SUMMER OF STEM 2022
EXPLORING DEEP SEA ENGINEERING

e-Biome's SUMMER OF STEM 2022
WETLANDS: AGES 8-12 | TROPICAL FORESTS: AGES 13-18
August 8- 26

e-Biome, a key developer in the blue economy, and an innovator in Science, Technology, Engineering and Math (STEM), would like to invite you to register your child/ward to be a part of our interactive and fulfilling Summer of STEM Camp- Virtual Edition. This is the third staging of the camp and judging from the success of last year, this year promises to be even greater as we will be "*Exploring Deep Sea Engineering*."

The ocean is one of the richest — and most underutilized — resources on Earth. Scientists have been working on technology that increases our ability to tap it as a resource for food, energy, trade, and tourism—without harmful consequences. Deep Sea Engineering is a new wave of sophisticated technology that is allowing us to learn more about the deep sea than ever before.

Your child/ward will learn about the advantages of Deep Sea Engineering, but also about the fact that deep sea exploration is expensive, difficult and dangerous. In a Virtual Classroom, your child/ward will feel how dark, and murky the experience of Deep Sea Engineering is, but how the different technologies can be used to amplify the experience and help one find treasures. We will explore deep-sea species, and their adaptations, marine robotics, and ocean engineering.

The camp will start on Monday, August 3 and end on Friday, August 26 (Duration- 3 weeks). Live Sessions will be held each week from Monday to Thursday from 9 am to 1 pm (EST) via Zoom and students will complete assessments/assignments/projects on Fridays via the Learning Management System (LMS), Google Classroom.

THE CAMP HAS THREE (3) MAJOR FOCUS AREAS:

1. **EcoDiscovery**
   Introducing students to various ecosystems that exist and key characteristics of each.
   Virtual labs to take students on a journey exploring biodiversity on land and underwater.

   Special Topics:
   a. Marine Ecosystems
   b. Deep-Sea Biology
   c. Ocean's Physical, Chemical, and Biological Properties
   d. Marine Engineering

2. **MathDoc**
   Creatively engaging students in the world of Mathematics. From the basic to the advanced level, students will be prepared to conquer math and engineering principles.

   Special Topics:
   a. Thermodynamics
   b. Ocean Energy Probability
   c. Hydrostatics and Stability
   d. Marine Hydrodynamics
   e. Stochastic Process & Statistics

3. **TechWiz**
   From coding to building technology, students will experience high-level exposure to the nuances of technology.

   Special Topics:
   a. Marine Robotics
   b. Coastal Engineering
   c. Design of Marine Vehicles
   d. Computer-Aided Marine Design and Production
   e. Design of Ocean Structures
   f. Advanced Marine Vehicles

WETLANDS (Ages 8-12)

The focus for Wetlands is for them to develop critical scientific and analytical skills and the approach that will be taken is geared towards building a strong STEM foundation is through introducing them to the application of Science. They will be introduced to the concepts and shown interactive exercises such as Virtual Labs that will aim to build their critical thinking and problem-solving abilities.

Your child/ward will be introduced to Ocean Ecology, and Engineering Principles. Here is a list of questions that your child will explore:

1. What special adaptation features do deep sea organisms possess?
2. What are characteristics of marine engineering structures?
3. How can the oceans be utilized to improve life on the planet?

Tropical Forests will explore advanced scientific principles and tackle environmental issues with the aim of preparing them for a challenging career in STEM. Tropical Forests will be exposed to the application of scientific principles in ecosystems and management.

Your child/ward will understand and appreciate the advantages and disadvantages of deep sea engineering. Here are key questions we'll be exploring:

1. How do we build autonomous sensors that enable us to probe unexplored areas of the oceans and inaccessible regions of, for example, the polar oceans?
2. How do we cost effectively measure the global distribution of ever-changing physical, biological, and chemical signals in the interior oceans?
3. What new technologies will improve safety and reduce pollution in transportation and mineral extraction?

SPECIAL FEATURES OF SUMMER OF STEM 2022

VIRTUAL STEM CAREER SYMPOSIUM

This camp is about building all-rounded STEM enthusiasts who are capable of representing well verbally and nonverbally through building presentation skills and preparing the students to interact with successful Marine Engineers, Entomologists, Zoologists, Medical Doctors, Environmentalists, among others, and do a guided presentation on the career of their choice.

Benefits:

- Your child will learn how to create a PowerPoint Presentation and develop the skills needed to effectively deliver their presentation.
- Your child will be exposed to different careers in the field of STEM and get the opportunity to interact with local and international professionals.

ZOOM CLASSROOM

The Zoom Classroom is fun and interactive. The use of polls, white boards and breakout rooms are effective learning tools utilized by e-Biome to engage and keep students edutained.

What happens if my child misses a session?

The recording of each session will be posted on the Google Classroom platform.

Register your child/ward via https://forms.gle/BcTzu1tXbVUxuWTDA

If you need to speak with an e-Biome representative, email us at ebiomeofficial@gmail.com or biolifeja@gmail.com. You may also call or WhatsApp us at +1-876-588-5892.

COST

The cost of Summer of STEM 2022 is **$55 USD**/ $8000 JMD. Payment may be made via PayPal, www.e-biome.com, Bank Transfer, or in-cash at the University of the West Indies, Mona.

1. Participants will receive 100% refund if course is cancelled or postponed by e-Biome.
2. Paid participants who cancel their attendance 5 days or more before the start of the Programme will be refunded 60% of their payment.
3. No refund will be given for cancellations made 4 days or less before the start date of the programme.