

George Mason University
College of Science

EVPP 109: Introduction to Environmental Science I (Ecosphere I) Lab
Spring 2026 – 1 credit

Note: EVPP 108 is a separate course and has a separate syllabus, available on its respective Canvas course page.

Instructor and Lab Section Information

<i>Section</i>	<i>Instructor</i>	<i>Email</i>	<i>Day and Time</i>	<i>Location</i>
201	Nicole Firing	mfiring@gmu.edu	M 10:30 AM – 1:10 PM	David King Hall (DK) Rm #3044 (all sections)
202	Nicole Firing	mfiring@gmu.edu	M 1:30 PM – 4:10 PM	
203	Jacob Mormando	jmormand@gmu.edu	T 10:30 AM – 1:10 PM	
204	Nicole Firing	mfiring@gmu.edu	W 10:30 AM – 1:10 PM	
205	Jacob Mormando	jmormand@gmu.edu	T 1:30 PM – 4:10 PM	

Instructor Office Hours

201, 202, 204	Nicole Firing, mfiring@gmu.edu	By appointment – Zoom (email)
203, 205	Jacob Mormando, jmormand@gmu.edu	By appointment – Zoom (email)
All	Stephanie Schmidt, sschmi11@gmu.edu	Book here

Course Description and Mason Core

This course introduces students to the components and interactions making up Earth's environmental systems. It teaches basic concepts in biological, chemical, physical, and earth sciences in an integrated format, primarily lab and field exercises, that complement EVPP 108. **When taken with EVPP 108, EVPP 109 fulfills the Mason Core 4-credit Natural Science with lab requirement;** see more [here](#).

Course Objectives

As a Mason Core Natural Sciences course, students will engage in scientific exploration; foster their curiosity; gain enthusiasm for science; and apply scientific knowledge and reasoning to personal, professional, and public decision-making. In particular, students will be challenged to more fully:

1. Understand how scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding: a) evolves based on new evidence, and b) differs from personal and cultural beliefs;
2. Recognize the scope and limits of science;
3. Recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., health, conservation, sustainability, energy, natural disasters, etc.);
4. Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of information);
5. **Participate in scientific inquiry and communicate the elements of the process, including (i) making careful and systematic observations; (ii) developing and testing a hypothesis; (iii) analyzing evidence; and (iv) interpreting results.**

Lab Overview and Expectations

Lab Activities

In-class lab activities will focus on indoor and outdoor **lab/field exercises (i.e., labs)** completed in groups and requiring full participation. Activities complementing labs include Kahoot; pre-lab lectures, discussions, and scientific process pre-labs; completion of data sheets and scientific process post-labs; and other written or oral participation assignments.

Lab activities may require you to interact with chemicals, mud, organisms, and the outdoors. If you are not comfortable with these conditions, please obtain accommodations from Disability Services ([page 6](#)). However, please note that various course activities cannot be substituted with non-field or non-lab work.

Out-of-class lab activities will include **pre-lab reading and pre-lab quizzes on Canvas &/or from the lab manual**; a written **lab report**; and several other **short assignments** interspersed throughout the semester. Instructors may assign other lab work to be completed outside of class.

