Term Information

Effective Term	Autumn 2025
Previous Value	*Spring 2023*

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Approve course as a GEN Theme Lived Environments course with integrative practice of Study Abroad.

What is the rationale for the proposed change(s)?

This course goals and ELOs align with the Lived Environments and it is already a 4 credit hour Study Abroad course - so it seems like a natural fit for the GEN Theme.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

None anticipated.

Is approval of the requrest contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area	Earth Sciences
Fiscal Unit/Academic Org	School of Earth Sciences - D0656
College/Academic Group	Arts and Sciences
Level/Career	Graduate, Undergraduate
Course Number/Catalog	5242
Course Title	Exploring the Natural History of The Bahamas
Transcript Abbreviation	Nat Hist Bahamas
Course Description	The study of the geology and natural history of the small Bahamian island of San Salvador including an international 7-day field trip to the island during spring break.
Semester Credit Hours/Units	Fixed: 4

Offering Information

Length Of Course	14 Week, 12 Week, 8 Week, 7 Week, 6 Week, 4 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Seminar, Field Experience
Grade Roster Component	Seminar
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Sometimes
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark, Wooster
Previous Value	*Columbus, Newark*

Prerequisites and Exclusions

Prerequisites/Corequisites	Prereq: 1100, 1105, 1108, 1110, 1121, 1151, 2203, 2204, 2205, 2206(S), 2210, 2122, or 2155, or equiv.; and permission of instructor.
Exclusions	
Electronically Enforced	Yes

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	40.0601
Subsidy Level	Doctoral Course
Intended Rank	Junior, Senior, Masters, Doctoral

Requirement/Elective Designation

Lived Environments; Intercultural and Global Awareness

The course is an elective (for this or other units) or is a service course for other units

Previous Value

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- This field course will provide unique opportunities for students to examine first-hand the geology and natural history of diverse ecosystems on San Salvador Island, connect with their surroundings and discover the impact humans have on the island.
- 1. Students will learn how The Bahamas formed and what shapes the islands today by reading and discussing these topics and making observations themselves in the field.
- 2. Students will engage with the primary research literature to understand current research directions and problems that are being investigated on San Salvador Island.
- 3. Students will explore ecosystems of San Salvador Island in the present, learn how to identify these ecosystems in the geologic record, and compare these past and present ecosystems.
- 4. Students will understand and appreciate first-hand how humans impact various environments found on this small island.
- 5. Students will engage with the complexity and uncertainty of current human impacts as they learn how past human impact
- 6. Students will reflect on how perceptions and valuation of the environment shape human interactions with their environments, and the outcome of these interactions.
- 7. Students will reflect on this international field experience and share insight gained with their peers and the public.
- 8. Students will reflect on their own ideologies and how that impacts their perception about the environment and conservation.

Previous Value

- *This field course will provide unique opportunities for students to examine first-hand the geology and natural history of diverse ecosystems on San Salvador Island, connect with their surroundings and discover the impact humans have on the island.*
- *1. Students will learn how The Bahamas formed and what shapes the islands today by reading and discussing these topics and making observations themselves.*

  2. Students will identify ecosystems of San Salvador Island in the present and in the past.
- *3. Students will understand and appreciate first hand how humans impact this small island.*

  4. Students will reflect on this international field experience and share insight gained with their peers and the public.

Content Topic List

- + The Bahamas platform: geology and biology of this shallow-water marine environment

  + Human impacts on a small island ecosystem

  + Geologic history of San Salvador Island written in its sedimentary rocks

  + Modern natural & anthropogenic processes
- + Coral reefs “Iconic marine ecosystems"

  + Sandy beaches, sediment composition, physical and chemical weathering

  + Ocean currents, waves, and tides

  + Hurricanes

  + Karst features, processes

  + Extreme weather events and climate change

  + Pollution

Previous Value

- *+ The Bahamas platform: geology and biology of this shallow-water marine environment*
  + Human impacts on a small island ecosystem
  + Geologic history of San Salvador Island written in its sedimentary rocks
  + Modern natural & anthropogenic processes
- *+ Coral reefs*
  + Sandy beaches, sediment composition, physical and chemical weathering
  + Ocean currents, waves, and tides
  + Hurricanes
  + Karst features
  + Extreme weather events and climate change
  + Pollution

Sought Concurrence No

Attachments

- EARTHSC 5242 revised syllabus for GEN LE Theme.pdf: revised syllabus
  (Syllabus. Owner: Griffith,Elizabeth M)
- submission-lived-environments-EARTHSC5242.pdf: Lived Environments submission form
  (Other Supporting Documentation. Owner: Griffith,Elizabeth M)
- EARTHSC 5242 Theme ELO Application Responses in a readable format.pdf: user friendly Lived Environments responses
  (Other Supporting Documentation. Owner: Griffith,Elizabeth M)
- ed-away-inventory-EARTHSC5242.pdf: Ed Away Inventory
  (Other Supporting Documentation. Owner: Griffith,Elizabeth M)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Griffith,Elizabeth M	01/16/2025 11:04 PM	Submitted for Approval
Approved	Griffith,Elizabeth M	01/16/2025 11:04 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	01/29/2025 02:36 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Hilty,Michael Neff,Jennifer Vankeerbergen,Bernadette Chantal Steele,Rachel Lea	01/29/2025 02:36 PM	ASCCAO Approval

EARTHSC 5242 Exploring the Natural History of The Bahamas.

Spring Education Abroad Faculty-Led Program

School of Earth Sciences, The Ohio State University

Class Meetings and Location: one class period per week (Mondays) for 2 hours, 5-7PM, Columbus Campus Classroom, Orton Hall Room 080

Study Abroad: In country March 8-17, 2024 (SPRING BREAK)

Class Numbers: ##### (COL) ##### (NWK) undergraduate, ##### (COL) graduate students

GEN Theme: Lived Environments, Integrative Practice: Study Abroad

Professors: Dr. Elizabeth Griffith, griffith.906@osu.edu
Office: Mendenhall Laboratory Room 327
Dr. Jill Leonard-Pingel, leonard-pingel.1@osu.edu
Office: Orton Hall Room 217; Alford Science Center 241 (Newark)

Office Hours: **Griffith** office hours: Monday 9:30-11:00am (Mendenhall Lab Rm 327)
Leonard-Pingel ZOOM office hours: Tuesday 10:00am-11:00am (link on Carmen)
or by appointment, please email

Course Description: The study of the geology and natural history of the small Bahamian island of San Salvador including an international 7-day field trip to the island during spring break. Prereq: A student must have taken an introductory earth science course (or equivalent) such as EARTHSC 1100, 1105, 1108, 1110, 1121, 1151, 2203, 2204, 2205, 2206(S), 2210, 2122, or 2155.

