EVPP 109 - Ecosphere: Environmental Science I-Lab – Summer 2020
Section 2A3 - On-Line, Asynchronous Lab Course
6/1/20

Syllabus Outline *(use the hyperlinks to quickly move to the desired section of the syllabus)*

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I. Instructor Contact Information

A. Lab Instructor Contact Information

Course Coordinator: Dr. Kim Largen
Office: No physical office presence during summer 2020
Phone: No contact available via office phone during summer 2020
Mailbox: No access to physical mailbox during summer 2020
Email: klargen@gmu.edu
Office Hours: All office hours will be conducted virtually via periodic sessions on variable days at variable times on-line utilizing Blackboard Collaborate. Weekly office hours will be announced at the beginning of each week.

II. University-level Course Information

A. Course Administrative Details

Title: "The Ecosphere – Introduction to Environmental Science I-Lab"
Number: EVPP 109
Section: 2A3
Credits: 1 credit-hour.
Meeting Days and Times: This is a fully on-line, asynchronous course.
Location: Not applicable since this is a fully on-line, asynchronous course.
Blackboard: One Blackboard page (titled "EVPP 109 Lab – On-Line – Summer 2020") will serve the course.

B. Course Prerequisites

There are no prerequisites for this course.

C. Course Description

Studies components and interactions that make up natural systems of our home planet. Teaches basic concepts in biological, chemical, physical, and earth sciences in integrated format with lecture, laboratory, and field exercises.

This **is** an environmental science course, **not** an environmental studies course.

D. Mason Core Learning Objectives Fulfilled by the Course

EVPP 109 is an environmental science lab-only course which fulfills, along with the EVPP 108 lecture course, the Mason Core natural science requirements for non-science majors.

The Mason Core – Explorations – Natural Science courses engage students in scientific exploration; foster their curiosity; enhance their enthusiasm for science; and enable them to apply scientific knowledge and reasoning to personal, professional and public decision-making.

To achieve these goals, students will:

- Participate in scientific inquiry and communicate the elements of the process, including:
  - making careful and systematic observations.
  - developing and testing a hypothesis.
  - analyzing evidence.
  - interpreting results.

III. Course Materials

A. Required

The following are **required** for this lab course:

- ***Hands-On Labs LabPaq LP-3839-BK-01*** (ISBN: 2818260259988), You can purchase this kit from the GMU bookstore OR directly from the manufacturer at a lower price. To purchase directly from the manufacturer, go to **https://myhol.holscience.com/enroll/kncc-mpxb-nmfm-vcpt** and execute the purchase process.

  This lab kit includes access to all instructional materials and physical materials required to complete the lab exercises. THERE IS NO WAY TO COMPLETE THIS COURSE WITHOUT THIS KIT. IF YOU CANNOT OBTAIN THIS KIT IN A TIMELY MANNER DUE TO YOUR FINANCIAL CIRCUMTANCES OR YOUR GLOBAL LOCATION, YOU SHOULD DROP THE COURSE AND REGISTER FOR IT ANOTHER TIME WHEN YOU CAN OBTAIN THE KIT IN A TIMELY MANNER.
- Access to a web-enabled device for the purposes of 1) accessing lab activity instructions and 2) completing and submitting lab work.

IV. Course Structure

A. Lab Class Format

1. Execution of Labs

Students will utilize the required lab kit and instructional materials associated with it to execute on their own, remotely and without direct supervision, the labs associated with the course. A lab consists of one or more exercises related to one or more environmental science topics or concepts. By carrying out these labs, students obtain experience with the use of materials, techniques, and equipment related to the pursuit of environmental science as well as exposure to the scientific method and the benefits and challenges associated with its use.

B. Lab Class Period

Since this is a fully on-line, asynchronous course, there is no official "lab period." However, it is important to note that in the face-to-face setting, this course requires ~37 hours of class time.

C. Lab Schedule

The lab schedule can be found at the end of this syllabus and is posted on the lab Blackboard page. This schedule indicates the lab exercises that will conducted during this course and the date each exercise is due.

V. Grading and Coursework

A. Relation of Lecture and Lab Courses

EVPP 109 is a stand-alone lab course and some students are taking it as a stand-alone course. You will receive a final course grade for this course based on your performance on the labs. Some students are taking EVPP 109 as well as the stand-alone lecture course EVPP 108 to satisfy a Mason Core natural science lab science requirement. If you are taking EVPP 109 along with EVPP 108, please note that the material in lecture and lab will not be in sync and the required topical background information necessary to understand the lab activities will be presented in the instructional materials associated with each lab exercise.

Since this is a stand-alone course, the entire grade for EVPP 109 will be based on 515 points derived from your performance on the labs.