General Course Policies/Expectations

- **Required Materials:** Each student is required to purchase the digital and [online lab manual](#) used in ~75% of labs: *Environmental Science Lab Manual and Notebook – Volume 1: The Science, 3rd Edition (ISBN: 9781524953393)*, published by Kendall Hunt and authored by Dr. Kim Largen. Additionally, it is encouraged—but not required—that students have a paper notebook for completing and submitting scientific process work.
- **Technology:** Each student is **required to** (1) have a wifi-enabled **laptop or tablet to use during lab periods**, (2) set up and utilize the [Microsoft 365 Apps](#) like OneDrive, Forms, and Excel using your GMU account, and (3) **use Canvas** (and the associated app) to stay updated and to find readings and access/submit assignments or other materials.
- **Course Communication:** Email and Canvas will be the primary modes of correspondence; check both daily. Use of a @gmu.edu address is required. Any changes to the course schedule will be provided using email and/or Canvas. When sending questions, comments, or concerns to your instructor, use your @gmu.edu address to email your lab instructor (N. Firing or J. Mormando); optionally, “CC” Dr. Schmidt. Always use the subject line “**EVPP 109 section 20X**” using the appropriate section number.
- **No Sale of Course Content and Class Privacy:** ALL class content is the property of GMU; it may not be posted online, copied into AI, used for commercial purposes, or duplicated without explicit instructor permission. Additionally, recording and/or distributing recordings of instructors or students are not permitted unless approved by the instructor.
- **Academic Honesty:** As members of the Mason community, students pledge to neither give nor receive unauthorized aid while working on/completing **any** work. Furthermore, as participants of scientific research, students should understand that fabrication of results or data visualizations is not only academically dishonest, but also objectively unethical. See [page 6](#) for class policy and penalties for academic misconduct.

In-Lab Policies/Expectations

- **Attendance and Excused Vs Unexcused Absences:** Participation in all class sessions, for the entirety of the lab session, is **required** for this lab class. While attendance will be quantified using Kahoot ([see page 5](#)), instructors will keep track of a student’s total number of **excused (E)** and **unexcused (U)** absences; see definitions for each below.
- **Unexcused Vs Excused Absences:** Absences may be excused only if one or more of the following is satisfied:
 - (a) A doctor’s or nurse’s note is provided before, or within 2 days after, the lab session that explicitly demonstrates the student’s inability to participate in lab **on the date in question**
 - (b) documentation of a student’s **scheduling issue (including athletics or extracurricular activities)** is provided **≥ 2 days ahead of time**, where the particular lab date requiring excused absence is specified**
 - (c) **unforeseen circumstances** are **documented & OK’d** by the instructor **within 2 days** of a missed lab
 - (d) a student **enrolls in the course late** and **emails the professor within 1 week of enrollment**
 - (e) It is the student’s **first** absence that would otherwise count as unexcused

*Students with >1 scheduling issue should consider enrolling in another lab section to avoid grade deductions from absences.

**Students with athletic conflicts must document each conflict separately and/or remind their instructor of conflicts.

Makeup Policy for Unexcused Vs Excused Absences:

Unexcused absences: A student with an unexcused absence will receive any in lab for: 0% for attendance, data sheets, and any scientific process work. **Additionally, they will not be able to earn credit for other graded items completed in lab (such as the peer review or pre-lab quizzes).**

Excused absences: Once a student earns an excused absence, their attendance grade will be exempted. Other missed work will not be exempted and must be made up using the policy below:

- Students should **borrow data from groupmates** to complete the lab data sheet and must submit their data sheet on Canvas within 2 weeks of the missed lab.
- Students must individually complete the scientific process work within 2 weeks of the missed lab.
- Students can earn full credit on data sheets and scientific process work only if they also complete a separate **makeup assignment** within 2 weeks of the missed lab. See Canvas for the makeup assignment.
- If students miss the peer review or both mini lab report dates, they will also need to discuss makeup arrangements with their lab instructor before, or within 3 days of, the missed lab.

Note: Makeup work will not be accepted after Tuesday, 5/5 at 5:00 PM.

- **Attending Alternative Lab Sessions:** A student who obtains an **excused absence** from a lab date may be permitted to attend an alternative lab session in the same week without deductions on any course work and without the conflict counting toward an absence. To receive permission, first email your section's instructor; the alternate section's instructor (if different); AND Dr. Schmidt. **You must receive written confirmation from all parties to attend.**
- **Attendance and Final Grade Policy:** Independent of grades calculated per the course grading schema ([see page 4](#)), the table below indicates the maximum grade a student can earn in the course, identified as the **minimum grade associated with a student's excused and unexcused absence count, respectively** (note: attending alternative lab sessions with approval will not count as an absence). **Students with ≥ 6 total absences will earn a D or F.**

<u>Excused</u> count	Max. grade	<u>Unexcused</u> count	Max. grade	Total count	Max. grade
1	A+	1	A-	1	A+
2	A+	2	B	2	A+
3	A	3	C	3	A
4	B	4	D	4	B
5	C	5	F	5	C
6	D	6	F	6	D
7	F	7	F	7	F

