

EVPP 113 - Face-to-face - All Sections - "Ecosphere: Environmental Science II" Lab  
Syllabus - Spring 2022  
24 January 2022

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VIII. [Lab Schedule](#)I. **Instructor Contact Information**A. **Lab Instructor Contact Information**

There will be multiple instructors teaching the various sections of EVPP 113 lab but each section has only one instructor. All face-to-face sections of EVPP 113 lab are governed by this syllabus, regardless of the instructor. All instructor mailboxes are located in DK 3038. Lab information is included on the single Blackboard page that will serve all face-to-face EVPP 113 lab sections. If you are also taking the EVPP 112 lecture course, it will be served by a separate Blackboard page. Each lab instructor will provide to students on the first day of lab class their contact information, office hours and office location, which students should record for their reference. It is the student's responsibility to know their lab instructor's name and contact information, but the names for the Spring 2022 EVPP 113 lab instructors (by lab section) are:

- EVPP 113-201 (Mondays, 10:30am-1:10pm)
  - Instructor: Zachary Combs
- EVPP 113-202 (Tuesdays, 10:30am-1:10pm)
  - Instructor: Zachary Combs

B. **Course Coordinator Contact Information**

All EVPP 113 lab sections are coordinated by, and all EVPP 113 lab instructors report to, the EVPP 108/109/112/113 course coordinator, whose contact information follows:

Course Coordinator and Lecture Instructor: Dr. Kim Largen

- Office: No routine physical office presence due to remote work during the Spring 2022 semester
- Phone: No routine contact available via office phone due to remote work during Spring 2022
- Mailbox: No routine access to physical mailbox due to remote work during Spring 2022

II. **University-level Course Information**A. **Course Administrative Details**

Title: "The Ecosphere - Introduction to Environmental Science II-Lab"

Number: EVPP 113

Section: This syllabus applies to all EVPP 113 lab sections for the Spring 2022 semester.

Credits: This stand-alone lab course is worth 1 credit-hours.

Meeting Days and Times: These are specific to each lab section, refer to patriotweb for the meeting days and times specific to the lab section for which you registered.

Location: The official meeting room for all EVPP 113 lab sections is DK 3031.

Blackboard: One Blackboard page (titled "EVPP 113 Lab - Face-to-face - All Sections - Spring 2022") will serve all face-to-face EVPP 113 lab sections.

**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 113 is an environmental science lab-only course which fulfills, along with the EVPP 112 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 in lab science courses 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 the lab portion of this course:

- *Environmental Science Lab Manual and Notebook - Volume 2: The Issues, 3<sup>rd</sup> Edition*, (ISBN: 9781524953409). by Kim Largen, published by Kendall Hunt. NOTE: This is an on-line only publication and is the version **required** for the course. An access code for the on-line lab manual may be purchased from the GMU bookstore or on-line directly through the publisher. Additional information is provided on the course Blackboard page.
- Access to a web-enabled device **during** lab class for the purpose of accessing instructions for lab activities, data sheets, and write up sheets in the on-line manual and electronically completing and submitting to Blackboard the lab data and write up sheets. Students must plan on bringing to **every** lab class a web-enabled laptop, notebook, tablet, or smart phone for this purpose.

**IV. Course Structure****A. Background on the Nature of the Lab Experience**

It is important that students

understand up front that the nature of the lab experience in environmental science is probably quite different from lab experiences they may have had in high school or in other college science courses such as biology or physics. The environmental science lab experience is inherently **messy**, both physically and "mentally"!

The physical "messiness" derives from the fact that many lab activities involve going into the field, where students are exposed to nature (variations in weather, insects, poison ivy, possibly snakes, plants, dirt, mud, streams, ponds, etc.). Students can expect to get wet and dirty during these field experiences. Often, samples of materials (soil, water, insects, leaves, etc.) collected in the field are brought back into the lab for observation, experimentation and/or manipulation, again **resulting in students getting dirty.**

The "mental messiness" derives from the fact that the environment is a huge, complex system with processes that normally occur over large periods of time, neither of which characteristic is conducive to simple lab exercises that can be started and completed during a single lab class period. As a result, some parts of an exercise may require action in the lab during a single class, two classes in a row, one class and then not again for several classes, or one class and then not again for a couple of weeks. **This means that there will ALWAYS be many activities from several different lab exercises going on**

**during any given week in lab class!!!**

Students must be capable of and willing to **multi-task** in order to derive the desired benefit from the lab exercises.