Table 1 below shows the grading scale that will be used to determine your final grade for this 1-credit-hour lab course:

Table 1. Course grading scale

Final Course Point	Final Course Average	Final Course Grade	Grade Points
494 - 515	96% - 100%	A+	4.00
463 - 493	90% - 95.9%	A	4.00
453 – 462	88% - 89.9%	A-	3.67
443 – 452	86% - 87.9%	B+	3.33
412 – 442	80% - 85.9%	B	3.00
402 – 411	78% - 79.9%	B-	2.67
391 – 401	76% - 77.9%	C+	2.33
361 – 390	70% - 75.9%	C	2.00
350 – 360	68% - 69.9%	C-	1.67
309 – 349	60% - 67.9%	D	1.00
≤ 308	≤ 59.9%	F	0

B. Course Workload

A general rule of thumb for the amount of time that will be required outside of class time for a course is 1 to 3 hours per credit hour (1 hour/credit hour for "easy" courses, 3 hours/credit hour for "difficult" course). Whether or not this course is "easy", "moderate" or "difficult" depends on each student's background, interests, aptitude, study skills, etc. Since the amount of class time for this course in the face-to-face setting would be a total of ~37 hours, depending on where you fall within that difficulty spectrum, you should expect to spend a minimum total of ~74 hours on this course and possibly more (~37 hours equivalent to class time plus ~37 our equivalent to out-of-class time).

C. Lab Work and Grade Components

The lab grade will be based on the performance on the labs. Each lab consists of one or more exercises and includes a single graded submission that consists of preliminary questions, data, competency questions, and extension questions. Table 2 on page 5 summarizes what portion of the lab grade will be determined by each of the components of the lab work.

There are a total of 15 labs; 2 start-up labs and 13 topical labs. The 15 labs have been divided into four modules and all the labs in a given module are due by 11:59pm on the last day of the module (see the schedule at the end of this syllabus). **LATE LAB SUBMISSIONS WILL NOT BE ACCEPTED**.

1. **Start-up Labs** (55 of the 515 possible points, or 10.68%)

There are two "start-up" labs, titled "getting started" and "laboratory safety" that students **must** complete **before** they can access and complete any of the labs. The purpose of the "getting started" lab is to ensure that you know how to utilize the Hands-On Lab on-line platform. The purpose of the "laboratory safety" lab is to ensure

that you have received the training you need to execute all lab safely. The two start up labs are worth a total of 55 points. The grades on the two start up labs cannot be dropped.

2. **Topical Labs** (460 of the 515 possible points, or 89.32%)

There are thirteen "topical" labs. The purpose of the topical labs is to present: 1) topical environmental science concepts, 2) experience with the use of materials, techniques, and equipment related to the pursuit of environmental science, and 3) exposure to the scientific method and the benefits and challenges associated with its use. The thirteen topical labs are worth a total of 530 points. However, when the final course grade is calculated a maximum of 460 points will be counted. This is similar to the idea of dropping the lowest grade one to two lab grades but is handled in this manner (counting only 460 of 530 topical lab points) due to the fact that the number of points per lab varies.

Table 2. Values of Lab Work Grade Components

Lab Grade Component	# Points Toward Lab Grade	% of Lab Grade
Two start up labs, worth a total of 55 points, no points can be dropped	55	10.68%
13 topical labs, variable points, worth a collective total of 530 points, only 460 points will be counted	460	89.32%
Total	515	100%

VI. Course Policies

A. Email Expectations

Students **must** use their MasonLive email account to receive important University information, including messages related to this class (see also "student privacy" below in section VII.D.). The instructor will **not** open emails if the sender is not identifiable/recognizable. The instructor will attempt to respond to emails within 48 hours but students must recognize that the instructor is not on-line 24/7. Clearly stating the purpose of the email in the subject line and the **course you are in** will help the instructor provide a faster response to emails. The instructor will **not** give priority to emails requesting information that is clearly available in the syllabus or on Blackboard, and the response to such emails may be "see syllabus."

B. Instructional Continuity in the Event of University Closings

In the event that a lab class is cancelled due to the university closing early, closing all day, or opening late for any reason, students **may** be directed by the lab instructor or course coordinator to complete alternative, on-their-own activities as a way to make up for the cancelled lab class(es). In the event that it becomes necessary to do so, the instructor will inform students of the necessity and provide instructions for accessing and completing the alternative activities.

C. Grades in Blackboard

1. Grades Recorded in Blackboard

All official grades for lab work will be recorded in the Blackboard gradebook. It is the student's responsibility to monitor the grades recorded in Blackboard and to inform the lab instructor in a timely manner of any perceived discrepancies. To view your grades in Blackboard, click on the "My Grades" tab in the menu on the left side of the Blackboard page. The following grades will be recorded for lab in Blackboard:

- **Lab grade columns**:
  - Start-up labs: There will be a grade column for each of the two start up labs. The grades will be recorded as the number of points received rather than a percentage grade.
  - Topical labs: There will be a grade column for each of the 13 topical labs. The grades will be recorded as the number of points received rather than a percentage grade.
- **Total columns**:
  - There will be two "total" columns, one for each type of lab:
    - Start-up lab total (max of 55): This column will show the total points received on the two start-up labs combined. The grades for the start-up labs can NOT be dropped.
    - Topical lab total (max of 460): This column will show the total points received on the 13 topical labs combined. Since only 460 points from the topical lab work will count, the total in the column could exceed 460. When your final grade is calculated no more than 460 points from this column will be utilized.

