EVPP 302 Environmental Science: Biomes and Human Dimensions

Syllabus Fall 2025 Hybrid

Instructors: Dr. Cynthia Smith. csmitc@gmu.edu
Lab: Victor Cregger, TA vcregger@gmu.edu

Lecture Meeting Times: online on Zoom: Monday & Wednesday: 10:30AM - 11:45AM.
Modality: Synchronous online lecture and in-person labs
Lab Meeting times: Monday or Wednesday: 01:30PM - 4:10PM
Location: Distance Education/Canvas and David King Hall labs EVPP 302 Lab: DK rm 3031

Office Hours: M, W, 11:45-12:45pm in Zoom room. Please email instructor in advance if you're coming. Please email me and cc Victor to schedule a meeting.

Course Description: Together with EVPP 210 and 301, this course is part of a three-semester sequence for Environmental Science majors, which provide authentic experiences with environmental skills, ecological issues and policies, as well as techniques to prepare students for future careers.

Required textbook(s) and/or materials: Required Text: (these are the same from EVPP 301) S&S: Elements of Ecology. T.M. Smith and R.L. Smith. 9th ed. Other readings and viewings as assigned, found in Course Modules in Canvas. Students will download the free Merlin and iNaturalist apps.

Course Website: Canvas will be used for this course. You can access the site at https://canvas.gmu.edu/ Login and click on this EVPP 302 course. NOTE: Username and passwords are the same as your Mason email account. You must have consistent access to an internet connection to complete the assignments in this course through Canvas. Let us know if this is an issue.

Learning Outcomes: Upon completion of the course, students will be able to:

1. Students will demonstrate the ability to synthesize information and execute experiments that provide a measurable understanding of human impacts on natural resources.
2. Students will demonstrate the ability to analyze research papers and data, assess reliability, interpret results, draw reasonable conclusions and clearly communicate these in written and oral form.
3. Students will gain insight into environmental career opportunities through coursework and interaction with natural resource professionals across environmental industries.

Course Methodology:
The lecture class format will combine reading, lectures, presentations, group activities and other learning tools. The class is interactive and requires every student to be engaged in the classroom discussion and assignments. In addition to the lectures, screencasts and timely completion of assignments, every student will be expected to be an active participant and a dedicated individual applying what you learn to every element of the course work. We value your important contributions AND use them in assignments.

Participation:

Learning can only happen when you are playing an active role. It is important to place more emphasis on developing your insights and skills, rather than memorizing information. Knowledge is more important than facts and definitions. It is a way of looking at the world, an ability to interpret and organize future information. An active learning approach enhances long-term retention and better understanding.
Please attend class every day, Cameras turned on are preferred. Please use your preferred name/pronoun on your Canvas profile.
This course asks you to apply and synthesize material you have learned in previous courses.

Rules and Expectations:

In correspondence/communication students will be expected to:

a) Be professional and respectful in correspondence
b) Make reasonable requests of the instructor. We will be happy to clarify course material and answer legitimate questions; however, please exhaust other information sources (e.g., syllabus, Canvas, peers) for answering your question before contacting us and remember, "Poor planning on your part does not constitute an emergency on my part"

In regard to honesty in work students will be expected to:

a) Review the University integrity and honesty policies in the student handbook for guidelines regarding plagiarism and cheating (summarized below). I will gladly clarify my stance on any questionable or "grey area" issues you may have.
b) Refrain from dishonest work as it will receive a minimum penalty of zero on the assignment and a maximum penalty of a zero for the course with a report to the Honor committee. The GMU Honor Code requires that faculty submit any suspected Honor Code violations to the Honor Committee. Therefore, any suspected offense will be submitted for adjudication.
c) **USE of Generative AI tools**: When explicitly stated by the instructor, Generative AI tools are allowed on the named assignment. Use of these tools on any assignment not specified will be considered a violation of the academic integrity policy. **Students must cite the use of generative AI on any assignment where it has been used**. See Mason guidelines: https://www.gmu.edu/ai-guidelines/ai-guidelines-students

Mason Honor Code

To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code:
Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

Mason is an Honor Code university; please see the Office for Academic Integrity for a full description of the code and the honor committee process. Three fundamental principles to follow at all times are that: (1) all work submitted be your own, as defined by the assignment; (2) when you use the work, the words, or the ideas of others, including fellow students or online sites, you give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment or exam, ask for clarification. No grade is important enough to justify academic misconduct.

