

Glen's Gizmos: Advanced Marine Biology Course Orientation / Syllabus

INTRODUCTION FROM YOUR INSTRUCTOR

Welcome to Marine Biology. My name is Joel Thomas. My wife Roxanna and I will be your instructors this quarter.

I graduated from George Fox University with a teaching degree. Roxanna and I have been teaching science classes for over 10 years. After seeing how well homeschooling works to benefit children and strengthen families we have decided to support homeschoolers to the best of our God given abilities through the Firmly Planted Homeschool Resource Center.

It is important to me that students feel that the class is safe and that I am approachable, but it is also important to be clear that the course, its policies and assignment deadlines, are adhered to. I will do my best to be fair, firm and communicate clearly with both students and parents.

With this in mind...

Please **print** this document as well as the course calendar and syllabus and carefully read through them. The syllabus contains essential information which you will need to immediately understand to be successful in this course. The course calendar provides information regarding the weekly required work/assignments and their deadlines. If you have questions after reading this syllabus please email them to me at joel@glensgizmos.com.

Texts and Reading Assignments

While I am not requiring the purchase of any specific book to complete this course, the Apologia text on Marine Biology written by Sherri Seligson is a very good optional resource for a parent or older student. All of the required readings will either be written by me directly and distributed, or linked to online and are available at no additional cost.

Required Supplies: Please bring a few writing utensils and a folder or binder to organize papers and assignments in to class daily. I will provide other necessary supplies used in class.

AT HOME: Students may also need access to glue, coloring supplies, scissors, posterboard, calculators, a computer with a word processor internet connection and printer. If it is not possible for your student to access the necessary supplies please let me know so we can offer assistance.

Firmly Planted Homeschool Resource Center

11100 NE 34 Cir.

Vancouver, WA 98682

Instructors: Joel & Roxanna (Roxy) Thomas

Cell: (503) 487-7223

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Course Description:

Dive into this study of marine life and ecosystems. Focusing on both live and preserved specimens in the classroom, we'll learn about the God given characteristics allowing each species to thrive in its unique niche.

Grading and Assessment

Assignments are graded on a point scale with 1000 total points possible in the course. I don't assign letter grades leaving this piece of performance communication up to the parents.

- **200 Points: Weekly Quizzes**
 - At the start of each class students will be given a short 10-20 question quiz to assess their learning. These quizzes are graded and will cover content from the previous weeks lesson and the assigned reading. To do well on these quizzes complete the assigned reading and participate in class discussions.
- **200 Points: Lab Journal**
 - During each class students will be asked to keep a lab book recording activities and experiments completed each day. Glen's Gizmos is providing this journal and it will be completed in class daily.
- **100 Points: Final Exam**
 - On the last day of class students will be given an exam covering content from the quarter. Structure of this exam will be part multiple choice and part essay. It will be similar to the quiz structure. Weekly quizzes will help prepare students for the structure of the final exam.
- **500 Points: Research Project and Report**
 - This is a big one and much of the work is to be done at home throughout the course. It will include a research journal (100 pts), written essay (200 pts), Speech / Presentation to Class (200 pts). The class is built to prepare students for these final projects. If students work diligently and complete assignments they should do well.

Suggested Advanced Research Topics

- Ocean Acidification and Shellfish Reproduction
- Orca Populations in the Pudget Sound
- Sea Lions and the Columbia River Salmon Fishery
- Red Tide and Shellfish Closures
- Impact of Wave Energy Generator Installation
- Giant Pacific Garbage Patch

OPTIONAL FIELD TRIP

- Towards the end of the course families will be invited to attend an optional field trip together to the coast to study tidepool life. Stay tuned for more information.

To be successful in this course:

Avoid Procrastination & Work Diligently.

Course Calendar

Below is our calendar for the quarter. While we will do our best to cover everything listed, it is possible we may miss some things due to unforeseen limiting factors. If we finish a focus point earlier than expected we may also add extra content to the class. *Please be flexible and communicate concerns with the instructors.*

Class	Focus	Assignments / Readings	Due Dates and Graded Assignments
Week 1: Monday Oct. 30, 2017	<ul style="list-style-type: none"> • Introductory Discussion • Measuring Salinity and Specific Gravity 	<ul style="list-style-type: none"> • Course Syllabus • Saltwater Chemistry Handout • Cycling a tank handout. 	<ul style="list-style-type: none"> • Quiz #1 – Introductions • Lab Journal Entry
Week 2: Monday Nov. 6, 2017	<ul style="list-style-type: none"> • Saltwater Chemistry • Mix Saltwater Storage Tanks • Begin Egg Osmosis 	<ul style="list-style-type: none"> • Osmoregulation Handout 	<ul style="list-style-type: none"> • Quiz #2 • Lab Journal Entry
Week 3: Monday Nov. 13, 2017	<ul style="list-style-type: none"> • Check-In: Egg Osmosis • Aquarium Checkup / Water Testing • Fill Aquariums with saltwater. 	<ul style="list-style-type: none"> • Intro. to Research Project Handout • Pressure and Depth Handout 	<ul style="list-style-type: none"> • Quiz #3 • Lab Journal Entry
Week 4: Monday Nov. 20, 2017	<ul style="list-style-type: none"> • Pressure • Fish • Shark Dissection 	<ul style="list-style-type: none"> • Energy: Waves and Light Handout • Plants and Plantlike Animals Handout 	<ul style="list-style-type: none"> • Quiz #4 • Lab Journal Entry
Week 5: Monday Nov. 27, 2017	<ul style="list-style-type: none"> • Energy: Light • Plants and Plant Like Animals • Cnidarians 	<ul style="list-style-type: none"> • Intro to Taxonomy Handout • Focus on Echinoderms Handout 	<ul style="list-style-type: none"> • Quiz #5 • Lab Journal Entry

Week 6: Monday Dec. 4, 2017	<ul style="list-style-type: none"> • Research Project Check-in. • Intro to Invertebrates and Taxonomy • Echinoderm Study • Echinoderm Dissection 	<ul style="list-style-type: none"> • Focus on Crustaceans Handout • Microscope Use Handout 	<ul style="list-style-type: none"> • Quiz #6 • Lab Journal Entry
Week 7: Monday Dec. 11, 2017	<ul style="list-style-type: none"> • Focus on Crustaceans • Crustacean Dissection 	<ul style="list-style-type: none"> • Currents, Seafloor, Plate Tectonics and Tides. 	<ul style="list-style-type: none"> • Quiz #7 • Lab Journal Entry
Week 8: Monday Jan. 8, 2018	<ul style="list-style-type: none"> • Research Project Check-In • Microscopic Observations • Flotsam, Jetsam and Wrack 	<ul style="list-style-type: none"> • Final week to prepare for your research project, report and presentation. 	<ul style="list-style-type: none"> • Quiz #8 • Lab Journal Entry
Week 9: Monday Jan. 15, 2018	<ul style="list-style-type: none"> • Research Presentations – Speeches in class. 	<ul style="list-style-type: none"> • Review all notes for Exam 	<ul style="list-style-type: none"> • Quiz #9 • Lab Journal Entry • Research Reports and Journals Due
Week 10: Monday Jan. 22, 2018	<ul style="list-style-type: none"> • Final Exam Day 		<ul style="list-style-type: none"> • Quiz #10 • Lab Journal Entry
Optional family trip to the coast and tidepools: Date and Time to be determined.			