*Example: J has 2 excused absences and 2 unexcused absences. Their maximum grade is the **minimum** of the grades provided above for these respective absence counts: i.e., the minimum of {A+, B, B}. Thus, their maximum grade is a B.*

- **Submission of Work:** Students are also responsible for timely submissions of assignments/ assessments in the correct format (e.g., .docx; .xlsx; on paper; etc.) and correct location (e.g., Canvas, in-class). **At all times, pages files or HEIC image files are not accepted.** More information about course work is provided on [page 5](#).
- **Late Work Policy:** No late work is accepted without an extension (see below).
- **Extension Policy:** Students wishing to obtain an **extension** on any assignment must email their instructor and receive permission, given that they also do one of the following:
 - Provide a doctor's or nurse's note of a **medical emergency** within 2 days of a missed deadline
 - Provide documentation of a **scheduling conflict** at least 2 days **BEFORE** a deadline
 - Provide documentation of **late enrollment** within 1 week of enrollment
 - Provide documentation of other **unforeseen circumstances** within 2 days of a deadline
 - **(If in-class work) receive explicit permission from the instructor before leaving lab**

Approval of requests are not guaranteed and are at the discretion of the instructor.

Note: No course work, including makeup work or extra credit, will be accepted after 5/5 5:00 PM ET.

Other In-Lab Policies and Penalties:

Punctuality: Students must arrive to lab **on time** to earn an attendance grade via Kahoot, complete/submit any pre-lab scientific process work, and hear the pre-lab lecture. Students who arrive < 30 minutes late but after Kahoots will not receive attendance credit but can still earn credit on any lab work **that has not yet started**. Students who arrive >30 minutes after lab begins will be deemed absent (unexcused) and will be asked to leave.

Cleanup and Departure: Lab clean-up, including returning of materials to their in-lab location, is required for each **group** before leaving. **Each lab member** of a group that departs before adequate cleanup and/or fails to participate in cleanup will earn -50% on their weekly data sheet grade; this includes leaving outdoor activities before returning to lab.

Digital Devices: Each student must have a digital device to participate in Kahoots, access the lab manual, and complete in-lab work; however, **use of digital devices for any other purpose is forbidden. Devices should be put away after the Kahoot and before lab procedures begin.** Failure to respect the device policy will result in grade penalties (see below).

Engagement and Behavior: Please pay attention and participate through the entirety of the lab session. Deductions on weekly data sheet grades for any non-participatory, distracting, or disruptive behavior are outlined below:

- **Lack of involvement and/or engagement in other work:** Students will earn 0% on their data sheet(s) and/or their scientific process work if they are observed to be uninvolved during lab procedures and/or data collection, scientific process work, or other assigned in-class work.
- **Engaging in other work:** Students will earn 0% on their data sheet(s), scientific process work, and/or other assigned in-class work if they are caught working &/or engaging in other personal or non-lab-coursework.
- **Airpods and other audio devices:** At any time, students are not permitted to wear any audio device(s) in, on, or near their ear(s) unless they have an accommodation. Students will earn 0% on their data sheet(s) and scientific process work if they are caught wearing a prohibited audio device such as AirPods.

Safety: Safety is a priority in the lab. Students must abide by all **Lab Safety Rules & Practices** provided on Canvas.

- **Students who commit more than 1 lab safety violations in a given lab period** will receive a 0% for any in-lab submissions (Kahoot, scientific process work, data sheets, , etc.) AND be counted as absent (unexcused).
- **Open Toed Shoes or Exposed legs:** For safety reasons, students will not be permitted to enter the lab with open-toed shoes or clothing that does not cover their legs in entirety. Students will receive an unexcused absence unless they arrive to lab within 30 minutes of the starting time wearing the appropriate attire.
- **Regardless of written policy:** If the instructor deems a student's behavior an imminent threat to safety, they will demand that the student stop and immediately leave. The student will be deemed absent (unexcused).