Cheating

Any form of cheating on an activity, project, or exam will result in zero points earned and you may be referred to the Office of Academic Integrity. "Cheating" includes, but is not limited to, the following: reviewing others' exams, having extra devices open during online exams, reviewing online question sources and/or having ANY resources utilized when not allowed, collaborating with another student during an individual assignment, or exam as well as using online sites such as Chegg, Course Hero, Quizlet, ChatGPT, Grok other AI uncited sources, when researching, submitting assignments and taking exams. Your instructor may question you on your work, and depending on your verbal response, you may be cited for cheating. These violations are taken seriously and will be addressed in accordance

with university policies. If you have questions about when the contributions of others to your work must be acknowledged and appropriate ways to cite those contributions, please talk with the professor or utilize the GMU writing center.

Use of Generative AI
When explicitly stated by the instructor, Generative AI tools are allowed on the named assignment. Students will be directed if citations or statement-of-usage direction is required. Use of these tools on any assignment not specified will be considered a violation of the academic standards policy. All academic standards violations will be reported using the Academic Standards Referral Form.

Copyright rules also apply to users of the Internet who cite from Internet sources. Information and graphics accessed electronically must also be cited, giving credit to the sources.
https://writingcenter.gmu.edu/writing-resources/citing-sources/plagiarism

This material includes but is not limited to e-mail (don't cite or forward someone else's e-mail without permission), newsgroup material, information from Web sites, including graphics, AI generated resources, etc... Even if you give credit, you must get permission from the original source to put any graphic that you did not create in your presentations. Shareware graphics are not free. Using someone else's Internet material in your assignment is stealing intellectual property. Review the Mason Honor Code Violation site.

Individuals with Disabilities
Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit http://ds.gmu.edu/ for detailed information about the Disability Services registration process. Then please share your approved accommodations with me. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu | Phone: (703) 993-2474

Academic Integrity and Inclusivity
This course acknowledges that we all have differing perspectives and ideas and we each deserve the opportunity to share our thoughts. Therefore, we will conduct our discussions with respect for those differences. That means, we each have the freedom to express our ideas, but we should also do so keeping in mind that our colleagues deserve to hear differing thoughts in a respectful manner, i.e. we may disagree without being disagreeable. http://oai.gmu.edu/
We are an intentionally inclusive community, promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability.
Name and pronoun use: If you wish, please share your name and gender pronouns with me and indicate how best to address you in class and via email. I use she/her for myself and you may address me as Dr. or Professor Smith, in email and verbally.
Your **midterm** and **final exam** will be proctored using **Honorlock**. Take the Honorlock practice test to familiarize yourself with the exam environment. You will need a GMU ID for the authentication process.

Student Privacy Policy:
George Mason University strives to fully comply with FERPA by protecting the privacy of student records and judiciously evaluating requests for release of information from those records. Please see George Mason University's student privacy policy https://registrar.gmu.edu/students/privacy/

Student Support Resources: Please check: https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-support-resources-on-campus/

Please review Mason's Common Course Policies regarding Academic Standards, FERPA and Use of GMU Email Addresses for Course Communication, and Title IX Resources and Required Reporting here: https://stearnscenter.gmu.edu/home/gmu-common-course-policies/

E-Mail Policy: When corresponding with your instructors, please be professional. Address your professor as Dr. Smith or Professor Smith. Next, state your question or comment and indicate what you understand after reading the instructions and checking in with peers. Sign your full name and even better if, add a signature describing yourself (e.g. Junior, Environmental Science and Policy). Emails are typically answered within 24 hours during the week, M – F from 9-5pm.

Students must use their Mason email account to receive important University information, including communications related to this class. I will not respond to messages sent from or send messages to a non-Mason email address. Mason uses electronic mail to provide official information to students. Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly.

Grading and Late Work:
Grades will be assigned as follows: A = 92% and above; B = 82% and above; C = 72% and above; D = 62% and above. **Late work is penalized 10% each day it is late.** No late work from the first half of the semester will be accepted after the mid-term exam. All work is due on time. After 10 days late the assignment is graded as a zero. If an extension is requested, the request must be submitted 24 hours prior to assignment due date by emailing Professor and TA. Extensions will not be granted for Final LCA projects and final Stream Bioassessments.

Course Components and Associated Points

Discussions– (80 points)	There will be four discussion board synthesis posts each worth 20 pts.
Assignments – (140 points)	You will complete seven (7) assignments that are 20 points each on Heat Islands, Environmental Consulting, LCA Ecological Impact, Functional Feeding Groups, Storm Hydrograph, Energy Sectors and your Resume will be submitted.
Life Cycle Analysis Presentation (150 points)	To gain a broad understanding of global environmental impacts from products, each student will research and present to class, a product life-cycle analysis, which describes environmental impacts associated with all the stages of a specific product's life (i.e., from raw material extraction through materials processing, manufacture, distribution, use, repair, maintenance, and disposal or recycling). Research will be conducted outside of class. Each presentation has an 8–10 minute limit. The uploaded draft mid-term presentation is worth 20 pts. Final Presentation is 110pts and your responses to peer questions is worth 20pt.
IMRAD Article Reviews (60 points)	You will complete two (2) IMRAD 30pts assignments. Students will work in groups (or individually) to fully analyze relevant research papers initially during in class and/or out of class time.
Exams 200pts Midterm -100 points Final – 100 points	Students will take one mid-term exam and a non-cumulative final based on a synthesis of readings, lecture and discussion material. Exams are short answer/ essay format, with a mix of multiple choice, T/F and matching. Students will contribute content to the final exam from their individual LCA projects.
Weekly Quizzes	12 quizzes worth 10 points, one will be taken each week.
Laboratory (250 points)	Your lab activities are integrated into the full course and include thinking critically about the scientific method, research, collecting and analyzing your own data as well as applying your results to new situations. The majority of our labs will be conducted outdoors, please dress appropriately. Lab manual and learning objectives are located in your lab course Canvas site.

Unlimited Extra Credit:	Occasionally points will be allocated for in-class activities. These points can only be earned by students present in class. Additional extra credit points may be earned by attending and reporting (including photos) on related seminars and outreach activities (e.g. stream clean-ups, conferences, deer check stations, etc.) and online trainings. Submit extra credit via the "Extra Credit" tab on Canvas.

Lecture Points

Point Totals		
Exam Total Points	**200**	**DUE Dates (will be listed in Canvas)**
Midterm	100	10/8
Final Exam	100	12/10
Life-cycle analysis (LCA)pts	**150**	
Life Cycle Analysis draft presentation	20	10/26
Life-cycle analysis presentation (LCA)	110	11/16
Response to peer questions	20	11/30
IMRAD Total Points	**60**	
IMRAD #1	30	9/7
IMRAD #2	30	9/14
Assignments Total Points	**140**	
Urban Heat Islands Assignment	20	8/31
LCA Ecological Impact	20	9/21
Storm Hydrograph	20	10/5
Functional Feeding Groups	20	10/12
Environmental Consulting Assignment	20	11/9
Energy Sectors Assignment	20	11/16
Resume	20	12/7
Lobster Migration Assignment (optional)	(10)	12/7
Discussion Board Synthesis Posts Total Points	**80**	
Introduce yourself	20	8/31
LCA Product Selection	20	9/14
Ches Bay Marine and Estuarine Biomes	20	10/19
Regenerative Ag	20	11/30
12 Module Quizzes	**120**	weekly
Lecture Total	**750**	
Lab Total	**250**	
Course Total	**1000**	

Course Schedule is Below. Expect to work a minimum of three hours per week outside of class per credit hour on assignments for this course. That means, 7- 12 hours per week. **Unless otherwise stated**, all assignments except Discussion Board posts are due by the end of the week in which they are assigned. For the purposes of this course, a week is defined as **beginning at 12:01 am each Monday EST**, and **ending at 11:59 pm on the following Sunday EST.**

Course Schedule Fall 2025

Date Mon; Wed	Week	Weekly Module	Assignments	Lab Schedule
8/25:8/27	1	Course Overview	Introduce Yourself Discussion Board	Intro lab and Heat Island Impacts
		Heat Island Impacts	Urban Heat Island Assignment	
9/1; 9/3	2	*Labor Day; No Monday Class*		*No labs-Labor Day Holiday*
		IMRAD Dissection	IMRAD #1	
9/8; 9/10	3	What is an LCA prep - select product	LCA Product Discussion Board	Campus Insect Biodiversity Pollinator Behavior
		Urban Wildlife	IMRAD #2	
9/15; 9/17	4	LCA Product Ecological Impact	LCA Ecological Impact Assignment	Chesapeake Bay POCs, Aquatic Invertebrate ID. Digital Resources for Watershed Assessment - Agent Based Modeling
		Solid Waste Basics		
9/22; 9/24	5	Chesapeake Bay TMDL		Stream Bioassessment High Impact Stream -Field Trip
		Reference librarian - Researching your Stream Bioassessment	*Work on your LCA*	
9/29; 10/1	6	FW Biomes: Hydrology, Global Water Cycle	Storm Hydrograph Assignment	Stream Bioassessment Low Impact Stream - Field Trip
		FW Biomes: Stream Order, Lakes, Ponds,		
10/6; 10/8	7	FW Biomes: Stream Bioassessments	Functional Feeding Groups	Macroinvertebrate Assessment and Data Analysis
		Midterm Exam		
10/13; 10/15	8	*Fall Break - No Class*		No labs
		FW Biomes: Wetlands, Marine, and Estuarine Biomes	Ches Bay Marine Biomes Discussion Board	
10/20; 10/22	9	Landscape Community Ecology Part 1		Composting Facility Field Trip*
		Landscape Community Ecology Part 2		
10/27; 10/29	10	LCA prep - slides presented to Instructor 5min	LCA Draft Slide Deck in DB	Campus Bioassessment: Merlin and iNaturalist
		LCA prep - slides presented to Instructor 5min	LCA Draft Slide Deck in DB	
11/3; 11/5	11	Environmental Policy Overview		Stream Bioassessment Data Analysis and Lab Report Writing
		Environmental Consulting Case Study	Environmental Consulting Assignment	
11/10; 11/12	12	Energy Sources & Sectors 1		Peer Review of Draft Lab Reports, Campus Bioassessment
		Energy Sources & Sectors 2	Energy Sectors Assignment	

11/17; 11/19	13	Regenerative Agriculture Resume Building	1. Final LCA due in DB: **Upload your video and your deck of slides. **Nov. 23** 2. View all LCA presentations and give feedback; Respond to peer questions	Park Bioblitz iNaturalist Hike -Field Trip
11/24; 11/26	14	Watch LCAs. Students teach class. *No Class on Wed: Thanksgiving Break*	Respond to peer questions on your LCA. **By Dec. 3rd** Regenerative Ag. Assignment	*No Labs Thanksgiving*
12/1; 12/3	15	Watch LCAs. Students teach class. Ecology of Climate Change	Submit Resume. Make sure you've responded to all LCA questions by Dec. 3rd (bonus lobster assignment)	Campus Arboretum Tree Assessment (Stream Bioassessment due 12/1; 12/3)
12/8	16	Plant Defenses - Pollinators	*Study for Final Exam*	*no labs*
12/10		**Final Exam 10:30am - 1:15pm**		

11/10; 11/12	12	Energy Sources & Sectors 1		Peer Review of Draft Lab Reports, Campus Bioassessment
		Energy Sources & Sectors 2	Energy Sectors Assignment	
11/17; 11/19	13	Regenerative Agriculture	1. Final LCA due in DB: **Upload your video and your deck of slides. **Nov. 23** 2. View all LCA presentations and give feedback; Respond to peer questions	Park Bioblitz iNaturalist Hike -Field Trip
		Resume Building		
11/24; 11/26	14	Watch LCAs. Students teach class.	Respond to peer questions on your LCA. **By Dec. 3rd** Regenerative Ag. Assignment	*No Labs Thanksgiving*
		No Class on Wed: Thanksgiving Break		
12/1; 12/3	15	Watch LCAs. Students teach class.	Submit Resume. Make sure you've responded to all LCA questions by Dec. 3rd	Campus Arboretum Tree Assessment (Stream Bioassessment due 12/1; 12/3)
		Ecology of Climate Change	(bonus lobster assignment)	
12/8	16	Plant Defenses - Pollinators	*Study for Final Exam*	*no labs*
12/10		**Final Exam 10:30am - 1:15pm**		