Goals and Learning Outcomes:

Exploring the Natural History of the Bahamas is designed as a field course where students will have the opportunity to examine first-hand the geology and natural history of diverse ecosystems on the small Bahamian island of San Salvador, connect with their surroundings during the international field experience, and discover the impact humans have on the island. This engagement will provide students with a more advanced and in-depth interdisciplinary study of the natural history, including human history, of San Salvador Island. During the course, students will gain a greater appreciation for the complexity of the many ecosystems and environments found on San Salvador Island, including hypersaline lakes, caves, tidal flats, coral reefs, and beaches, and will analyze how human activities impact these environments. As we discuss the history of the island, we will also explore the ways that different human cultures, including the ancient Lucayans, British colonists, and modern communities, have valued and used the resources found on San Salvador Island. The course will conclude by students completing independent reflections/blog posts that share their thoughts on a particular aspect of human-environment interaction that they observed on the Island and how that interaction reflects conventions or discourses about the natural world.

EARTHSC 5242 will count as a Study Abroad four-credit course, fulfilling the new General Education (GEN) Theme **Lived Environments.**

As part of the **Lived Environments** Theme of the General Education curriculum, this course is designed so that students will complete the following ("ELO"=Expected Learning Outcome):

New General Education (GEN) Lived Environments Theme Goals & ELOs:

1. Successful students will analyze an important topic or idea at a more advanced and in-depth level than in the Foundations component. [Note: In this context, "advanced" refers to courses that are e.g., synthetic, rely on research or cutting-edge findings, or deeply engage with the subject matter, among other possibilities.]
2. Successful students will integrate approaches to the theme by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.
3. Successful students will explore a range of perspectives on the interactions and impacts between humans and one or more types of environment (e.g., agricultural, built, cultural, economic, intellectual, natural) in which humans live.
4. Successful students will analyze a variety of perceptions, representations, and/or discourses about environments and humans within them.

Expected Learning Outcomes:

Successful students are able to:
1.1. Engage in critical and logical thinking about the topic or idea of the theme.
1.2. Engage in an advanced, in-depth, scholarly exploration of the topic or idea of the theme.
2.1. Identify, describe, and synthesize approaches or experiences as they apply to the theme.
2.2. Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts.
3.1. Engage with the complexity and uncertainty of human-environment interactions.
3.2. Describe examples of human interaction with and impact on environmental change and transformation over time and across space.
4.1. Analyze how humans' interactions with their environments shape or have shaped attitudes, beliefs, values, and behaviors.
4.2. Describe how humans perceive and represent the environments with which they interact.
4.3. Analyze and critique conventions, theories, and ideologies that influence discourses around environments.

We will achieve these goals by learning fundamental natural science concepts and exploring the history of human habitation on this small Caribbean Island to gain a better understanding of the relationship and interconnectedness between human activities, both global and local, and the natural environment. We will learn how to interpret the geologic record to reconstruct past environments and ecosystems and how to use those past ecosystems to provide context for current environmental changes (e.g., sea level rise, coral reef degradation). We will also deepen our knowledge of how the unique natural environment of San Salvador Island impacts and is impacted by human activities, including independent research

investigations of key systems including karst and groundwater, variable lacustrine systems, coastal ecosystems, and nearshore marine environments.

Education Abroad Specific Objectives:

Successful students are able to:
1.1.a **Critical thinking**: Clearly state and comprehensively describe the issue or problem under consideration, delivering all relevant information necessary.
1.1.b **Analysis**: Interpret and evaluate information from multiple sources to develop a comprehensive analysis or synthesis, and thoroughly question the viewpoints of experts and professionals.
1.1.c **Critical thinking & analysis**: Systematically and methodically analyze their own and others' assumptions and carefully evaluate the relevance of contexts when representing a position.
1.2.a **Scholarly engagement**: Articulate a thorough, complex, and scholarly understanding of the issues, resources, assets, and cultures of the culture and location in which they are working.
2.1.a **Integration of knowledge**: Connect, analyze, and extend knowledge (facts, theories, etc.) from course content to contemporary global issues and contexts and their experience away.
2.1.b **Multiple perspectives**: Evaluate and apply diverse perspectives to complex subjects from multiple cultural lenses.
2.2.a **Cultural self-awareness**: Engage in intercultural learning and reflect on their own cultural values and seek to understand how their actions affect and are affected by both local and global communities they live in.
2.2.b **Intercultural empathy**: Interpret and explain intercultural experience from the perspectives of their own and at least one other worldview and demonstrate intercultural empathy towards culturally different others.

Students will achieve these objectives in this Study Abroad course by preparing and traveling to the Gerace Research Centre on San Salvador Island in The Bahamas to fully immerse themselves in a new culture which is very different from the community we live in - the land-locked Columbus, Ohio. Students will deepen our knowledge of how the inhabitants of this island and their relationship with the natural environment has changed over time by reading scholarly works published by researchers and discussing and analyzing the data they collected. Students will compare and contrast their own cultural values with that of past and current peoples who inhabit the island. Three reflections (pre-departure, in-country, and final) will be completed which link to and demonstrate each student's successful accomplishment of these objectives. The final reflection includes a presentation in class where students will share new insight gained the Study Abroad experience and how their worldview has changed. Students will also complete independent research investigations of one of the unique natural systems on the Bahamian island and how it has been impacted by humans in the past, and is impacted currently. Their research will be shared in class as presentations and as students lead discussions on their topics in class and in the field.

Additional course-specific learning outcomes:

1. Students will learn how The Bahamas formed and what shapes the islands today by reading and discussing these topics and making observations themselves in the field.

2. Students will engage with the primary research literature to understand current research directions and problems that are being investigated on San Salvador Island.
3. Students will explore ecosystems of San Salvador Island in the present, learn how to identify these ecosystems in the geologic record, and compare these past and present ecosystems.
4. Students will understand and appreciate first-hand how humans impact various environments found on this small island.
5. Students will engage with the complexity and uncertainty of current human impacts as they learn how past human impacts shaped ecosystems on the island.
6. Students will reflect on how perceptions and valuation of the environment shape human interactions with their environments, and the outcome of these interactions.
7. Students will reflect on this international field experience and share insight gained with their peers and the public.
8. Students will reflect on their own ideologies and how that impacts their perception about the environment and conservation.

Work completed for this course will develop and improve the following skills:

1) a student's ability to read, understand, and discuss scientific literature
2) a student's oral presentation and communications skills and ability to work in teams
3) a student's ability to gather data and make observations in the field and use that information to make inferences
4) a student's comfort level working in the field and maintaining a field notebook to document their observations and gather data
5) a student's ability to communicate science to their peers and the public

Course components:

(1) **Pre-departure seminars** in the US covering the following topics: (a) the geological evolution of the Bahamas platform, (b) natural history and ecology of San Salvador Island, and (c) natural resource availability and human impact on San Salvador Island.

(2) **In-country structured educational experiences and seminars** led by OSU instructors, lab activities, and visits and guided tours of diverse ecosystems (beach and rocky shore, sea grass, coral reef, mangrove, and hypersaline lakes) and geologic features (sedimentary sequences, caves, sea cliffs, dunes, and karst formations). Students will explore how these natural systems and resources are impacted by natural and human factors on different timescales.

(3) **Post-departure seminars** in the US focused on human impacts on the natural environment of San Salvador Island and how ideologies and valuation of the environment has led to current conservation practices.

Course Grade will be based on the following:

Topical review and presentation 15% - Prior to departure, you will choose a topic centered on interactions and impacts between humans and different aspects of the Bahamian island and its organisms such as human impact on reef organisms and the coral reef ecosystem, endemic and endangered terrestrial fauna, karst and cave systems, climate and storms, sea level, and water quality to research and complete a **five-page** report on the topic with appropriate references and citations. A list of topics is included in the schedule and in a Google document linked in Carmen with a beginning reference list where you will sign up for a topic. You will share your knowledge with the class during pre-departure or post-travel meetings by preparing a short (10 minute) presentation and assisting in leading discussions related to the topic.

Class activities, participation 50% - You are expected to complete pre-lecture quizzes (open book/notes), fully participate in activities, assessments, and seminars, including arriving on time and capable of participating in each day's activities while we are in the field (not just tagging along). This includes treating all presenters and each other with respect, asking questions, and making the most of this educational experience in The Bahamas. All students enrolled in this course are expected to initiate and lead discussions amongst their peers inside and outside of the classroom.

Field notebook 20% - You will take detailed notes in your field notebook including sketches and maps of the sites visited, observations, results and discussions from field and lab activities. Examples will be provided with a rubric for grading.

Student reflections 10% - You are required to write three reflections during the course. One will be prior to departure, one in the field, and another after we return to Ohio. Each reflection will be roughly two pages in length and cite relevant course references and include personal thoughts. This is your opportunity to reflect on (i) what you are learning in the classroom prior to departure and what you are looking forward to personally experiencing abroad, (ii) what you are learning in the field abroad about the course content and yourself, and (iii) how the experience has changed your personal knowledge of a particular topic and expanded your world view. The final reflection should include a discussion of how you perceive the environments that you interacted with during the trip, and a representation of an environment that you felt a particular connection with (such as a photograph, piece of artwork, poem, or other creative piece).

Class blog 5% - The class will be publicly sharing our experience (with friends, family, and others) through a web blog. Everyone will contribute a blog post on the website during the trip which will include at a minimum a paragraph about a particular activity and a picture. We will assign students to a particular day prior to departure, and encourage you to share the website with your family and friends.

The following will yield letter grades:

100-93% **A**; 92-90% **A-**; 89-87% **B+**; 86-83% **B**; 82-80% **B-**; 79-77% **C+**; 76-73% **C**; 72-70% **C-**;

69-67% **D+**; 66-60% **D**; <60% **E**

Academic Integrity (Academic Misconduct): It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-48.7 (B)). For additional information, see the Code of Student Conduct.

Any material submitted in this course must represent your own work. If you have any questions about whether you are acting in accordance with the Code of Student Conduct, please ask us BEFORE an assignment is turned in.

Expectations for Conduct: In the spirit of this institution's values of inclusion, diversity, collaboration, and integrity, and in an effort to ensure that this class remains a place where everyone can feel safe, comfortable, and welcome, we ask that you:

- behave in a safe and responsible manner at all times
- treat students, staff, and faculty with respect at all times
- be mindful of how your actions and language impact others

In addition, during the field portion of the course we expect that you will:

- Arrive on time and capable of participating in the day's field trip (not just tagging along).
- Attend and fully participate in evening activities.
- Obey all local laws and rules of the Gerace Research Centre. We are not responsible for your legal problems.
- Put safety first, **always**.

Costs: Please see Global Education site for a breakdown of anticipated costs. Additional costs include incidentals on the island and acquiring items below.

Things you will need:

****** PASSPORT *******
Field notebook (Rite In The Rain is highly recommended) and pencils
Mask/fins/snorkel and a way to carry them
Bathing suits, beach towel, sunscreen, sunglasses, hat
Insect repellant

Money in small denominations (there are no ATM's or banks on San Sal)
Chargers
Camera / spare batteries
Shoes with sturdy soles – can be Chacos or water shoes, but coastal karren is nasty stuff
A pair of old sneakers

Other useful items:
-The water will be around 75 degrees, so wet suits aren't absolutely necessary, but useful for people who get cold (like me). 2mm shorty wetsuits can work well up to 3 mm fullsuit.
-Snacks-everything is expensive on the island, you can save a lot by bringing popcorn, nuts, crackers, granola bars. That way you can save your money for other incidentals.
-A sweatshirt-it does get cool in the evenings
-A light cover-we'll be driving around in open trucks, so you will be exposed to the sun a lot. It helps to be able to coverup while we're traveling. It can also feel very cold driving in the back of the truck after getting out of the water
-Rain gear
-You don't need a lot of clothes, but it is expected that we will clean up and look decent for meals at the research station dining hall.
-Laundry detergent-there are several washing machines available so you can run a load while you're there (air dry)

FAQ:

- *Is there a swimming/water safety skill pre-requisite for the course?*
  We will be reviewing water safety and testing our snorkeling equipment at the RPAC Aquatic Center (mandatory, see course schedule). If you have never snorkeled before, this will be the time to become comfortable with your gear and be sure it is in good condition. We will be assisting with evaluating gear and comfort level in the water.

- *If I am unable to swim with snorkeling equipment in the field, how should I request modifications and/or accommodations?*
  Talk with the instructors <u>BEFORE</u> we depart for San Salvador Island if you are unable to swim with snorkeling equipment or to discuss any accommodations that you will need in the field.

Statement on disability services: The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I

may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Please make an effort to speak with the instructors of the class to discuss ANY accommodations that you may need to complete the field work BEFORE we depart for San Salvador Island.

Statement of Religious Accommodations: Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the

student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Office of Institutional Equity. (Policy: Religious Holidays, Holy Days and Observances)

Statement on Diversity: *The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.* (To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit: https://odi.osu.edu/ or https://cbsc.osu.edu)

Statement on sexual misconduct/relationship violence: *Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu.*

Mental Health: *As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available 24/7* ***by dialing 988 to reach the Suicide and Crisis Lifeline****.*

Careers in oceanography "offer the possibility of adventure and the satisfaction of making meaningful contributions toward understanding our planet." https://scripps.ucsd.edu/education/careers https://www.noaa.gov/work-with-us

Careers in geosciences "can offer an engaging lifestyle and a wide variety of opportunities." https://www.americangeosciences.org/workforce/career-resources Consider taking additional classes in the School of Earth Sciences and explore opportunities at Ohio State. Please feel free to talk with any faculty or students in the School of Earth Sciences for more information. https://earthsciences.osu.edu/

Course Schedule (subject to change):

Week	*Topic*	*Pre-reading (on Carmen)*	*Assignment*
1: Jan 8	Group icebreakers and getting to know each other, overview of course and choose research topics; **Introduction**: *The Bahamas platform:* introduction to the geology and biology of this shallow-water marine environment	Buchan (2000) The Bahamas, Marine Pollution Bulletin, Vol. 41, pp. 94-111 [read first 7 pages, p. 94-100]	Pre-class Quiz 1 + Choose research topic & presentation date

2: Jan 22 (Leonard-Pingel)	Preparing for the trip, discussing modern cultural practices and privilege; **Human impacts on a small island ecosystem**: lessons from the Lucayans of San Salvador	Blick (2007) Pre-Columbian impact on terrestrial, intertidal, and marine resources, San Salvador, Bahamas (A.D. 950-1500). *J for Nature Conservation* Vol. 15, pp. 174-183. Baxter (2016) A comparative view of San Salvador's Plantations. *Proceedings of the fifteenth symposium on the natural history of The Bahamas*, Gerace Research Center. Additional resources (optional readings): Fall et al. (2021) Human arrival and landscape dynamics in the northern Bahamas. PNAS. Vol. 118, e2015764118. Forbes-Pateman et al. (2022) A population history of indigenous Bahamian islanders: Insights from ancient DNA. American J of Biol Anthropol. Vol. 177, p. 630-643.	Pre-class Quiz 2
3: Jan 29 (Leonard-Pingel)	Uncovering the geologic history of San Salvador Island written in its **sedimentary rocks**; Using the scientific method	Carew and Mylorie (1995) Depositional model and stratigraphy for the Quaternary geology of the Bahama Islands. In: H. A. Curan and B. White (eds.) *Terrestrial and Shallow Marine Geology of the Bahamas and Bermuda*. Additional resource (optional reading): White & Curran (1988) Mesoscale physical sedimentary structures and trace fossils in Holocene carbonate eolianites from San Salvador Island, Bahamas. In: P. Hesp and S.G. Fryberger (Editors), Eolian Sediments. Sediment. Geol. Vol. 55, pp. 163-184.	Pre-class Quiz 3

4: Feb 5 (Leonard-Pingel)	**Coral reefs**: "Iconic marine ecosystems"; Valuing ecological interactions to building carbonate reef structures	Chapter 15 (specifically 15.4), Animals of the Benthic Environment, from *Essentials of Oceanography* by Trujillo and Thurman Hughes, T.P. et al. 2017. Coral reefs in the Anthropocene. *Nature* 546: 82-90. **BREEF's Virtual Coral Reef Field Trip: Life on the Bahamian Coral Reef 25 min. video** **Student presentations:** 1 – How human impact on the coral reef ecosystem impacts fish? 2 - How human impact on global temperatures impacts coral reef ecosystems? Evidence from recent coral bleaching	Pre-class Quiz 4
5: Feb 12 @ RPAC Aquatic Center	Testing our snorkeling equipment, discussing water safety	Water safety, and how to snorkel: https://www.youtube.com/watch?v=9GljSvw7r3g https://hioceansafety.com/snorkeling-safety/ https://hioceansafety.com/know-your-limits/	Pre-class Quiz 5
6: Feb 19 (Griffith)	**Karst** features and processes on San Salvador Island	Davis "Karst processes and landforms on San Salvador Island, Bahamas" https://serc.carleton.edu/75531 Additional resources (optional reading): Mylroie & Mylorie (2013) Caves and karst of the Bahamas Islands. In: Lace, M., Mylroie, J. (eds) Coastal Karst Landforms. Coastal Research Library, vol 5. Springer, Dordrecht. Mylorie (2019) Chapter 34 – Coastal caves, In White, Culver, Pipan (eds) Encyclopedia of Caves (Third Edition), pp. 301-307.	Pre-class Quiz 6

		Student presentations: 1 – Human connections to caves – from early inhabitants to pirates 2 – Human impact on karst aquifers: water quality and sustainable development	
7: Feb 26 (Griffith)	**An ocean in motion**: Ocean currents, waves, and tides	https://rwu.pressbooks.pub/webboceanography/ Chapter 9.1, 9.2 & 9.8, 10.1 & 10.3, 11 **Student presentations:** 1 – Plastic pollution transport via ocean gyres 2 – Trade winds and human exploration of "The new world"	Pre-class Quiz 7
8: Mar 4	Final preparations and pre-trip meeting	**Student presentations:** 1 – Human impacts on endemic and endangered Bahamian terrestrial fauna (iguanas, frogs, birds) 2 – Human impacts on Bahamian marine fauna (turtles, sharks, big fish)	Pre-departure Reflection due
Mar 8-17, Spring Break Trip to San Salvador Island, The Bahamas **see in country itinerary (following page)** *Field notebooks*** *Public blog post due in country (2 students per day)* *In country /field Reflection due by end of trip*			
9: Mar 18	no class		
10: Mar 25	Field excursion **debrief,** turn in field notebooks, web blog review		Turn in field notebooks; Review blogs (from trip)

11: Apr 1 (Griffith)	**Hurricane**s: Understanding these powerful storms and their impact on humans and the geologic record	https://rwu.pressbooks.pub/webboceanography/chapter/8-4-hurricanes/ Chapter 8.4 Climate change is probably increasing the intensity of tropical cyclones. In: Critical Issues in Climate Change Science, edited by: Corinne Le Qu.r., Peter Liss & Piers Forster. Knutson et al. (2021) ScienceBrief **Student presentations:** 1 – Impact of recent powerful storms on human inhabitants of San Salvador Island 2 – Geologic record of past hurricanes in The Bahamas	Pre-class Quiz 8
12: Apr 8 (Griffith)	Impacts of **climate change** on San Salvador Island and its inhabitants	https://rwu.pressbooks.pub/webboceanography/chapter/8-5-climate-change/ Chapter 8.5 Mycoo et al. (2022): Small Islands. **Executive Summary**. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Pörtner et al. (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, **pp. 2045–2047**, doi:10.1017/9781009325844.017 **Student presentations:** 1 –Recent and projected changes in sea level and impact on The Bahamas (a small island nation) 2 – Actions and solutions to reduce the impact of future climate change	Pre-class Quiz 9

13: Apr 15 (Griffith)	Impacts of **pollution** on San Salvador Island	Strain et al. (2022) Editorial: Marine Pollution – Emerging Issues and Challenges. Frontiers in Marine Science. Vol. 9. doi.org/10.3390/fmars.2022.918984 **Student presentations:** 1 – Impact of plastic pollution on marine ecosystems 2 – Actions and solutions for reducing plastic consumption and its impact on marine ecosystems 3 – Impact of human waste and other nutrient pollution on The Bahamas	Pre-class Quiz 10
14: Apr 22	**Celebration** and open discussion and reflection on how this experience has changed your scientific and world view		Final written report due; Final Reflection due

** DRAFT **In-country course itinerary 2024 (subject to change due to tides, wind, weather):

Friday, March 8
Day 1: Meet 5am Depart Columbus, Ohio 6:39am; Arrive 1:20pm Nassau [layover in Charlotte]; Overnight at hotel (traditional Bahamian dinner)

Saturday, March 9
Day 2: Breakfast @ Hotel, check out, visit nearby historic site (optional)
Lunch at airport prior to departure (on your own)
1:20pm Depart Nassau, 2:20pm Arrival in San Salvador; Orientation to the field station
Settle in dorms, overview in lab to prepare for next day

Sunday, March 10
Day 3: *Eolianites, beaches and substrates*
North Point – Eolianites, sedimentary structures, weathering, and trace fossils;

Snorkel in Graham Harbor – Substrates and associated biota;
Carbonate producers- calcareous green algae, sediments, marine grasses
Evening: Class meeting and Lab – Identification of collected grasses and algae

Monday, March 11
Day 4: *Coral reefs*
Preview of Pleistocene sea level changes prepare for day;
Visit Cockburn Town *Fossil* Reef;
Snorkel in Fernandez Bay – *Modern* Coral Reefs; Telephone pole/Snapshot reef - Rocky substrate biota
Evening: Class meeting and Lab – Coral identification, taphonomy

Tuesday, March 12
Day 5: *Stromatolites and coastal environments*
Visit Storrs Lake and microbialites; Salt Pond evaporites;
Upper parts of Pigeon Creek and Mangroves;
Lunch in the field, dock on Pigeon Creek
Snorkel Pigeon Creek Tidal Channel and Delta
Evening: Class meeting and Lab – Microbialites, water chemistry

Wednesday, March 13
Day 6: Cockburn Town & Barker's Point (instructors arrange Club Med boat trip)
East Beach (aka Junk Beach) Clean-Up and Flotsam analysis;
Lighthouse Cave (flank margin cave) & Lighthouse
Evening: Night snorkel or tidal

Thursday, March 14
Day 7: Snorkeling boat trip in Fernandez Bay (Club Med) to edge of carbonate platform aka "the wall";
Walk around Cockburn Town
Rainfall Catchment at Gerace Research Centre
Interior lakes and karst features -or- volunteer with Gerace Research Centre
Evening: Class meeting and Lab – Sand analysis and comparison with older rocks

Friday, March 15
Day 8: Group photo at Monument Beach;
Visit Sandy Point Plantation (aka Watling's Castle); Banana Hole;
Lunch in the field at Grotto Beach
Snorkel at French Bay (patch reefs)
Snorkel at Fernandez Bay - Monument Beach – Sandy substrate biota
Evening: Last class meeting at GRC and star gazing

Saturday, March 16
Day 9: Beach walk, beach rock, final optional swim to Cut Caye in Graham's Harbour

Lab clean up & taking beach collected trash to the dump
Depart San Salvador Island 2:50pm, Arrive 3:50pm Nassau; Overnight @ hotel (dinner provided)

Sunday, March 17
Day 10: Breakfast @ hotel, check out**;** Depart 11:17am Nassau, The Bahamas; Arrival 5:53pm Columbus, Ohio [layover in Charlotte]

GE Theme course submission worksheet: Lived Environments

Overview

Courses in the GE Themes aim to provide students with opportunities to explore big picture ideas and problems within the specific practice and expertise of a discipline or department. Although many Theme courses serve within disciplinary majors or minors, by requesting inclusion in the General Education, programs are committing to the incorporation of the goals of the focal theme and the success and participation of students from outside of their program.

Each category of the GE has specific learning goals and Expected Learning Outcomes (ELOs) that connect to the big picture goals of the program. ELOs describe the knowledge or skills students should have by the end of the course. Courses in the GE Themes must meet the ELOs common for **all** GE Themes and those specific to the Theme, in addition to any ELOs the instructor has developed specific to that course. All courses in the GE must indicate that they are part of the GE and include the Goals and ELOs of their GE category on their syllabus.

The prompts in this form elicit information about how this course meets the expectations of the GE Themes. The form will be reviewed by a group of content experts (the Theme Advisory) and by a group of curriculum experts (the Theme Panel), with the latter having responsibility for the ELOs and Goals common to all themes (those things that make a course appropriate for the GE Themes) and the former having responsibility for the ELOs and Goals specific to the topic of **this** Theme.

Briefly describe how this course connects to or exemplifies the concept of this Theme (Lived Environments)

In a sentence or two, explain how this class "fits' within the focal Theme. This will help reviewers understand the intended frame of reference for the course-specific activities described below.

(enter text here)

This course represents an advanced study of how humans interact with their environment on a small, out island of The Bahamas - San Salvador Island. During this class, students will engage in a diversity of activities that will help them construct an advanced appreciation for the environments found on San Salvador Island, the pertinent environmental issues that influence and impact human communities living in island environments, and the multiple impacts humans have on their environment.

Connect this course to the Goals and ELOs shared by *all* Themes

Below are the Goals and ELOs common to all Themes. In the accompanying table, for each ELO, describe the activities (discussions, readings, lectures, assignments) that provide opportunities for students to achieve those outcomes. The answer should be concise and use language accessible to colleagues outside of the submitting department or discipline. The specifics of the activities matter—listing "readings" without a reference to the topic of those readings will not allow the reviewers to understand how the ELO will be met. However, the panel evaluating the fit of the course to the Theme will review this form in conjunction with the syllabus, so if readings, lecture/discussion topics, or other specifics are provided on the syllabus, it is not necessary to reiterate them within this form. The ELOs are expected to vary in their "coverage" in terms of number of activities or emphasis within the course. Examples from successful courses are shared on the next page.

Goal 1: Successful students will analyze an important topic or idea at a more advanced and in-depth level than the foundations. In this context, "advanced" refers to courses that are e.g., synthetic, rely on research or cutting-edge findings, or deeply engage with the subject matter, among other possibilities.

Goal 2: Successful students will integrate approaches to the theme by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.

	Course activities and assignments to meet these ELOs
ELO 1.1 Engage in critical and logical thinking.	There are many ways that this course provides opportunities for the students to engage in critical and logical thinking about "Lived Environments". The focus of this course is on The Bahamas, and, secondarily, the marine environment that surrounds this island nation. Specific activities designed to engage students in critical and logical thinking about how humans interact with their environment include the following: 1. A review and presentation of a topic of their choice centered on interactions and impacts between humans and different aspects of the Bahamian island and its organisms. (see syllabus)
ELO 1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or ideas within this theme.	During the course, students are expected to complete a "topical review and presentation" (see syllabus) of a topic of their choice centered on interactions and impacts between humans and different aspects of the Bahamian island and its organisms. This independent research project gives the students the opportunity to engage with and critically read the primary scientific literature, craft a presentation distilling their topic for the class, lead a discussion of the topic, and write a research paper on their chosen topic. This assignment gives students the opportunity to "connect, analyze, and extend knowledge (facts, theories, etc.) from course content to contemporary global issues and contexts and their experience away."
ELO 2.1 Identify, describe, and synthesize approaches or experiences.	Before departing for San Salvador, we conduct several in-class discussions about how people interact with and impact the environments and ecosystems found on San Salvador Island, including readings and discussions about the Lucayan people and Colonial Era plantation dwellers, the impacts of humans on coral reefs and other marine ecosystems, freshwater resources, plastic pollution, and how humans have impacted terrestrial fauna (e.g. reptiles and birds) (see syllabus). These readings and discussions prepare students to make connections between these academic subjects and the experiences they will have while they are in-country. While we are in the field, students are asked to reflect on this learning as we visit plantations ruins, snorkel on impacted coral reefs, do a beach clean up and quantify the amount of plastic trash collected, and discuss issues related to freshwater availability on the island. Students are prompted to write about and reflect on these experiences in a field notebook, which they keep throughout the time that we are abroad (see syllabus). Furthermore, the three reflections which we ask students to
ELO 2.2 Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts.	This course develops a student's self as a learner by asking students to complete a series of three reflections throughout the course (see syllabus). These reflections ask students to reflect on 1) what they are looking forward to experiencing during their time abroad 2) what they learned or experienced about how people interact with their environment during the trip and 3) how their experience changed their personal knowledge and expanded their worldview. These assignments are spaced through the semester in order to allow students to see their own growth and change as their understanding increases through academic and experiential learning.

Example responses for proposals within "Citizenship" (from Sociology 3200, Comm 2850, French 2803):

***ELO 1.1** Engage in critical and logical thinking.*	*This course will build skills needed to engage in critical and logical thinking about immigration and immigration related policy through:* *Weekly reading response papers which require the students to synthesize and critically evaluate cutting-edge scholarship on immigration;* *Engagement in class-based discussion and debates on immigration-related topics using evidence-based logical reasoning to evaluate policy positions;* *Completion of an assignment which build skills in analyzing empirical data on immigration (Assignment #1)*

	Completion 3 assignments which build skills in connecting individual experiences with broader population-based patterns (Assignments #1, #2, #3) *Completion of 3 quizzes in which students demonstrate comprehension of the course readings and materials.*
***ELO 2.1** Identify, describe, and synthesize approaches or experiences.*	*Students engage in advanced exploration of each module topic through a combination of lectures, readings, and discussions.* *<u>Lecture</u>* *Course materials come from a variety of sources to help students engage in the relationship between media and citizenship at an advanced level. Each of the 12 modules has 3-4 lectures that contain information from both peer-reviewed and popular sources. Additionally, each module has at least one guest lecture from an expert in that topic to increase students' access to people with expertise in a variety of areas.* *<u>Reading</u>* *The textbook for this course provides background information on each topic and corresponds to the lectures. Students also take some control over their own learning by choosing at least one peer-reviewed article and at least one newspaper article from outside the class materials to read and include in their weekly discussion posts.* *<u>Discussions</u>* *Students do weekly discussions and are given flexibility in their topic choices in order to allow them to take some control over their education. They are also asked to provide* *information from sources they've found outside the lecture materials. In this way, they are able to* *explore areas of particular interest to them and practice the skills they will need to gather information* *about current events, analyze this information, and communicate it with others.* *Activity Example: Civility impacts citizenship behaviors in many ways. Students are asked to choose a TED talk from a provided list (or choose another speech of their interest) and summarize and evaluate what it says about the relationship between civility and citizenship. Examples of Ted Talks on the list include Steven Petrow on the difference between being polite and being civil, Chimamanda Ngozi Adichie's talk on how a single story can perpetuate stereotypes, and Claire Wardle's talk on how diversity can enhance citizenship.*
***ELO 2.2** Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts.*	*Students will conduct research on a specific event or site in Paris not already discussed in depth in class. Students will submit a 300-word abstract of their topic and a bibliography of at least five reputable academic and mainstream sources. At the end of the semester they will submit a 5-page research paper and present their findings in a 10-minute oral and visual presentation in a small-group setting in Zoom.* *Some examples of events and sites:* *The Paris Commune, an 1871 socialist uprising violently squelched by conservative forces*

	Jazz-Age Montmartre, where a small community of African-Americans–including actress and singer Josephine Baker, who was just inducted into the French Pantheon–settled and worked after World War I. *The Vélodrome d'hiver Roundup, 16-17 July 1942, when 13,000 Jews were rounded up by Paris police before being sent to concentration camps* *The Marais, a vibrant Paris neighborhood inhabited over the centuries by aristocrats, then Jews, then the LGBTQ+ community, among other groups.*

Goals and ELOs unique to Lived Environments

Below are the Goals and ELOs specific to this Theme. As above, in the accompanying Table, for each ELO, describe the activities (discussions, readings, lectures, assignments) that provide opportunities for students to achieve those outcomes. The answer should be concise and use language accessible to colleagues outside of the submitting department or discipline. The ELOs are expected to vary in their "coverage" in terms of number of activities or emphasis within the course. Examples from successful courses are shared on the next page.

GOAL 3: Successful students will explore a range of perspectives on the interactions and impacts between humans and one or more types of environment (e.g. agricultural, built, cultural, economic, intellectual, natural) in which humans live.

GOAL 4: Successful students will analyze a variety of perceptions, representations and/or discourses about environments and humans within them.

	Course activities and assignments to meet these ELOs
ELO 3.1 Engage with the complexity and uncertainty of human-environment interactions.	Throughout this course, students are expected to engage with multiple perspectives on how humans interact with the natural environment, specifically on small islands. Classroom lectures and discussions will explore how humans and their constructed environments are impacted by natural disasters (e.g. hurricanes) in small-island environments as well as how current global issues (e.g. plastic pollution, climate change, freshwater resources) impact small islands and their human communities. While we are in-country, students will participate in a variety of activities that will build on these foundational discussions and lectures including: identifying hurricane damage in towns and settlements, visiting water supply facilities for the island and reflecting on freshwater availability/scarcity for island communities, participating in a beach clean up and visiting the local dump to see first-hand how these communities are impacted by plastic pollution, exploring Cockburn
ELO 3.2 Describe examples of human interaction with and impact on environmental change and transformation over time and across space.	San Salvador Island has a long history of human habitation, reaching back to the Lucayan people. During this course, students will have the opportunity to learn about how different people (e.g. Lucayan, British colonists and enslaved people, modern Bahamian communities) and different cultures have survived on San Salvador Island and interacted with the unique environment and ecosystems. The focus of our second class meeting (see syllabus) is a lecture and discussion of past inhabitants of San Salvador Island. One assigned paper for that meeting focuses on archaeological evidence from Lucayan sites on San Salvador, and students will read that paper (Blick 2007) and reflect on the impact Lucayan people had on natural ecosystems (particularly marine and reef ecosystems). During this class period, students will also learn about the Colonial period in The Bahamas. Students will read a paper (Baxter 2016) synthesizing what is known about plantations/plantation life on San Salvador and we will discuss how Bahamian plantations were similar/different from US Plantations, how farming in The Bahamas is impacted by the natural environment, and the impact plantations had on the local environment (e.g. deforestation, introduction of invasive species). While we are in-country, we take students to visit the Sandy Point Plantation ruins, which is a prime example of a Colonial Era plantation. While at the ruins, we ask students to make a map/sketch of the buildings that they see and make observations about building material, building size, and building function. The point
ELO 4.1 Analyze how humans' interactions with their environments shape or have shaped attitudes, beliefs, values and behaviors.	After returning from the in-country component of the class, we spend a class devoted to climate change. Before this classroom meeting, students are asked to fill out a survey about climate change that assesses their knowledge about climate change, as well as their beliefs about and attitudes towards climate change. During the class, we share the results of the survey, and give students the opportunity to share more about their thoughts and feelings about climate change. Students are also invited to reflect on how their experience on San Salvador Island has impacted their attitudes and beliefs about climate change. Another class period after our return from The Bahamas is used to learn about and discuss marine pollution. Before this class, students are expected to read an editorial article (Strain et al 2022) about emerging issues and challenges in marine pollution. During the class, students are asked to participate in a discussion focused on their behaviors, specifically how they can change their behaviors to reduce marine pollution. Both of these in-class discussions give students the opportunity to reflect on how their knowledge and experiences have shaped their attitudes, values, and behaviors related to two current and major
ELO 4.2 Describe how humans perceive and represent the environments with which they interact.	During this course, students will explore several ways that humans perceive and represent the natural environment and will learn from first-hand experiences that perceptions and representations can change over time, or vary depending on the purpose of the representation. Throughout the in-country experience, students will learn how scientists record data that represent an environment or ecosystem by keeping a field notebook (see syllabus). Students will learn how to describe the field sites and ecosystems that they visit both through prose descriptions, as well as sketches, diagrams, data tables and graphs. In addition to learning how scientists represent environments, the students will also have the opportunity to reflect on their own perceptions. Upon return, students are asked to complete a post-trip reflection (see syllabus). During this reflection, students are asked to engage with and analyze how they perceived
ELO 4.3 Analyze and critique conventions, theories, and ideologies that influence discourses around environments.	Throughout this course, we discuss the impact that humans have on their environment, from the perspective of populations inhabiting small islands, like The Bahamas. As a class, we discuss topics including climate change, marine pollution, land use and runoff, freshwater resources, fishing, and conservation of marine ecosystems (e.g., coral reefs). Student presenters engage with these topics as part of their topical presentation, and are expected to analyze the primary literature as part of their research project. In addition, students are expected to participate in discussion of these topics, engaging with the different ideologies and theories about how resources should be used/preserved on island environments. While in-country, students are expected to create a blog post (see syllabus) that shares what they have experienced and learned with the public. This outlet provides students with the opportunity to influence a discourse about many of these issues, as encountered during their global education experience, in their blog post as they "reflect on this international field experience and share insight gained with their peers and the public."

EARTHSC 5242 Exploring the Natural History of The Bahamas

ELO 1.1 Engage in critical and logical thinking about the topic or idea of the theme. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

There are many ways that this course provides opportunities for the students to engage in critical and logical thinking about "Lived Environments". The focus of this course is on The Bahamas, and, secondarily, the marine environment that surrounds this island nation. Specific activities designed to engage students in critical and logical thinking about how humans interact with their environment include the following:

1. *A review and presentation of a topic of their choice centered on interactions and impacts between humans and different aspects of the Bahamian island and its organisms. (see syllabus)*
2. *Classroom discussions about human-environment interactions which include climate change, marine pollution, land use and runoff, freshwater resources, fishing, and conservation of marine ecosystems (e.g. coral reefs)*
3. *In-country field excursions designed to help students think critically about past and present human interactions with the island environment which include identifying hurricane damage in towns and settlements, visiting water supply facilities for the island and reflecting on freshwater availability/scarcity for island communities, participating in a beach clean up and visiting the local dump to see first-hand how these communities are impacted by plastic pollution, exploring Cockburn town and reflecting on how life on a small out island of The Bahamas is similar to or different from their own life.*
4. *A post-trip reflection in which students are asked to engage with and analyze how they perceived the environments that they interacted with during the trip.*

ELO 1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or idea of the theme. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

During the course, students are expected to complete a "topical review and presentation" (see syllabus) of a topic of their choice centered on interactions and impacts between humans and different aspects of the Bahamian island and its organisms. This independent research project gives the students the opportunity to engage with and critically read the primary scientific literature, craft a presentation distilling their topic for the class, lead a discussion of the topic, and write a research paper on their chosen topic. This assignment gives students the opportunity to "connect, analyze, and extend knowledge (facts, theories, etc.) from course content to contemporary global issues and contexts and their experience away."

ELO 2.1 Identify, describe, and synthesize approaches or experiences as they apply to the theme. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

Before departing for San Salvador, we conduct several in-class discussions about how people interact with and impact the environments and ecosystems found on San Salvador Island, including readings and discussions about the Lucayan people and Colonial Era plantation dwellers, the impacts of humans on coral reefs and other marine ecosystems, freshwater resources, plastic pollution, and how humans have impacted terrestrial fauna (e.g. reptiles and birds) (see syllabus). These readings and discussions prepare students to make connections between these academic subjects and the experiences they will have while they are in-country. While we are in the field, students are asked to reflect on this learning as we visit plantations ruins, snorkel on impacted coral reefs, do a beach clean up and quantify the amount of plastic trash collected, and discuss issues related to freshwater availability on the island. Students are prompted to write about and reflect on these experiences in a field notebook, which they keep throughout the time that we are abroad (see syllabus). Furthermore, the three reflections which we ask students to write (see syllabus) ask students to think beyond their experiences in this class and connect what they are learning to their own personal experiences, values, and attitudes.