Grading Schema

Canvas will be used for updating and submitting grades and will adhere to the schema below.

Lab Prep – Pre Lab Quizzes	7.5%	*Lowest week's grade dropped
Lab Prep – Scientific Process Pre-labs*	15.0%	*Lowest week's grade dropped
Attendance/Punctuality*	10.0%	*Lowest week's grade dropped
Data Sheets *	20.0%	*Lowest week's grade dropped
Scientific Process Post-Lab Work*	20.0%	*Lowest week's grade dropped
Mini Lab Reports*	5.0%	*Top grade only; attendance required on day of completion
Formal Lab Report*	15.0%	*Attendance required on day of peer review
Syllabus/Safety Quiz	2.5%	
Lab Manual Check	2.5%	
Scientific Communication Tutorial	2.5%	

A+ : 97.45% – 100+%	B+ : 87.45% – 89.45%	C+ : 77.45% – 79.45%	D : 64.45% – 69.45%
A : 92.45% – 97.45%	B : 82.45% – 87.45%	C : 72.45% – 77.45%	F : < 64.45%
A- : 89.45% – 92.45%	B- : 79.45% – 82.45%	C- : 69.45% - 72.45%	

*Notes: Final grades may be altered depending on a student's absence count. Changes to final grades will only be made if you report a discrepancy on Canvas and your final grade is updated as a result.

Elaboration on Grade Categories

- **Lab Prep: Pre-Lab Quizzes (7.5%):** Weekly pre-lab readings and quizzes will be provided on Canvas to prepare students for the upcoming labs. Pre-lab quizzes are to be completed individually, and will not be timed. They may test students on theoretical background information; lab procedures; and/or data sheets/calculations. All assigned preparation work will be due before the student's lab section. **Late pre-lab quizzes will not be accepted.**
- **Lab Prep: Scientific Process Pre-Lab Work ("Pre-Labs") (15.0%):** To connect laboratory activities to the scientific process, student preparation will include individually completed pre-labs for at least one assigned lab per week (as identified by the instructor). Each pre-lab will consist of a handwritten overview of the research question(s), hypothesis(es), and a brief description of the experimental or observational design. A photo of the completed handwritten pre-lab must be submitted to Canvas before the start of the lab period. During the pre-lab portion of the class, instructors will engage students in discussion to assess their understanding of the pre-lab material. Students may be randomly called on to explain components of their pre-lab reasoning. Students will receive credit for both the submitted pre-lab and their in-class participation/performance. Pre-lab discussions will follow a scaffolded format: students will initially be allowed time to review their own pre-labs and discuss ideas with a partner before whole-class discussion begins. As the semester progresses, instructors will gradually shift toward closed-note, individual responses to support students' independent articulation of scientific reasoning.
- **Lab Attendance and Punctuality (10.0%):** Attendance will be graded as 0% or 100% each week and will be logged using a Kahoot that will begin at the start of lab. Students must receive > 0% on the Kahoot to earn attendance credit. Students who earn 100% &/or score in the top 3 will obtain extra credit, and can do so a maximum of 3 weeks.
- **Data Sheets (20.0%):** For each lab activity, students will fill out data sheets from the lab manual and/or supplied documents. Data sheets are due at the end of the lab period unless stated otherwise. Instructors may require the sharing of a live OneDrive document stored on the student's GMU Microsoft OneDrive. Data sheets will be graded by group for most, but not all, weeks; individuals may receive lower grades than their group due to missing components or due to behavior. Data sheets cannot be submitted late without a permitted extension.
- **Scientific Process Post-Lab Work (20.0%):** For most weeks, students will complete scientific process work after submitting data sheets; post-lab work will be aimed at stating results, graphing/interpreting data, and forming a conclusion. Work must be submitted on-paper and/or as digital uploads of hand-written work; electronically completed work will not be accepted. Grades will be based on both completion and accuracy. Work will not be accepted past the required due date—either be in lab or due within 7 days, per the instructor's discretion.
- **Mini Lab Reports (5%):** In preparation for the formal lab report later in the semester, students will complete 2 individual, mini lab reports in class, after data collection and graphing are complete: one based on the diffusion/osmosis lab (week 3), and one based on the photosynthesis lab (week 4). These assignments are designed to give students practice communicating a scientific investigation and interpreting data, rather than producing a polished or comprehensive lab report. A structured report template will be provided to guide student responses. Permitted resources include the course Canvas page, provided readings, the report template, and individual pre-labs and data sheets. Reports will be graded leniently, with emphasis on clarity of reasoning and connection between data and interpretation. Reports cannot be made up, but only the higher of the 2 scores will count toward the final grade.
- **Formal Lab Report (15.0%): Outline (2.5%), Peer Review; (2.5%), & Final Lab Report (10.0%):** Students will individually complete a formal lab report on composting. Instructors will guide students through formulating a question and hypothesis; identifying and reviewing sources; completing an outline; analyzing data; writing a draft; peer review; and submitting a final report. Students must attend the relevant lab sessions where data analysis, outline submission, and peer review are completed to earn credit. While data collected for the lab report will originate from group work in lab, **all other components of the lab report must be completed individually.** Besides the peer review, aid from peers is prohibited. Students are encouraged to visit the [GMU Writing Center](#) for additional assistance.
- **Week 1 Syllabus/Admin and Safety Quiz (2.5%):** An open-note quiz will be available on Canvas for students to take by the end of week 1 (Sunday, 1/25). Students will have up to 4 attempts and the average will become their grade.
- **Scientific Communication Tutorial (2.5%):** This assignment will introduce students to scientific communication and will be completed outside of lab in early March. Late work will not be accepted without a permitted extension.
- **Week 3 Lab Manual Book Check (2.5%):** During week 3, the instructor will check that each student has purchased/redeemed their access code, set up their account, and can access the lab manual.