**Please consider the preceding three paragraphs carefully and immediately!!** If you are not capable of, or not willing to engage in, multi-tasking, don't like getting dirty and don't like going outside, then EVPP 113 might not be the best natural science general education class for you to take and you might want to consider one of the other courses such as biology, astronomy or physics to meet your natural science general education needs.

## B. Lab Class Format

### 1. Reflective Discussion and Pre-lab Lecture

Each lab class will begin with a brief **reflective discussion** of the lab activities conducted during the previous lab class.

Following the reflective discussion, your lab instructor will present a **pre-lab lecture**. During this lecture the lab instructor will 1) present content to provide a basic understanding of the concepts related to the day's activities, 2) address any questions about the pre-lab quiz, and 3) review the procedures to be carried out that day.

**The presentation of content to provide a basic understanding of the concepts related to the day's**

activities is important because the concepts pertaining to the lab activities for a given week will **NOT** usually be in sync with the concepts being covered in lecture during the same time period and some students in the lab class may not even be taking the lecture course associated with this lab course.

The answers to the pre-lab quizzes are available to students after the due date for the pre-lab quizzes passes. Instructors will not go over the pre-lab quiz in lab class but students are welcome to ask questions about the pre-lab quiz at the beginning of lab class.

The lab instructor will also do a "talk through/demo" of the procedures to be carried out that day and will point out any corrections or changes to the procedures and any changes in equipment or materials.

Due to the importance of the reflective discussion and pre-lab lecture, students must arrive to lab on time and pay attention to the pre-lab lecture. Students are not to use any electronic device **during** the pre-lab lecture for any purpose unless directed to do so by their lab instructor.

## 2. Execution of Lab Exercises

Following the pre-lab lecture, students will work in groups to set-up, monitor, and/or complete activities from one or more lab exercises. A lab exercise consists of a group of activities related to

one or more environmental science topics or concepts. By carrying out these exercises, 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. The lab exercises are found in the lab manual.

### C. Lab Class Period

Lab periods are 2 hours 40 minutes long. Students must be prepared to spend the **entire** period in lab class!

### D. Lab Schedule

The [lab schedule is provided at the end of the syllabus](#) and is posted on Blackboard. This schedule indicates the lab exercises/activities that are planned to be conducted during each lab class. It is important to refer to this schedule to find out what lab exercises/activities you need to read to prepare for each weekly pre-lab quiz and for the execution of lab activities. The schedule also indicates whether the lab activities will be conducted inside and/or outside so that you can dress accordingly. The schedule is subject to change for a variety of reasons including inclement weather, equipment problems, or changes in the COVID situation. **If changes to the schedule are necessary, they will appear in the lab schedule which is posted on the course Blackboard page. IT IS THE**

**STUDENT'S RESPONSIBILITY TO CHECK BLACKBOARD REGULARLY TO KEEP ABREAST OF THE LAB SCHEDULE.**

113 along with EVPP 112, 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 pre-lab lecture at the beginning of each lab class.

**V. Grading and Coursework**

**A. Relation of Lecture and Lab Grades to Course Grade**

EVPP 113 is a stand-alone lab course and some students are taking it as a stand-alone course. Some students are taking EVPP 113 as well as the stand-alone lecture course EVPP 112 to satisfy a Mason Core natural science lab science requirement. If you are taking EVPP

Since this is a stand-alone course, the entire grade for EVPP 113 will be based on 300 points derived from your performance in lab.

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**

| <u>Final Course Point Total</u> | <u>Final Course Average</u> | <u>Final Course Grade</u> | <u>Grade Points</u> |
|---------------------------------|-----------------------------|---------------------------|---------------------|
| 288 - 300                       | 96% - 100%                  | A+                        | 4.00                |
| 270 - 287                       | 90% - 95.9%                 | A                         | 4.00                |
| 264 - 269                       | 88% - 89.9%                 | A-                        | 4.00                |
| 258 - 263                       | 86% - 87.9%                 | B+                        | 3.67                |
| 240 - 257                       | 80% - 85.9%                 | B                         | 3.33                |
| 234 - 239                       | 78% - 79.9%                 | B-                        | 3.00                |
| 228 - 233                       | 76% - 77.9%                 | C+                        | 2.67                |
| 210 - 227                       | 70% - 75.9%                 | C                         | 2.33                |
| 204 - 209                       | 68% - 69.9%                 | C-                        | 2.00                |
| 180 - 203                       | 60% - 67.9%                 | D                         | 1.67                |
| ≤ 179                           | ≤ 59.9%                     | F                         | 1.00                |

**B. Course Workload**

A general rule of thumb for the amount of time that will be required outside of class time for a course during the traditional 15-week academic semester 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. Depending on where you fall within that spectrum, you should expect to spend between 1 and 3 hours each week on this course outside of the time you spend in lab class.

**C. Lab Work and Grade Components**

The lab course grade will be based on the grades on the weekly data sheets, the weekly write ups, the weekly pre-lab quizzes, the lab syllabus/safety quiz, the scientific paper tutorial on-line assignment, and the formal lab report with peer

review. Explanations of each of these components can be found in the sections of that follow. Table 2 below summarizes what portion of the lab course grade will be determined by each of the components of the lab work.

| Lab Work Grade Component                                      | # Points Toward Lab Grade | % of Lab Grade |
|---|---------------------------|----------------|
| Weekly data sheets (13@6.25 = 81.25 possible, 75 counted)     | 75                        | 25.00%         |
| Weekly write ups (12@7.25 = 87 possible, 79.75 counted)       | 79.75                     | 26.58%         |
| Weekly pre-lab quizzes (12@5.75 = 69 possible, 63.25 counted) | 63.25                     | 21.08%         |
| Lab Syllabus and Safety Quiz                                  | 12                        | 4.00%          |
| Scientific Paper Tutorial On-Line Assignment                  | 12                        | 4.00%          |
| Formal lab report   | 43                        | 14.34%         |
| Formal lab report peer-review process                         | 8                         | 2.67%          |
| Lab manual book check   | 7                         | 2.33%          |
| <b>Total</b>  | <b>300</b>                | <b>100%</b>    |

**1. Weekly Data Sheets (75 of the 300 possible points, or 25.00%)**

Prior to leaving each lab class, students will complete and submit electronically the data sheets associated with the lab activities conducted that day. In any given lab class there may be one to several data sheets completed. The data sheets are accessed via the on-line lab manual. The data sheets must be completed electronically (meaning no hand-completion of hard copies of the data sheets, except as indicated by lab instructor for sketches and some graphs). The submission of

the data sheets will be via uploading the completed data sheet files to the appropriate "weekly data sheets submission folder" in the lab Blackboard page. All data sheets for a given day's lab activities must be submitted prior to the end of the lab class in which the activities are conducted. All of the data sheets from all of the activities completed during a lab class will be combined into a single "weekly data sheets" grade for that lab day. Each "weekly data sheets" grade will count equally toward the points for this component of the lab grade. This

component of the lab grade requires no work outside of class.

Students who miss a lab, **regardless of the reason for the absence (see "attendance" section), will receive a zero for that lab's "weekly data sheets" grade.** There will be 13 "weekly data sheets" submissions, **each worth 6.25 points** for a total of 81.25 points. In calculating the final lab grade, only 75 points will be included. This is basically the same thing as dropping the lowest weekly data sheets grade. Data sheets must be **submitted on-line to Blackboard before leaving lab class** and **late data sheets will NOT be accepted.**

**NOTE:** After clicking on a data sheets link in the lab manual, **you MUST SAVE the fillable pdf file PRIOR to entering any data into it.** You must then save the file after you have entered your data prior to electronically submitting the file. Failure to follow this procedure will result in the loss of all data you have entered.

Some data sheets require students to make sketches of their observations, prepare graphs of their data, or to record data while in the field. Since sketches cannot be completed electronically (with the tools readily available to students) and since taking electronic devices to the field may be cumbersome, students may be asked to complete some hard copy sketches and/or graphs on blank

paper, using as a model the structure and format shown in the data sheet in the lab manual. In such cases, students will complete and submit the sketches/graphs in hard-copy format prior to leaving lab class.

Data sheets are graded based on thorough completion. Points will be deducted for empty cells that should have had data, lack of indicated labels, or absence of indicated answers or observations. Students can access the weekly data sheets grading rubric (posted on Blackboard for each day's lab activities) to see what value toward the point total will be attributed to each part of each of the data sheets in the weekly data sheets submission.

Students are expected to participate fully in lab class. Full participation includes paying attention to the lab instructor during the pre-lab lecture at the beginning of lab, sharing equally with your group mates the work of conducting the lab activities, participating in class discussions, arriving on time, contributing to lab cleanup, not using any electronic devices during lab unless they are part of the lab activity, and not engaging in any disruptive, inattentive, or unsafe behavior at any time during lab class. Lab instructors will assess class participation through direct observation of, and interaction with, students.



Failure to participate fully, as described above, will result in penalties in the form of deductions from the "weekly data sheets" grade, as detailed in the next section.

**a. Deductions from Weekly Data Sheets Grade**

**i. Punctuality**

It is extremely important to arrive to each lab class on time! Important information is provided at the beginning of lab class. **Failure to be present at the beginning of class 1) renders the tardy student unprepared to carry out the lab, 2) is disruptive and unfair to the remainder of the class and to the lab instructor, and 3) renders the student ineligible for the perfect attendance bonus.** Therefore, **tardiness will not be tolerated and will be penalized, regardless of the validity of the reason for the tardiness.**

- Students arriving up to 30 minutes late to lab will be penalized **1% of that day's "weekly data sheets" grade for each minute the student is late.**
- Students arriving more than 30 minutes late

**will not be permitted to participate in the lab** that day and will receive a **ZERO** for that day's "weekly data sheets" grade, will not be permitted to complete that day's "weekly write up", and the resulting functional absence **will** count toward the maximum of five missed labs prior to receiving a final grade of "F" for the course, regardless of the accumulated point total (because missing six or more labs means that the student failed to attend at least 60% of the lab classes).

**ii. Behavior and Participation**

When the lab instructor is presenting information to the entire class, whether during the pre-lab lecture or at any other time during the lab class, students are **expected to pay attention and remain quiet.**

Inattentive behavior includes, but is not limited to, 1) reading non-lab related materials, 2) working on any assignment from any class other than the work related to the current lab class, 3) sleeping or resting,

4) using any electronic device for any reason during the pre-lab lecture, 5) using any electronic device for any non-class-related reason at any time during the lab class period, 6) using devices with earphones that renders the student unable to hear the lab instructor or group mates, or 7) talking with a classmate when the instructor is addressing the entire class at any time during the class period.

When the group is conducting the actual lab activities, students are expected to be fully **participating** in all aspects of that work. Incomplete participation includes, but is not limited to: 1) reading non-lab related materials, 2) working on any assignment from any class other than the lab activity currently underway, 3) sleeping or resting, 4) using any electronic device for a non-lab activity related purpose, 5) using a cell phone for a non-lab activity related purpose, 6) using devices with earphones that renders the student unable to hear the lab instructor or group mates, 7) talking with a classmate without participating in the

lab activity, 9) leaving the lab classroom for extended periods of time, 10) not conducting a fair share of the work involved in completing the lab activity, or 11) engaging in any behavior deemed to be distracting, or disruptive.

- **Inattentive, non-participatory, noisy, distracting, and/or disruptive behavior** by students will be **penalized at the rate of 10% of the "weekly data sheets" grade.**
- Students who fail to heed the requests of the instructor to cease the inattentive, non-participatory, noisy, distracting, and/or disruptive behavior will 1) be asked to leave the lab class, with the support of campus police if necessary, 2) not be permitted to complete the lab activities for that day, 3) receive a **ZERO** on the weekly data sheets grade for that day, 4) not be permitted to complete the weekly write up for that day, and 5) will be considered to have been absent on that day and the resulting functional

absence will count toward the maximum of five missed labs prior to receiving a final grade of "F" for the course, regardless of the accumulated point total (because missing six or more labs means that the student failed to attend at least 60% of the lab classes).

iii. **Lab Clean Up**

Each student is responsible for cleaning up after themselves whenever they carry out any activity at any place in the lab room. This clean up responsibility is basically an extension of full participation but is addressed separately to emphasize its importance.

The members of each lab group are collectively responsible for ensuring that they leave their lab table clean, neat and stocked with all non-consumable materials that were present at their table upon their arrival on any given day. The lab instructor may choose to control the departure of students as they complete the day's lab activities by requiring that each lab group be "checked out" by the lab instructor or

assistant prior to their departure.

