comprehension across broad scales. Thus, students must have a basis in the major disciplines of physics, chemistry, geology, and biology, from which this cross-disciplinary thinking can be nurtured. Students will recognize that the ocean is a dynamic system reflecting interactions among organisms, ecosystems, chemical cycles, and physical and geological processes, on land, in air, and in the oceans. Students will investigate oceanography concepts through experience in laboratories and fieldwork using the processes of inquiry. Topic areas include

Course Sequence

The following academic concepts will be covered. **THIS IS ONLY A GUIDE AND IS SUBJECT TO CHANGE.**

Unit 1 – A History of Oceanography, Physical Feature and Boundaries of Oceans Chapters 1 & 2

Unit 2 – Geology, Plate Tectonics, The Ocean Floor

Unit 3 – The Chemistry of Seawater, Biogeochemical Processes

Unit 4 - Weather and Climate, The Coriolis Effect, El Nino, La Nina and Monsoons

Unit 5 – Movement of Water - Waves, Currents and Tides

Unit 6 – Shorelines – Coasts, Beaches and Estuaries

Unit 7 – The Living Oceans - Marine Ecosystems, Organisms and Food Webs

Unit 8 - Human Use and Impact on Oceans, Global Environmental Change

Textbook:

An online textbook is available for student use.

Required Supplies:

A notebook to keep up with your in-class notes and a pencil or pen should be brought to class each day.

Grading:

Grading Categories		Grading Scale
Test/Quizzes – 35%	90-100%	A
Classwork – 30%	80-89%	B
Homework – 15%	71-79%	C
Projects/Labs – 10%	70%	D
Final Exam/EOCT – 10%	69% or below	F

Classroom Expectations:

As in all classrooms and public spaces at Jonesboro High School you are expected to follow the P.R.I.D.E Matrix.

P - prepared

R - respectful

I - involved

D - diligent

E - efficient

Standards Covered:

SO1. Students will identify characteristics, physical features, and boundaries of the oceans.

a. Trace the development of the theory of plate tectonics.



Biology Syllabus

Jason Beavers

- b. Explain how the dynamic events at plate boundaries influence oceans and continents.
- c. Differentiate between features of the continental margins and the deep ocean basins.
- d. Identify the sources of the main types of marine sediments and describe how marine sediments are used in paleoceanography.

SO2. Students will relate how the oceans are integral to all life on earth and how biogeochemical processes in the oceans influence the entire planet.

- a. Explain how the hydrologic cycle integrates the oceans and the land.
- b. Identify the role of the oceans in global biogeochemical cycles.
- c. Distinguish between photosynthesis and chemosynthesis in ocean flora.
- d. Analyze the flow of energy in marine ecosystems.
- e. Describe the limiting factors that influence the primary productivity of the oceans.

SO3. Students will analyze how weather and climate are influenced by the oceans.

- a. Identify general global patterns of atmospheric and oceanic circulation including variations such as El Nino and monsoons.
- b. Explain the influence of the Coriolis Effect on winds, ocean currents, and on weather and climate.
- c. Describe the effects of tilt of the earth, solar energy inputs, and heat capacity of land and oceans on the resulting patterns of weather and climate.
- d. Explain relationships between climate change, the greenhouse effect, and the consequences of global warming on the ocean.

SO4 Students will investigate waves and tides and analyze their influence on coastal processes.

- a. Explain how waves are generated.
- b. Explain the role of the moon and the sun in the formation of tides and tide patterns.
- c. Describe the role of waves, tides, and sea level change on the physical structure of the coast.
- d. Investigate the relationship of tides and waves on the distribution and diversity of organisms in shallow water communities such as rocky intertidal zones and estuaries.
- e. Identify natural hazards (e.g., tsunamis, hurricanes, and sea level change) and their impact on coastal communities.

SO5. Students will analyze how the unique attributes of seawater determine the types of marine organisms and the ecology of marine food webs.

- a. Compare and contrast the physical and chemical structure of pure water and seawater.
- b. Identify adaptations of marine organisms that allow them to live in seawater rather than on land.
- c. Describe patterns and relationships between biotic and abiotic factors among marine ecosystems, including estuaries, coral reefs, open waters, and the deep ocean.
- d. Explain the relationship between productivity, the flow of energy, and the structure of marine food webs.

SO6. Students will identify how humans use the oceans for food, commerce, and energy and will evaluate the potential for abuse in the absence of responsible stewardship.

- a. Describe how physical, geological, and biological resources are extracted from the oceans, and assess the consequences for marine ecosystems.
- b. Identify how the oceans are used as sources of alternative energy.
- c. Explain how the oceans are used for recreation and transportation, and evaluate their impacts on marine ecosystems.
- d. Analyze issues, policies, and laws that promote responsible stewardship of the oceans, including trade, fisheries, transportation, and resources.

Progressive Discipline Plan:

- 1st Offense – Warning
- 2nd Offense – Parent Contact by teacher
- 3rd Offense – Assigned Teacher Detention
- 4th Offense – Assigned Administrative Detention & referral to counselor for intervention
- 5th Offense – Referral to Administrator for escalated consequences.

Classroom Attendance:



Biology Syllabus Jason Beavers

Consistent and regular attendance in all classes, every day, is essential for student growth and life-long achievement. Regular attendance is linked to higher graduation rates, lower drop-out rates, higher college attendance rates and higher paying jobs. Students are expected to report to class on time daily.

Class Tardy Policy

<i>Class Tardy Policy</i>
1 st Offense – Warning
2 nd Offense – Parent Contact by teacher
3 rd Offense – Assigned Teacher Detention
4 th Offense – Referral to Grade-Level Administrator
5 th Offense – Referral to Grade-Level Administrator

Make-up Policy:

In the event of an absence, all students are provided an opportunity to make up missed assignments regardless of the reason for the absences. **It is the student's and the parent's responsibility to make arrangements and complete all work within three school days of the student's return to school. Students will present the make-up work to the teacher for grading.** Grading for the make up work should be shared with the student within a reasonable period of time, i.e. 3-5 days. It is the parent's and the student's responsibility to initiate the make-up work for missed assignments, tests, and classwork. Students must assume responsibility for obtaining the required information and making necessary arrangements with the teacher. *The full CCPS make-up policy can be found on pg. 52 of the student handbook. *

Parent/Teacher Communication:

The teacher will communicate with parents using multiple sources; including e-mail, on-line gradebook (infinite campus), and phone. Please make sure contact information is updated in Infinite Campus.

Academic Integrity:

Any cheating or other act of academic dishonesty will be punished by an automatic "F" on that academic work. Other sanctions may be applied as well.

Changes in Syllabus:

Changes to this syllabus are not anticipated. However, any changes that should arise will be announced.



Biology Syllabus

Jason Beavers

Once you have read the syllabus, please sign this letter, complete the information below, and return it to the instructor. The syllabus should be kept by the student in their notebook for reference purposes. This information will be used to keep you informed regarding assignments and student performance.

Student Name: _____ Period: _____

Student Signature: _____ Date: _____

Parent Signature: _____ Date: _____

Comments: