Term Information

Effective Term	Spring 2024
Previous Value	*Autumn 2021*

Course Change Information

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

Request to have the course count as a Lived Environments Theme course under new GE.

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

The topic lends itself very well to the Lived Environments Theme in the new GE.

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

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	Undergraduate
Course Number/Catalog	2204
Course Title	Exploring Water Issues
Transcript Abbreviation	Explr Water Issues
Course Description	Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation.
Previous Value	*Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation. Autumn 2021 and after: Add EarthSc 1200 for Physical Science GE lab credit.*
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week, 12 Week, 8 Week, 7 Week, 6 Week
Flexibly Scheduled Course	Sometimes
Does any section of this course have a distance education component?	Yes
Is any section of the course offered	100% at a distance
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark, Wooster

---

Previous Value   *Columbus, Lima, Mansfield, Marion, Newark*

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions
Electronically Enforced   No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code   40.0605
Subsidy Level   Baccalaureate Course
Intended Rank   Freshman, Sophomore, Junior, Senior

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors
General Education course:
      Physical Science; Lived Environments
The course is an elective (for this or other units) or is a service course for other units

Previous Value

Required for this unit's degrees, majors, and/or minors
General Education course:
      Physical Science
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	• Processes controlling the movement of surface & ground water, the distribution of water resources, ways in which resources are exploited and/or contaminated, critical issues concerning the use of water in the US & countries around the world
Content Topic List	• Crisis in the world water supply
	• Re-shaping the natural world
	• Water health
	• Water usage, abuses, and management
	• Water conflicts
Sought Concurrence	No

Attachments

- EARTHSC2204_response_to_reviews_submitted.pdf: Response to Panel feedback

  (Cover Letter. Owner: Griffith,Elizabeth M)

- submission-lived-environments_updatedv3_submitted.pdf: Application for Lived Env Theme

  (Other Supporting Documentation. Owner: Griffith,Elizabeth M)

- EARTHSC_2204_syllabus_updatedv3_FINAL_submitted.pdf: Revised syllabus with changes highlighted

  (Syllabus. Owner: Griffith,Elizabeth M)

Comments

- See cover letter and updates highlighted in the syllabus and revised application for Lived Environment Theme
  course document. Removed application for Health & Well Being. *(by Griffith,Elizabeth M on 01/04/2024 12:43 PM)*

- Please see feedback email sent to department 10-27-2023 *(by Steele,Rachel Lea on 10/27/2023 04:53 PM)*

- Please see Panel feedback email sent 03/09/2023. *(by Hilty,Michael on 03/09/2023 11:08 AM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Griffith,Elizabeth M	03/04/2022 09:48 AM	Submitted for Approval
Approved	Griffith,Elizabeth M	03/04/2022 09:49 AM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	05/03/2022 12:55 PM	College Approval
Revision Requested	Hilty,Michael	06/08/2022 09:34 AM	ASCCAO Approval
Submitted	Griffith,Elizabeth M	01/31/2023 07:50 PM	Submitted for Approval
Approved	Griffith,Elizabeth M	01/31/2023 07:50 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	02/13/2023 09:26 AM	College Approval
Revision Requested	Hilty,Michael	03/09/2023 11:08 AM	ASCCAO Approval
Submitted	Griffith,Elizabeth M	06/13/2023 10:04 AM	Submitted for Approval
Approved	Griffith,Elizabeth M	06/17/2023 09:45 AM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	09/08/2023 01:05 PM	College Approval
Revision Requested	Steele,Rachel Lea	10/27/2023 04:53 PM	ASCCAO Approval
Submitted	Griffith,Elizabeth M	01/04/2024 12:44 PM	Submitted for Approval
Approved	Griffith,Elizabeth M	01/04/2024 12:45 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	01/05/2024 11:22 AM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Hilty,Michael Neff,Jennifer Vankeerbergen,Bernadette Chantal Steele,Rachel Lea	01/05/2024 11:22 AM	ASCCAO Approval

January 4, 2024

Dear Reviewing Faculty for the Themes I Subcommittee of the ASC Curriculum Committee:

Thank you for the opportunity to revise the course proposal for Earth Science 2204: Exploring Water Issues. In response to the feedback we received, we have decided to submit the course solely for approval in the Lived Environments Theme. Although _water issues_ are intricately connected to geographic and human aspects of each _Lived Environment_ and are also fundamental to _Health and Wellness_, we realize it is important to invest deeply in the investigation of _only one_ of these Themes, so _we have opted not to resubmit to Health and Wellness_ and have cancelled the request for approval in _Health and Wellness_. We made changes to the syllabus to clarify the connection to the Lived Environments Theme and list some of the activities the students will do in this online class to tackle the theme. Below, we detail these changes in the responses to reviews. Our responses are shown _in italics_. In the revised syllabus the changes are indicated in red text.

Sincerely,
Audrey Sawyer
Associate Professor of Earth Sciences

On Tuesday, October 3rd, the Themes I Subcommittee of the ASC Curriculum Committee and the Theme Advisory Group for Health and Wellbeing reviewed a course proposal for Earth Science 2204. Please see the reviewing faculty's feedback below.

For the Lived Environments Theme, the reviewing faculty did not vote on the proposal, as they would like the following points addressed:

i.   The reviewing faculty ask that the unit include in the course additional readings, assignments, and/or activities that focus on analysis and critical thinking surrounding Lived Environments. They note that the Lived Environments that are studied are often only distinguished by location, and they offer the friendly suggestion that focusing on fewer regions would allow for more in-depth and nuanced study that could help to elevate the level of the course.

We have fleshed out all the readings and activities that are currently planned in the weekly Course Schedule which focus on analysis and critical thinking surrounding Lived Environments. This included reducing some of the Case Studies (for example, "shrinking Aral Sea" under Week 3 Water Management was removed) to allow a more in-depth analysis and focus on the chosen Case Studies. The Case Studies may, however, vary as emerging water-related topics evolve in any given year. For example, Prof. Sawyer is currently working on new materials to cover the 2023 train derailment in East Palestine, Ohio.

ii. The reviewing faculty ask that the department provide more information about how the case studies listed on pg. 14 of the syllabus coordinate with the Course Schedule on pgs. 5-7 of the

syllabus. While some of the case studies correlate with the topics on the schedule, there seem to be topics without readings and some readings that do not align with the given topics.

We have moved all course readings and assignments into the weekly Course Schedule (beginning on page 5) to clarify relationships and specify readings for all the given topics each week.

iii. The reviewing faculty ask for further explanation or demonstration of what kinds of critical thinking and advanced work is being done regarding Lived Environments. Though they found the project detailed on pgs. 8-9 of the syllabus to be an excellent example of this kind of work, they would like to see more activities earlier in the course that are similar to this, thus better aligning with the GEN goals and ELOs and preparing students to successfully complete their final projects.

We have provided a brief description of other assignments, beyond those related to the Final Project, which we hope helps to clarify the wide mix of critical thinking and advanced work that is expected of students. These assignments are more in depth and go beyond expectations for a foundations-level introductory course. Some of these assignments will be in groups or pairs, while some involve individual short essay work (e.g., "Peak Water" short essay in Week 6) or data analysis work (e.g., US EPA watershed data mining in Week 12).

iv. The Arts and Sciences Curriculum Committee recently updated the list of required syllabus statements for all syllabi within the college to include a statement on religious accommodations. This new, required statement is a result of a directive by the Executive Vice President and Provost and can be found here on the [ASC Curriculum and Assessment Services website.](#) The Subcommittee thanks you for adding this statement to your course syllabus.

Thank you for guiding us to the statement. We have added it.

v. The Subcommittee recommends that the department use the most recent version of the Student Life Disability Services Statement (syllabus, pg. 12), which was updated to reflect the university's new COVID-19 policies in August 2023. The updated statement can be found in an easy-to-copy/paste format on the [Arts and Sciences Curriculum and Assessment Services website](#).

Thank you for guiding us to this information. We have updated the statement.

vi. The reviewing faculty strongly recommend that the unit reach out to Jim Fredal, Chair of the Themes I Subcommittee and Bernadette Vankeerbergen, Assistant Dean of Curriculum in the College of Arts and Sciences, for assistance on revising this submission.

Thank you for this suggestion. Audrey Sawyer spoke with Jim Fredal in November, and his advice was very helpful. Based on this call, we felt confident focusing on the Lived Environments Theme and removing our focus on Health and Wellbeing.

vii. The reviewing faculty ask that the department include a cover letter explaining what has been changed in response to the committee's feedback.

Done.

SYLLABUS: EARTHSC 2204

Exploring Water Issues

Spring 2024

Online, asynchronous

3 credit hours

Course times and location: No required schedule meetings; all instruction occurs on Carmen each week

Mode of delivery: Distance learning

Course overview

Instructor

Instructor: Prof. Audrey Sawyer (she/her/hers)

Email address: sawyer.143@osu.edu

Phone number: (614) 292-8383

Virtual office hours (on Zoom): Wednesdays and Thursdays 3 pm to 4 pm at go.osu.edu/asawyerzoom and by appointment. I would love to meet you!

Course description

"Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation."

Students will explore issues affecting the world's fresh water supply with an emphasis on water use, resource management, and sustainability.

This course will:

1. Familiarize students with basic concepts controlling the movement of surface water and ground water, the distribution of water resources, and the ways in which these resources can be exploited and/or contaminated by humans in their lived environment.
2. Examine critical issues concerned with the use of water in the United States and countries around the world and their impacts on the communities who live there.

This class is considered an upper-level course in which you are not only expected to remember and understand reading materials, but -critically- *apply* basic concepts to "exploring water issues" related to human-environment interactions in lived spaces. In your final project, in particular, you will *gather, evaluate*, and *interpret* evidence, which you will *integrate* into your final project. Your proposal for the final project will outline your *research* design into the specific are of interest using methods appropriate for the task as hand (e.g., scientific, social-scientific, historical, textual).

Prerequisite

No prerequisite

A "Lived Environments" lens on Hydrology

EARTHSC 2204 will count as a three-credit course in the new General Education (GE) Theme: **Lived Environments**

Water is everywhere and shapes ecosystems and human civilizations. In turn, human activities affect water quantity and quality. These hydrological and societal feedbacks look different in each part of the world, depending on the abundance of water, the needs of agricultural and urban communities, the sensitivity of local ecosystems, and more. While the hydrologic cycle and its physical processes are often taught in the context of the entire hydrosphere or some "typical" watershed, *today's most pressing water issues are highly place-based*, and the human impacts are unevenly distributed around the globe. Rather than learning hydrology in a bubble or some abstract, idealized watershed, this course will examine critical "Water Issues" in the context of real places where they occur and the people who are affected, while delivering a sound understanding of underlying hydrologic processes. This means we will tackle hydrologic processes in multiple areas of the world using videos, readings, and Carmen assignments as a vehicle for critical thinking, analysis and learning. Over the semester, students will also have an opportunity to take a deep dive on a water issue in a specific part of the world that they choose for their final projects.

Environmental Public Health Specialization Competencies

Please review the BSPH core and specialization competencies addressed by this course at the following link: http://cph.osu.edu/students/undergraduate

Course learning outcomes

General Education (GE) Theme course goals & Expected Learning Outcomes (ELOs)

GOAL 1: Successful students will analyze an important topic or idea at a more advanced and in-depth level than the foundations.

> ELO 1.1 Engage in critical and logical thinking about the topic or idea of the theme.

> ELO 1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or idea of the theme.

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.

> ELO 2.1 Identify, describe, and synthesize approaches or experiences as they apply to the theme.

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.

Specific Expectations of Theme Courses in **Lived Environments**

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.

ELO 3.1 Engage with the complexity and uncertainty of human-environment interactions.

ELO 3.2 Describe examples of human interaction with and impact on environmental change and transformation over time and across space.

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

ELO 4.1 Analyze how humans' interactions with their environments shape or have shaped attitudes, beliefs, values and behaviors.

ELO 4.2 Describe how humans perceive and represent the environments with which they interact.

ELO 4.3 Analyze and critique conventions, theories, and ideologies that influence discourses around environments.

This course fulfills the Lived Environments Theme goals and ELOs by: exploring water issues involving interactions and impacts between humans and the environment in which they live. The cultural and social implications are explored by considering the consequences and steps that can be taken to mitigate or prevent further problems for a given water issue. Examples of topics considered under a Lived Environment framework include the health implications (human impact) of water scarcity in the drought-prone US Southwest and the Navajo Nation in particular (i.e., their lived environment), harmful algal blooms in Lake Erie and its impact on safe drinking water for coastal communities (i.e., humans impacted in this lived environment), and arsenic contamination in Bangladesh and government efforts to minimize exposure through various water supply and treatment policies. Students will evaluate the importance of water in our lived environments and how water shapes the human experience and our interactions with ecosystems. Thus, in addition to teaching the hydrologic science behind each water issue, this course will also offer students some social and political context behind each issue.

**Although this syllabus reflects a plan for the semester, changes may become necessary as the semester progresses.

Textbook

There is no textbook for this class. Articles from the peer-reviewed scientific literature have been selected for each topic in water issues, as outlined in the Course Schedule below. The articles are available to all Ohio State students, but pdf copies will also be provided through Carmen. Articles may be supplemented by instructor as needed.

How This Online Course Works

Mode of delivery: This course is 100% online. There are no required sessions when you must be logged in to Carmen at a scheduled time. The online materials consist of recorded lectures and videos, reading, quizzes and short assignments, and discussions boards. The course also involves a semester-long group project with instructions provided on Carmen.

Readings: Course modules on Carmen include all required reading, also listed below in this syllabus. The readings are intended to introduce students to peer-reviewed scientific literature and our evolving scientific understanding of the water system and humans' dependence on it. Each weekly module on Carmen provides the reading specific to that week.

Pace of online activities: This course is divided into **weekly modules** that are released one week ahead of time. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

Credit hours and work expectations: This is a **3-credit-hour course**. According to Ohio State policy, students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Attendance and participation requirements: Because this is an online course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation:

- **Participating in online activities for attendance**: **AT LEAST ONCE PER WEEK** You are expected to log in to the course in Carmen every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with your instructor *as soon as possible.*

- **Office hours and live sessions**: **OPTIONAL** All live, scheduled events for the course, including office hours, are optional.

- **Weekly check-in surveys**: As part of your participation, each week you can expect to respond to a survey that lets me know what new things you're learning, what has surprised you most about those takeaways, what questions you still have about the content, and how comfortable you are with the expected workload, course structure, and communication through Carmen.

- **Completing weekly assignments.** As part of your participation, each week you can expect one assignment to probe and deepen your comprehension of the recorded lectures and readings. The assignments will engage your understanding of the weekly lectures and readings (which are all cutting-edge, peer-reviewed scientific articles intended to develop your skills of interpreting novel research and distilling the essential information). Some assignments will be individual, while others will involve working in assigned groups on Carmen. Assignments will include various short-answer essays, storyboarding of historical events covered in the scientific literature, and data analysis from the literature. These activities will involve critical thinking and scientific communication.

- **Project**: Projects will be carried out in small groups of 2-3 students. You will identify group members based on common research interests through a Carmen discussion page within the first 3 weeks of the semester and submit a proposal on your intended

topic for instructor feedback. More information on the proposal, rough draft, and final draft are provided in this syllabus below. These tiered checkpoints are intended to provide you with valuable feedback on your idea generation, your research and investigation of scientific literature, and communication of your findings. All checkpoints will be graded on a rubric (on Carmen) that includes both the project material (proposal, rough draft, or final draft) and a self-reflection. The self-reflection is intended to encourage metacognition about the learning process and create opportunities for instructor advice around areas where students may feel stuck. For example, the self-reflection will provide students with opportunities to describe how well they feel they have solidified their topic, whether they are finding adequate references, and whether their group is communicating effectively. You will have a group section on Carmen where you should have a weekly discussion (at a time fitting your own schedules) about progress on this project, as well as help each other out with the other online materials for each week's Unit. In other words, this is a more intimate setting for discussions than the class-wide discussion forum.

Course schedule

Topical Outline

The following is a tentative, chronological outline of course lecture and associated group or individual project and exercise topics. **Lecture notes can be downloaded from Carmen.** Full reference information for selected readings can be found at the end of the syllabus.

Topic	*Lived Environment Theme focus*	*Readings*	*Assignments*
Week 1: Course Introduction; The Water Cycle	*What does water scarcity really mean, where is it scarce, and why (physical versus economic scarcity)?*	*Dieter et al. (2018); Wada et al. (2016)*	*Water Footprint Assignment* *Students will calculate and compare their individual water footprints and place them in the context of global water use and water availability.*
Week 2: Weather; Climate Change	*Does climate change cause extreme weather?* *Case Study: Hurricane Harvey and Houston, Texas*	*Risser & Wehner (2017); van Oldenborgh et al. (2017)*	*Climate Change Assignment* *Students will take on the role of the media and write a news brief about the assigned reading to practice the art of distilling and translating a*

			complex hydrologic subject to a broad audience.
Week 3: Surface Water and Its Management	*What do megadroughts mean for water in the US Southwest?* *Case Study: Drying of the Colorado River*	*Barnett & Pierce (2009)*	Project Proposals *(see guidance about projects later in syllabus)*
Week 4: Boom – Floods	*What causes flooding, and is it getting worse over time? If so, why?* *Case Study: Urbanization increases flooding in DC suburbs*	*Blum et al. (2020)*	*Flood Risk Assignment* *Students will use real data from Bethesda, MD to calculate 100-year floods and learn why they are changing over time.*
Week 5: Bust – Drought	*What is drought, and what are the effects on ancient and modern societies?* *Case Studies: archaeological evidence of drought during the abandonment of Mayan and Mesa Verde settlements*	*Peterson & Huang (2005); Weiss et al. (1993); White & Mattingly (2006); Kohler et al. (2008)*	Collapse Assignment *In groups, students will use the scientific literature to storyboard the events leading to the collapse of an ancient society and then compare and contrast water resource pressures across different groups with unique societies. They will also watch content on Arizona's modern water issues and write an essay about whether modern societies are still prone to collapse due to water resource challenges.*
Week 6: Introduction to Groundwater	*What is groundwater, and how is it used?* *Case Study: High Plains Aquifer*	*Famiglietti (2014); Scanlon et al. (2012); Steward et al. (2013)*	*High Plains Aquifer Assignment* *Students will write short essays on "Peak Water" in one*

			of our country's most important food-producing regions.
Week 7: More Groundwater Challenges	*What are some unforeseen consequences of intensive groundwater extraction?* *Case Study: Subsidence in Beijing and coastal megacities*	*Deltares Taskforce Subsidence Report (2013); Duan et al. (2022)*	*Subsidence Assignment* *Students will analyze data on subsidence in coastal megacities due to groundwater extraction, compare rates of subsidence with sea level rise, and describe the impacts of subsidence on urban infrastructure and human safety in Beijing.*
Week 8: Project Working Week	*Project topic specific*	*Project topic specific*	*Project Rough Drafts* *(see guidance about projects later in syllabus)*
Week 9: Introduction to Water Pollution	*What are the sources and types of water pollution (both natural and anthropogenic)?* *Case Study: Geogenic arsenic pollution in Bangladesh*	*Van Geen, A. et al. (2002)*	
Week 10: Waste Disposal	*How are landfills designed, and how do they affect our water?* *Case Study: US landfills and emerging contaminants*	*Han et al. (2016); Kolpin et al. (2015)*	*Students will write a short essay comparing and contrasting legacies of groundwater contamination from landfills in the US and China.*
Week 11: Water treatment	*Where does our wastewater go in Columbus? Where does our drinking water come from?* *Virtual Fieldtrip*	*Macedo et al. (2022)*	*Virtual field trip to a local wastewater treatment plant: summary of key takeaways.*

Week 12: Local Issues in Water Pollution: Nutrients	*Why is Lake Erie green? What's a nutrient, and can there be too much of a bad thing?* *Case Study: Lake Erie's harmful algal blooms*	*Michalak et al. (2013)*	*Surfing Watersheds* *Students will go online to the US EPA website and learn about the status of water quality impairment in their watersheds.*
Week 13: Local Issues in Water Access: Underbounding	*Who gets clean public water in the US?* *Case Study: We'll learn about environmental justice for a Zanesville neighborhood without water*	*Lockhart et al. (2020)*	
Week 14: Local Issues in Water Pollution: Fracking	*Case Study: Marcellus Shale and flaming tap water*	*Howarth et al. (2011)*	*Debate* *Students will record evidence-based debates about whether fracking should stop.*
Week 15: Project Working Week	*Project topic specific*	*Project topic specific*	

Grading and faculty response time

Remember that you should call **614-688-HELP** at any time if you have a technical problem. I reply to emails within **24 hours on school days (likely also on the weekends)**.

How I will calculate your final grade

See the <u>course schedule</u> for due dates (also available on Carmen).

Assignment category	Weight
Learning and reflection Weekly check-in surveys	25%

Weekly Assignments	50%

Course project
 	
  1. Proposal
  2. Rough Draft
  3. Final Draft
	25%

Total	**100%**

Exams → There are no exams in this course

Course project is determined in collaboration with students in the first three weeks

This project provides you a chance to pursue an independent investigation on a water issue of your choice and present it in any creative format you choose. It can be an Infomercial for youtube, a children's book, a song, a Google Earth tour, or more! There are only 3 rules:

1. The topic must focus on some aspect of _fresh water_ in a _lived place_ (the problem can't be covered from a generic or global perspective).

2. Your project must include 5 references from the peer-reviewed literature that you found through your own research.

3. You can present your findings in any creative format of your choosing, as long as it is _not_ a research paper or Powerpoint presentation. If you choose an audio-visual format (for example, a mini-documentary or slam poetry reading), please limit recordings to under 10 minutes. For both audio-visual and creative visual formats, please provide a fully referenced extended caption that presents the work. For text-rich formats (blogs, educational materials), please embed your citations directly in the text.

This is an opportunity for you to explore an area of Water Science that you are most interested in that is related to a specific Lived Environment. In the process, you will have the chance to combine your investigation with your hobbies and interests. My favorite thing about water is that it's related to everything! It's such a fun area of science and I want you to have a space to be creative and curious so you can really enjoy it too. I also genuinely enjoy learning from (and with) students–I learn something new every semester!

Through this project, I hope to help you nurture your natural curiosity and further develop your scientific literacy. Scientific literacy, critical for sound decisions on scientifically infused issues such as climate change, includes an understanding of basic science concepts, such as the fundamental behavior of matter and energy. It also includes the understanding that "science" is not an encyclopedic collection of facts. Rather, it is a process of exploration that embraces curiosity, inquiry, testing, and communication across disciplines, to reduce uncertainty about nature.

Completing this course project will help you develop the following skills:

- Using scientific reasoning to **gather, evaluate, and interpret evidence**, which you will appropriately **integrate** into your project.
- Designing content to meet the needs of specific **audiences** for specific **purposes** in specific **situations**.
- Making decisions based on analysis of **evidence**, **logic**, and **ethics**.
- **Design** and **conduct research** into your area of interest using methods appropriate for the task at hand (e.g., scientific, social-scientific, historical, textual).
- Use one or more **creative tools** (e.g., writing, visual art, presentation, visual design, dance, music, theatre performance, poetry, fiction, or drama) to **express** your ideas, **solve** real-world problems, and complete projects.
- *If you choose to do group work*–Complete projects by working effectively in **interdisciplinary** teams.

The course project is divided into 3 parts.

1. **Proposal**
   - **25 points**–The project proposal is driven by a thoughtful research question or area of creative inquiry.
   - **25 points**–The student (or group) has submitted their well-thought-out proposal that includes an idea of their plan moving forward.
   - **50 points**–The student (or group) has submitted their thorough self-reflection with their proposal.

2. **Rough Draft**

   - **25 points**–Appropriate use of external (and internal, if you choose) resources. You are required to use 3 or more high-quality resources.

   - **25 points**–Student (or group) has included a creative and effective first draft. This draft should be organized and logical and provide an adequate springboard for your grader to use to provide guidance for the completed final project.

   - **50 points**–The student (or group) has submitted their thorough self-reflection with their rough draft.

3. **Final Project**

   - **25 points**–The student (or group) effectively used grader feedback and their own self-reflection to improve upon their rough draft and interact with their new knowledge on a deeper, more meaningful level.

   - **25 points**–The student (or group) has submitted their final project, which is creative and effective. This project should be well-organized and logical, using 3 or more appropriate sources. The student's (or group's) curiosity and imagination are evident.

   - **50 points**–The student (or group) has submitted their thorough self-reflection with their final project

In the proposal, rough draft, and final draft, it should be obvious _what_ the fresh water problem is that you've chosen to investigate, _where_ it's happening, and _how_ it has been shaped by local geographic context (hydrography, land use, human activities, ecosystems). Some examples of project ideas are below:

Topic	_Lived Environment_	_Format_
How does mountaintop removal mining in the Appalachians impair streams?	Rural Appalachians	Google Earth field trip to an area with mountaintop removal with photos of contaminated streams (citations can be embedded directly in the descriptive photos and text for each stop).
How do atmospheric rivers cause devastating floods?	California	45-second public service announcement for youtube that explains weather and floods due to atmospheric rivers and reminds residents what to do to stay safe (citations go in extended caption).
Why do Lake Erie's harmful algal blooms seem to be getting worse, and what can we do about it?	Ohio	Children's book that explains why algal blooms happen and whether it's ok to swim in Lake Erie when the water is green (citations can go either in the book—for example, as subtle footnotes—or in a referenced introduction to the book).

Check-in surveys

At the end of each week, you will complete an anonymous check-in survey for participation credit. Carmen will automatically grade this upon completion. This survey is important as it helps you reflect on your learning and it helps me understand where I need to make adjustments to this course and future courses.

Extra credit opportunities

Maximum 10% extra credit possible through several extra credit opportunities this semester. Unfortunately, Carmen doesn't have a very easy way of automatically adding extra credit into your course grade, so to make your graders' lives easier we will keep track of your extra credit % in the gradebook but will add it to the final grade at the **end of the semester.**

Late assignments

All graded assignments are due on the specified due date. All assignments must be submitted through Carmen. No emailed assignments will be accepted. Extensions will be granted, no questions asked, if prior arrangements are made by email request BEFORE the deadline. All assignments turned in after the due date without extension will incur a 10% penalty for each day late, up to a week late. After that no points will be awarded. It is therefore essential to

communicate in advance of missing any assignment or within the week that follows the deadline to avoid losing credit for an assignment.

Grading scale

93–100: A

90–92.9: A-

87–89.9: B+

83–86.9: B

80–82.9: B-

77–79.9: C+

73–76.9: C

70 –72.9: C-

67 –69.9: D+

60 –66.9: D

Below 60: E

General accommodations statement

As your instructor, I will make every effort to create a learning experience that is as accessible and equitable as possible for each of you. Although I strongly encourage you to arrange for official recognition of your required accommodation, such as through Student Life Disability Services, I recognize that not everyone who needs accommodations is formally registered.

University 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 isolating while waiting for a COVID-19 test result, please let me know immediately. Those testing positive for COVID-19 should refer to the <u>Safe and Healthy Buckeyes site</u> for resources. Beyond five days of the required COVID-19 isolation period, I may rely on Student Life Disability Services to establish further reasonable accommodations. You can connect with them at <u>slds@osu.edu</u>; 614-292-3307; or <u>slds.osu.edu</u>.

Accessibility of course technology

This online course requires the use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- <u>Carmen (Canvas) accessibility</u>
- Streaming audio and video

Attendance and participation

Mode of delivery: This course is 100% online. I will deliver all course content through Carmen. There are no required face-to-face sessions, but students should follow a week-by-week schedule outlined in the syllabus and on Carmen. All work and lectures will be _asynchronous_, or self-paced, and students can complete the coursework without coming to campus.

The pace of online activities: The course content is divided into **weekly modules** available on Carmen. The modules are organized sequentially and will be unlocked week by week. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

Attendance and participation requirements: Because this is an online course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation:

- **Participating in online activities for attendance**: AT LEAST ONCE PER WEEK
  - You are expected to log in to the course in Carmen every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me _as soon as_

possible. Remember, once per week here is the bare minimum. To avoid stressing yourself out too much, follow my weekly pacing guides in each weekly module.

- **Office hours**: OPTIONAL AND FLEXIBLE
    - There will be no live sessions (unless requested) and office hours are optional.

Religious Accommodations

It is Ohio State's policy to reasonably accommodate the sincerely held religious beliefs and practices of all students. The policy permits a student to be absent for up to three days each academic semester for reasons of faith or religious or spiritual belief.

Students planning to use religious beliefs or practices accommodations for course requirements must inform the instructor in writing no later than 14 days after the course begins. The instructor is then responsible for scheduling an alternative time and date for the course requirement, which may be before or after the original time and date of the course requirement. These alternative accommodations will remain confidential. It is the student's responsibility to ensure that all course assignments are completed.

Course materials and technologies

Textbooks

There is no required textbook for the course. Readings have been chosen from the peer-reviewed scientific literature and will be made available under the modules in Carmen.

References

Barnett, T.P. & Pierce, D.W. (2009). Sustainable water deliveries from the Colorado River in a changing climate. *PNAS*, 106(18), 7334-7338.

Blum, A.G. et al. (2020). Causal Effect of Impervious Cover on Annual Flood Magnitude for the United States. *Geophysical Research Letters*, 47(5).

Deltares Taskforce Subsidence (2013). Sinking Cities. Delft, The Netherlands.

Dieter et al. (2018). Estimated use of water in the United States in 2015. *USGS Circular 1441*.

Duan, G. et al. (2022). Spatiotemporal heterogeneity of land subsidence in Beijing. *Sci Rep*, 12, 15120.

Famiglietti, J. (2014). The global groundwater crisis. *Nature Clim Change, 4.* 945–948. https://doi.org/10.1038/nclimate2425

Han, Z. et al. (2016). A review of groundwater contamination near municipal sold waste landfill sites in China, Sci Tot Env, 569-570, 1255-1264.

Howarth, R et al. (2011). Should fracking stop? *Nature, 477*, 271–275. https://doi.org/10.1038/477271a

Kohler, T.A. et al. (2008). Mesa Verde Migration. *American Scientist*, 96, 146-153.

Kolpin, D.W. et al. (2015). Pharmaceuticals and other contaminants of emerging concern in landfill leachate of the United States. *USGS Report* 70155239.

Lockhart, S. et al. (2020). Impacts of exclusion from municipal water service on water availability: A case study. *New Sol.*, 30(2), 127-137.

Macedo, H.E. et al. (2022). Distribution and characteristics of wastewater treatment plants within the global river network. *Earth System Science Data*, 14, 559-577.

Michalak, A.M. et al. (2013). Record-setting algal bloom in Lake Erie caused by agricultural and meteorological trends consistent with expected future conditions. *PNAS*, 110(16), 6448-6452.

Peterson, L.C. and G.H. Huag (2005). Climate and the Collapse of Maya Civilization. *American Scientist*, 93, 322-329.

Risser, M. D., & Wehner, M. F. (2017). Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during Hurricane Harvey. *Geophysical Research Letters*, *44*. https://doi.org/10.1002/2017GL075888

Scanlon, B.R. et al. (2012). Groundwater depletion and sustainability of irrigation in the US High Plains and Central Valley. *PNAS, 109(24).* 9320-9325.

Steward, D.R. et al. (2013). Tapping unsustainable groundwater stores for agricultural production in the High Plains Aquifer of Kansas, projections to 2110. *PNAS, 110(37).* 3477-3486.

Van Geen, A. et al. (2002). Promotion of well-switching to mitigate the current arsenic crisis in Bangladesh. *Bulletin of the World Health Organization, 80(9).* 732-737.

van Oldenborgh et al. (2017). Attribution of extreme rainfall from Hurricane Harvey, August 2017. *Environ. Res. Lett.* 12. 124009

Wada, Y. et al. (2016). Modeling global water use for the 21st century: Water Futures and Solutions (WFaS) initiative and its approaches. *Geosci. Model Dev.*, 9, 175-222.

Weiss, H. et al. (1993). The Genesis and Collapse of Third Millennium North Mesopotamian Civilization. *Science, 261(5124)*. 995-1004.

White, K. and Mattingly, D.J. (2006). Ancient lakes of the Sahara. *American Scientist*, 94, 58-65.

Course technology

I have pulled together a wealth of resources for this course, all of which are housed at the course website on Carmen. In order to make the most of these online resources, you will need access to a computer or tablet with a reliable connection to the Internet. Dialup will likely NOT be adequate to meet your needs. If you do not have access to a computer at home, all computer labs on campus meet these requirements. If there are any other technological barriers that arise please let me know as soon as possible.

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help/hours, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** http://ocio.osu.edu/selfservice
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills for online courses

- Basic computer and web-browsing skills
- Navigating Carmen: for questions about a specific functionality, see the Canvas Student Guide.
- Email communication skills
- Use office applications such as Microsoft Office (or similar) to create documents.
- Saving files/documents and uploading assignments to Carmen.

Required technical skills specific to this course

- If you would like to visit me during office hours (please do!), you will typically use **CarmenZoom**'s text, audio, and video chat functions. You can find more information at https://osu.zoom.us/.
- On-campus and off-campus access to YouTube.

Required equipment

- Computer (or equivalent-functioning tablet): current Mac (OS X) or PC (Windows) with high-speed internet connection.
- Other: a mobile device (smartphone or tablet) or landline to use for BuckeyePass/Duo Mobile authentication.

Optional equipment

- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Required software

- **Web browser**: Google Chrome is recommended. For a free download (Mac or PC) go to https://www.google.com/chrome/. Keep your plug-ins up to date to ensure compatibility.
- **Microsoft Office 365 ProPlus**: All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad®, and Android™), and five phones.

- ○ Students are able to access Word, Excel, PowerPoint, Outlook, and other programs, depending on the platform. Users will also receive 1 TB of OneDrive for Business storage.
  - ○ Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found https://ocio.osu.edu/kb04733
- Free **Adobe Acrobat Reader**: https://get.adobe.com/flashplayer

Recommended software

- **Anti-Virus software** - free to OSU faculty, staff, and students for use on personally-owned computers via the OSU Software Downloads page: http://osusls.osu.edu/

- **Notability**, **GoodNotes**, or some other kind of note-taking tablet app (if you use a tablet). Personally, I use both. I like that Notability can record audio as you write and playback audio clips from when you wrote a given note. I like that GoodNotes has more template flexibility and reminds me more of writing in an actual notebook. Both of these would help you to fill in the guided notes!

- **Grammarly** - I love Grammarly! There is both a free version and a paid version. I use this to help me catch spelling and grammatical errors.

Carmen access

You will need to use BuckeyePass multi-factor authentication to access your courses in Carmen. To ensure that you can connect to Carmen at all times, OSU recommends that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions.

- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click "Enter a Passcode" and then click the "Text me new codes" button that appears. This will text you ten passcodes good for 365 days that can each be used once.

- Download the Duo Mobile application to all of your registered devices for the ability to generate one-time codes if you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP), and the IT support staff will work out a solution with you.

Other course policies

Discussion and communication guidelines

I am committed to the principle of universal learning. This means that our learning and interactions should be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others are crucial to universal learning. Active, thoughtful, and respectful participation in all aspects of the course will make our time together as productive and engaging as possible.

Remember to be aware of your tone when communicating in online courses!
Communication can be extra challenging without the ability to hear vocal inflections, see body language, or read facial expressions.

Academic integrity policy

Note: Feel free to contact me any time for clarity!

Quizzes: Quizzes are a way for students to self-check their understanding of the course material for each unit. All quizzes will be delivered through Carmen and are to be completed by yourself. They are open-book and open-note, and you will have multiple attempts.

Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understood the University's *Code of Student Conduct*. All students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity):

- The Committee on Academic Misconduct web pages (COAM Home)
- *Ten Suggestions for Preserving Academic Integrity* (Ten Suggestions)
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

GroupMe & other group messaging platforms

I do not endorse/recommend GroupMe or other group messaging platforms as appropriate to communicate on course material. Because information travels so fast with GroupMe, students can find themselves knee-deep in an academic integrity issue before recognizing the signs. In

addition, all activity is recorded and accessible on the platform for anyone with screenshots to see.

To protect yourself, **never share a current or past quiz or test material** in a GroupMe setting, as this will be considered an academic integrity violation by the university. **If you see cheating, do not respond** to the message and **leave the group immediately**. Replying to a post, even just to say "ok," "thank you," or replying with an emoji, *can be considered academic misconduct*.

Finally, please realize that your behavior on a class GroupMe is permanently documented and has many witnesses. Though university staff might not have access to it right off, the more people there are in the group, the higher the risk someone will communicate what is happening in the group. With that in mind, people active in their class GroupMe need to write as if university staff is reading their posts.

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Therefore, copyright law must be considered before copying, retaining, or disseminating materials outside the course.

Statement on Title IX

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

Your mental health!

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other, and alcohol use among the top ten health impediments to academic performance. Should you find yourself experiencing personal difficulties, whether related to class or not, please know that you have access to confidential services provided by the OSU Counseling and Consultation Services (614-292-5766) for assistance, support, and advocacy. Remember, you are not alone!

Academic Support

The Ohio State University provides numerous resources to enhance student learning and success inside and outside the classroom. To find out more about student support services on the Columbus campus, please visit http://ssc.osu.edu. For an overview and contact information for the student academic services offered on the Columbus campus, please visit http://advising.osu.edu/welcome.shtml.

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 <u>and</u> 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)*

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.	
ELO 1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or ideas within this theme.	
ELO 2.1 Identify, describe, and synthesize approaches or experiences.	
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.	

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. *Lecture* 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. *Reading* 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. *Discussions* 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.	
ELO 3.2 Describe examples of human interaction with and impact on environmental change and transformation over time and across space.	
ELO 4.1 Analyze how humans' interactions with their environments shape or have shaped attitudes, beliefs, values and behaviors.	
ELO 4.2 Describe how humans perceive and represent the environments with which they interact.	
ELO 4.3 Analyze and critique conventions, theories, and ideologies that influence discourses around environments.	