Academic Integrity

What is academic integrity in this course? When you are responsible for a task, you will perform that task using **your own work**. You will record observations and data based on your group's lab work. You will perform individual assignments without collaborating with others and/or using generative artificial intelligence (AI) inappropriately. It is assumed students have a sense of personal responsibility in all course work they complete.

It is expected that students adhere to the George Mason University Honor Code: *"Student members of the George Mason University community pledge not to cheat, plagiarize, steal and/or lie in matters related to academic work."*

Plagiarism: Anti-plagiarism software will be used in this class for scanning student submissions. Please contact your instructor if you have questions **before you submit an assignment**. Plagiarism includes:

- 1) Presenting the data, words, work, or opinions of someone else—including yourself (***self plagiarism***)—**or AI**—as one's own work **without proper acknowledgment**.
- 2) Borrowing the data, sequence of ideas, arrangement of material, or pattern of thought of someone else, including personal work, **or AI**—without proper acknowledgment.

Fabrication: It is never appropriate to make up lab observations, data, sources, or other information. Any student caught fabricating information will be referred to the Academic Standards Office.

Use of Artificial Intelligence (AI): In this course, AI of any type is not appropriate unless used as a research or comprehension tool rather than an answer or task completion tool (unless that task is deemed rudimentary, per the course's and/or assignment specified learning objectives). In any permitted use of AI, citing AI is always required, including a link to the transcript. Citing and verifying any information it provides is always a student's responsibility, and students will be held responsible for incorrect, out-of-context, over-simplified, and/or incorrectly cited information, as well as irrelevant, inaccessible, or fake sources provided by AI.

Uses of AI that are **always prohibited** include (a) copying/pasting or uploading course-provided assignments, instructions, procedures, rubrics, etc. into AI; (b) using AI to generate/fill out files or text such as data, data sheets, Excel sheets, reports, or other deliverables for assignments; (c) using AI to make graphs, figures, or tables; (d) using AI to generate text to answer questions and/or directions; (e) using AI to produce and/or analyze data; and (f) using AI to provide references that a student does not verify in terms of their existence and/or relevance.

Other examples may be prohibited if deemed as fabrication and/or cheating. It is always a student's responsibility to explicitly confirm with their instructor whether, and how, AI may be permitted for a given task.