ELO 2.2 Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

This course develops a student's self as a learner by asking students to complete a series of three reflections throughout the course (see syllabus). These reflections ask students to reflect on 1) what they are looking forward to experiencing during their time abroad 2) what they learned or experienced about how people interact with their environment during the trip and 3) how their experience changed their personal knowledge and expanded their worldview. These assignments are spaced through the semester in order to allow students to see their own growth and change as their understanding increases through academic and experiential learning.

Specific Expectations of Courses in Lived Environments

ELO 3.1 Engage with the complexity and uncertainty of human-environment interactions. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

Throughout this course, students are expected to engage with multiple perspectives on how humans interact with the natural environment, specifically on small islands. Classroom lectures and discussions will explore how humans and their constructed environments are impacted by natural disasters (e.g. hurricanes) in small-island environments as well as how current global issues (e.g. plastic pollution, climate change, freshwater resources) impact small islands and their human communities.

While we are in-country, students will participate in a variety of activities that will build on these foundational discussions and lectures including: identifying hurricane damage in towns and settlements, visiting water supply facilities for the island and reflecting on freshwater availability/scarcity for island communities, participating in a beach clean up and visiting the local dump to see first-hand how these communities are impacted by plastic pollution, exploring Cockburn town and reflecting on how life on a small out island of The Bahamas is similar to or different from their own life. Students will reflect on these in-country experiences by recording their impressions in a field notebook.

Upon return from our study abroad experience, students will have the opportunity to further explore how humans interact with or impact the natural environment and ecosystems of The Bahamas through their topical review and presentation (see syllabus) as they " engage with the primary research literature to understand current research directions and problems that are being investigated on San Salvador Island."

ELO 3.2 Describe examples of human interaction with and impact on environmental change and transformation over time and across space. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

San Salvador Island has a long history of human habitation, reaching back to the Lucayan people. During this course, students will have the opportunity to learn about how different people (e.g. Lucayan, British colonists and enslaved people, modern Bahamian communities) and different cultures have survived on San Salvador Island and interacted with the unique environment and ecosystems.

The focus of our second class meeting (see syllabus) is a lecture and discussion of past inhabitants of San Salvador Island. One assigned paper for that meeting focuses on archaeological evidence from Lucayan sites on San Salvador, and students will read that paper (Blick 2007) and reflect on the impact Lucayan people had on natural ecosystems (particularly marine and reef ecosystems). During this class period, students will also learn about the Colonial period in The Bahamas. Students will read a paper (Baxter 2016) synthesizing what is known about plantations/plantation life on San Salvador and we will discuss how Bahamian plantations were similar/different from US Plantations, how farming in The Bahamas is impacted by the natural environment, and the impact plantations had on the local environment (e.g. deforestation, introduction of invasive species).

While we are in-country, we take students to visit the Sandy Point Plantation ruins, which is a prime example of a Colonial Era plantation. While at the ruins, we ask students to make a map/sketch of the buildings that they see and make observations about building material, building size, and building function. The point of this exercise is for students to see that these plantations were functionally farms, and not opulent structures. We also visit the site of the old well on the plantation, to illustrate how difficult it was for these people to access freshwater. While visiting the ruins and surrounding area, we discuss some of the impacts plantations had

on the local environment, and students are able to see some non-native plants and animals which now live on the island as a result of these past agricultural endeavors (e.g., orange trees, wild pigs).

While on the island, students also interact and visit modern communities with permanent residents of the island (Cockburn Town) and non-permanent residents (Club Med, Research Station). As we visit these different communities, students are asked to reflect on how these different groups of people interact with the island and its ecosystems in their field notebooks or as part of their in-country reflection (see syllabus) and how these interactions have changed over time.

These topics, activities, and site visits help students gain a greater appreciation for the complexity of the many ecosystems and environments found on San Salvador Island and analyze how human activities impact these environments as they "engage with the complexity and uncertainty of human-environment interactions."

ELO 4.1 Analyze how humans' interactions with their environments shape or have shaped attitudes, beliefs, values and behaviors. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

After returning from the in-country component of the class, we spend a class devoted to climate change. Before this classroom meeting, students are asked to fill out a survey about climate change that assesses their knowledge about climate change, as well as their beliefs about and attitudes towards climate change. During the class, we share the results of the survey, and give students the opportunity to share more about their thoughts and feelings about climate change. Students are also invited to reflect on how their experience on San Salvador Island has impacted their attitudes and beliefs about climate change.

Another class period after our return from The Bahamas is used to learn about and discuss marine pollution. Before this class, students are expected to read an editorial article (Strain et al 2022) about emerging issues and challenges in marine pollution. During the class, students are asked to participate in a discussion focused on their behaviors, specifically how they can change their behaviors to reduce marine pollution. Both of these in-class discussions give students the opportunity to reflect on how their knowledge and experiences have shaped their attitudes, values, and behaviors related to two current and major environmental crises and "reflect on how perceptions and valuation of the environment shape human interactions with their environments, and the outcome of these interactions."

ELO 4.2 Describe how humans perceive and represent the environments with which they interact. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

During this course, students will explore several ways that humans perceive and represent the natural environment and will learn from first-hand experiences that perceptions and representations can change over time, or vary depending on the purpose of the representation. Throughout the in-country experience, students will learn how scientists record data that represent an environment or ecosystem by keeping a field notebook (see syllabus). Students will learn how to describe the field sites and ecosystems that they visit both through prose descriptions, as well as sketches, diagrams, data tables and graphs.

In addition to learning how scientists represent environments, the students will also have the opportunity to reflect on their own perceptions. Upon return, students are asked to complete a post-trip reflection (see syllabus). During this reflection, students are asked to engage with and analyze how they perceived the environments that they interacted with during the trip. They are also asked to create an artistic representation of an environment that they felt particularly connected with and are asked to share that representation with the class. This assignment meets the ELO of allowing students to "reflect on their own ideologies and how that impacts their perception about the environment and conservation." This classroom "celebration" also encourages students to see the experience through their classmate's eyes and learn from a variety of perspectives.

ELO 4.3 Analyze and critique conventions, theories, and ideologies that influence discourses around environments. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

Throughout this course, we discuss the impact that humans have on their environment, from the perspective of populations inhabiting small islands, like The Bahamas. As a class, we discuss topics including climate change, marine pollution, land use and runoff, freshwater resources, fishing, and conservation of marine ecosystems (e.g., coral reefs). Student presenters engage with these topics as part of their topical presentation, and are expected to analyze the primary literature as part of their research project. In addition, students are expected to participate in discussion of these topics, engaging with the different ideologies and theories about how resources should be used/preserved on island environments.

While in-country, students are expected to create a blog post (see syllabus) that shares what they have experienced and learned with the public. This outlet provides students with the opportunity to influence a discourse about many of these issues, as encountered during their global education experience, in their blog post as they "reflect on this international field experience and share insight gained with their peers and the public."