WARNING: It is important to note that Blackboard is **NOT** set up to calculate student's overall lecture or course grade at any point during the semester. Blackboard creates its own "total" column into which every grade entered into Blackboard is added, regardless of the purpose of the values entered. The Blackboard-generated "total" cannot be eliminated or removed from view of the student. IGNORE THE BLACKBOARD-CREATED "TOTAL" COLUMN.

It is the student's responsibility to understand the preceding paragraph. Failing to understand the preceding paragraph could result in a student mistakenly concluding that their lab grade (or course grade) is much higher than it actually is.

It is also the student's responsibility to inform the lab instructor of any perceived errors in the grades recorded in Blackboard.

VII. University Policies

A. Academic Integrity

EVPP 109 lecture and lab are governed by the GMU Honor Code. Please refer to the Office of Academic Integrity website for a full description of the code and the honor committee process. All course work is expected to be completed INDIVIDUALLY. Copying work on any lab from any source is considered **cheating** and a violation of the Honor Code. If an instructor discovers that two or more students have submitted work that is partially or entirely identical, all students involved will be reported to the Honor Committee with a recommended sanction of a zero on the lab. Violations of the Honor Code will not be tolerated.

Another aspect of academic integrity is the free exchange of ideas. It is expected that all aspects of this class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt about any aspect of academic integrity as it pertains to this course, please ask for clarification.

B. Disability Accommodations

If you have a learning or physical difference that may affect your academic work, you will need to furnish appropriate documentation to the Office of Disability Services. If you qualify for accommodation, the ODS staff will give you a form that details your accommodations and you must provide your instructor with a copy of that form. In addition to providing your instructor with the appropriate form, please take the initiative to discuss your accommodations with your instructor at the beginning of the course, and as needed during the semester. If you have contacted the Office of Disability Services and are waiting to hear from a counselor, please inform your instructor. For more information on disability accommodations, visit the Disability Services website.

C. Diversity

The following is George Mason University's "Diversity Statement" from the Stearns Center for Teaching and Learning website:

"George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth.

An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals. Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability, and sexual orientation. Diversity also entails different viewpoints, philosophies, and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected.

The reflection of Mason's commitment to diversity and inclusion goes

beyond policies and procedures to focus on behavior at the individual, group and organizational level. The implementation of this commitment to diversity and inclusion is found in all settings, including individual work units and groups, student organizations and groups, and classroom settings; it is also found with the delivery of services and activities, including, but not limited to, curriculum, teaching, events, advising, research, service, and community outreach.

Acknowledging that the attainment of diversity and inclusion are dynamic and continuous processes, and that the larger societal setting has an evolving socio-cultural understanding of diversity and inclusion, Mason seeks to continuously improve its environment. To this end, the University promotes continuous monitoring and self-assessment regarding diversity. The aim is to incorporate diversity and inclusion within the philosophies and actions of the individual, group and organization, and to make improvements as needed."

D. Student Privacy

Student privacy is governed by the Family Educational Rights and Privacy Act (FERPA). Students must use their MasonLive email account to receive important University information, including messages related to this class (see also "email expectations" above in section VI.C.). See the website for Office of The University Registrar for more information.

E. Student Support Resources

There are many resources available to students at George Mason University to help facilitate student success. Some of those resources and links to the associated websites are provided below:

- University Catalog
- University Policies
- Counseling and Psychological Services
- INTO George Mason (program for international students)
- Learning Services
- University Career Services
- University Writing Center

F. Emergency Preparedness

George Mason University is committed to maintaining a safe learning environment. All members of the academic community should be familiar with the basic emergency procedures for a variety of situations including severe weather, medical emergencies, and workplace and campus violence. Students are strongly encouraged to register their mobile phone to receive emergency notifications from Mason Alert in the event of a campus emergency. Please review the Emergency Preparedness Guides website.

Lab Schedule – Summer 2020

Module	Lab Name	Due Date/Time
1	• Getting Started *(15 points, 3.0hrs)* • Laboratory Safety *(40 points, 2.0hrs)* • Using the Scientific Method to Identify Unknowns *(45 points, 3.5hrs)* • Comparative Cell Membranes and Transport *(50 points, 5.0hrs)* • Extraction of DNA *(30 points, 3.0hrs)*	6/9/20 by 11:59pm Eastern Time
2	• Cellular Respiration *(45 points, 4.5hrs)* • Plant Photosynthesis *(40 points, 4.0hrs)* • Classification of Species *(40 points, 4.0hrs)*	6/16/20 by 11:59pm Eastern Time
3	• Environmental Plant Survey *(30 points, 2.5hrs)* • Plate Tectonics *(40 points, 4.0hrs)* • Earthquakes and Volcanoes *(40 points, 4.0hrs)* • Population Ecology *(45 points, 4.5hrs)*	6/24/20 by 11:59pm Eastern Time
4	• Biomes, Ecosystems, and Habitats *(50 points, 5.0hrs)* • Natural Selection: Hardy Weinberg *(45 points, 4.5hrs)* • Ecological Succession *(30 points, 3.0hrs)*	7/1/20 by 11:59pm Eastern Time