

The following information will be published on the Courses page of the Summer Sessions Website :			
Course Title:	Blue Hole Exploration: Studying Microplastics in the Bahamas		
Course Number:	ES 3890	Credit Hours:	3
First Instructor:	Yiorgos Kostoulas	First Instructor Email:	yiorgos.kostoulas@vanderbilt.edu
Second Instructor:	Click here to enter text.	Second Instructor Email:	Click here to enter text.
Program start date:	May 4, 2024	Program end date:	May31, 2024
Program destination(s): (Each city, country with start/end dates)	Andros, Bahamas		
Does this course satisfy an AXLE requirement? If yes, which requirement?	No		
What are the academic pre-requisites (if any) for enrolling in this course? (Ex. ENGL 1111)	None		
Are there any additional pre-requisites, certifications, licenses needed? (Ex. Scuba certification, etc.)	Not at this point. Scuba Open Water Certification can be offered while on the trip if the students are interested.		
What are some conditions, challenges, or accessibility issues that students will encounter? (Ex. Hiking long distances, extreme temperatures, rocky terrain, etc.)	There will be some walking, and rowing on kayaks while we sample for microplastics. Also walking on the beach where we will also gather samples.		
Student Expenses			
Items Covered by Program Fee:			
Lodging (Total nights + included amenities): (Ex. 25 hotel nights + continental breakfast)	7 nights in the Forfar Station included in the student fee		
Meals:	Total breakfasts: 7 Total lunches: 7 Total dinners: 6, all these are included in the student fee		
Transportation (Airfare, public transit, ride share, etc.): (Ex. Ferry from Point A to Point B)	Flight from Nassau to Andros Island and transportation from the Andros airport to the Forfar field station is included in the fee		
Supplies (Textbooks, gear, etc.): (Ex. Scuba gear – tank, mask, etc.)	None		
Excursions (Tour fees, admission fees, etc.): (Ex. Ticket to National Museum of Art, etc.)	Please see attached sample itinerary for possible excursion included. We will alter this in order to gather microplastic samples for our analysis		
Items <u>NOT</u> Covered by Program Fee:			
Lodging (Total nights + amenities): (Not covered ex. First night stay in Italy, laundry, etc.)	Click here to enter text.		

Meals:	Total breakfasts: Total lunches: Total dinners: 1
Transportation (international airfare, public transit, etc.): (Not covered ex. Airfare to/from home/destination, etc.)	Airfare to Nassau, Bahamas
Supplies (Textbooks, gear, personal items, etc.): (Not covered ex. Medications, personal hygiene, cell phone plan/minutes, etc.)	Click here to enter text.
Excursions (Optional activities, tour fees, admission fees, etc.): (Not covered ex. Swimming with dolphins, additional performance tickets, photo package, etc.)	None
Visa needed for US passport holders? Yes or no?	No
If yes, is the cost of the visa included in the program fee? Yes or no?	Click here to enter text.
Does the course have a service-learning component?	Click here to enter text.
Please provide the course description below (one to two paragraphs):	
This course offers a unique and immersive experience for students interested in marine conservation and environmental science. Set against the backdrop of Andros Island in the Bahamas, known for having the world's largest concentration of blue holes, the course provides a rare opportunity to study microplastics in both fresh and saltwater environments. Over the course of a week, students will engage in hands-on fieldwork, collecting samples from the ocean surface, various blue holes, and beach areas. This direct engagement with diverse aquatic environments not only enhances their understanding of marine ecosystems but also highlights the pervasive issue of microplastic pollution. The fieldwork is designed to be comprehensive, encompassing different water bodies to understand the distribution and impact of microplastics across varying aquatic environments. Upon returning to Vanderbilt University, the course shifts its focus to the analytical phase, utilizing the state-of-the-art facilities at the Vanderbilt Institute for Nanoscience and Engineering. Students will have the opportunity to characterize their collected samples using advanced analytical instruments, gaining practical experience in scientific methods and data analysis. This part of the course emphasizes the importance of interdisciplinary skills, blending fieldwork with laboratory techniques. Students will learn how to interpret their findings in the context of broader environmental and ecological implications, contributing to their overall understanding of global environmental challenges. This course not only equips students with valuable practical skills but also fosters a deeper appreciation for the intricate balance of natural ecosystems and the importance of preserving them.	