Consequences of academic misconduct: Failure to adhere to the Honor Code and this section's course stipulations will be deemed a violation of academic integrity. Any individual who becomes aware of a violation is bound by honor to take corrective action. Independent of the extent to which these policies have been violated (e.g., a single answer versus a whole assignment), students will be referred to the Academic Standards Office. Consequences will not be decided by your instructor and may range from a course grade deduction or course failure to University suspension or expulsion. **Please see the [Academic Standards website](#) for more information.**

Grading in the age of AI: As it is often impossible and time-consuming to prove inappropriate AI use, it is the instructor's right to create course assignments and rubrics that penalize students based on projected results of inappropriate AI use, even without proof of AI use, if said penalties are aligned with learning outcomes and/or academic integrity. In particular, the instructor has the right to provide a 100% penalty to grades based on aforementioned projections even if an Academic Standards Office Honor Code referral is not made (for example, fake sources, irrelevant sources/citations, incorrect citations, improbable vocabulary / depth of responses, etc.), even if a rubric with such penalties are not made available ahead of time.

The instructor has the right to request follow-up zoom or in-person meetings where students must explain the meaning behind certain answers and vocabulary used when patterns aligned with AI emerge in responses, where failure to meet and express understanding of responses may result in a 100% penalty or Honor Code referral.

Mental and Physical Health

Physical Health Concerns: If you require accommodations for any health-related issues, please email your instructor **proactively** to receive accommodations. **If you suspect that you are sick or have been directed to self-isolate, please quarantine or get tested and email your instructor and/or coordinator a medical note.** If needed, call the [Student Health Services](#) to get a note from a nurse; their **phone number** is (703) 993-2831.

Mental Health Concerns: You are encouraged to nurture productive habits and behaviors, not only for your academic performance, but for your personal health. Do not be afraid to seek out resources if you are struggling.

Counseling and Physiological Services (CAPS) (<http://caps.gmu.edu>) provides confidential mental health services, including telehealth meetings, to support the academic success of students. Their free and confidential psychological services include group counseling, skills-based workshops, crisis consultations, and individual counseling.

Please contact your lab instructor as early as possible regarding health concerns and/or falling behind**.

Notice of Mandatory Reporting of Sexual Assault, Interpersonal Violence, & Stalking

George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to promote community well-being and student success.

We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. [University Policy 1202: Sexual Harassment and Misconduct](#) speaks to the specifics of Mason's process, the resources, & options available to students.

**Please note that, as faculty members, your lab instructor and lab coordinator are designated as *Responsible Employees* and must report all disclosures of sexual assault, interpersonal violence, & stalking to Mason's Title IX Coordinator per University Policy 1202. In other words: *we want to support you, but we are mandatory reporters.*

If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (SSAC; <https://ssac.gmu.edu/>) at 703-380-1434 or Counseling and Psychological Services (CAPS; <https://caps.gmu.edu/>) at 703-993-2380. You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

Diversity and Inclusivity

Diversity entails different viewpoints, philosophies, and perspectives. Students of diverse opinions, backgrounds and practices are encouraged to voice their opinions or perspectives and hear those of others; however, pursuit of knowledge via the scientific method is the focus of this course, and students may be penalized for submitting work that does not pursue knowledge creation through the scientific method. Additionally, please note that **successful engagement in, and completion of, lab activities is a requirement of this course, and it cannot be replaced with other activities due to personal discomforts or disabilities.** If you feel that labs can be more inclusive, do not hesitate to reach out to your lab instructor or Dr. Schmidt.

Learning Accommodations

If you have a documented learning disability or other condition affecting academic performance, **make sure it is documented via Disability Services** to determine the accommodations you need (SUB I, Rm. 4205; 993-2474; <http://ds.gmu.edu>). Please **talk with your lab instructor and coordinator to discuss your needs.** The lab instructor and lab coordinator must have your accommodation(s) on file with DS **before** you request accommodation(s). Requests for accommodations **will not be accepted retroactively.**

Common Policies of the University

Please access the GMU Common Policies [here](#).