- Regardless of the method employed, the lab instructor will check each lab table at the end of each lab class and if the instructor finds that a group has left their table dirty, sloppy, or without the required materials, **all the members of that group will be penalized 10% of the weekly data sheets grade per occurrence.**

iv. **Safety Violations**

Students are required to abide by all "Lab Safety Rules and Practices" detailed in the lab manual and/or any additional safety precautions or procedures conveyed to students by the lab instructors or lab staff at any time. Students are further expected to abstain from **any** action or behavior that creates unsafe conditions in the lab for themselves, their classmates, the instructor, and/or the lab staff regardless of whether or not the specific situation is identified in the lab safety rules and practices.

Failing to abide by the

safety rules and practices and/or contributing to unsafe laboratory conditions in any manner **will be penalized**, as follows:

- **Students who arrive at lab class in open-toed shoes (a violation of the "Lab Safety Rules and Practices") will not be permitted to enter the lab room or to participate in class until they are wearing closed-toed shoes** (the student will be required to leave class to obtain closed-toed footwear and then return and join the class when they are wearing closed-toed shoes) **and will be assessed the relative penalty (see section i above) for tardiness based on the time they return to class wearing closed-toed footwear.** This penalty will be applied each time a student arrives in open-toed shoes.
- **Students who violate anything beyond the rule for closed-toed shoes identified in the "Lab Safety Rules and Practices" or any other safety precaution or procedure conveyed to**

**them by the lab instructor or other lab staff** will be expected to immediately stop engaging in the violation and will be **penalized** at the rate of **25% of the weekly data sheets grade for the first three violations.**

- Students who commit more than three violations of anything beyond the rule for closed-toed shoes identified in the **"Lab Safety Rules and Practices" or other safety precaution or procedure conveyed to them by the lab instructor or other lab staff AND/OR** who engage in any behavior deemed by the lab instructor or other lab staff to present an unacceptable and immediate safety threat **will be 1) be asked to leave the lab class** (with the support of campus police if necessary), 2) not be permitted to complete the lab activities for that day, 3) receive a **ZERO** on the weekly data sheets grade for that day, 4) not be permitted to complete

the daily write up for that day, and 5) be considered to have been absent on that day and the resulting functional absence **will** count toward the maximum of five missed labs prior to receiving a final grade of "F" for the course, regardless of the accumulated point total (because missing six or more labs means that the student failed to attend at least 60% of the lab classes).

2. **Weekly Write Ups** (79.75 of the 300 possible points, or 26.58%)

Most of the lab activities in the lab manual have at their end a "discussion and conclusions" section that contains a number of questions pertaining to the lab activity. The "discussion and conclusions" questions constitute the "write up" for that lab activity. The "weekly write up" consists of all the "discussion and conclusions" questions from all the lab activities completed in a given lab class.

Students will access the "discussion and conclusions" file for each lab activity that has such a section via the on-line lab manual. Students will complete electronically the "discussion and conclusions" sections for all lab activities completed in a given lab

class and electronically submit the completed files by uploading them to the appropriate "weekly write up submission folder" on the lab Blackboard page. For some lab activities, students may be required to complete as part of the write up a hard-copy sketch or graph that cannot be completed via the on-line lab manual this time. In such a case, students must scan or photograph the sketch or graph that was completed by hand and upload the resulting image files along with the other files that constitute the weekly write up for a given lab. Students may complete required graphs using a computer graphing program and such a case the student would upload the resulting file along with the other files that constitute the weekly write up for a given lab. The weekly write up for a given week's lab is due **prior to the beginning of the students' subsequent lab class**. For most lab classes, this means by the beginning of your lab class the week after the lab activities were completed. For lab classes that are followed by a week during which labs do not meet (the week of 3/14-3/18), this means by the beginning of your lab class the week after the week in which labs did not meet. The weekly write up for the last lab of the semester is due prior to leaving the last lab class, along with the weekly data sheet submission which is always due

before leaving lab class.

There will be 12 weekly write up grades, **each worth 7.25 points** for a total of 87 points. In calculating the final lab grade, only 79.75 points will be included. This is basically the same thing as dropping the lowest weekly write up grade.

This component of the lab grade requires an estimated 1.5 hours of work outside of lab class for each week that lab meets.

Late-arriving students do NOT get an extension on the submission of the weekly lab write up which is due on-line by the official start time of each student's lab class.

If a student misses lab class on a day that a weekly write up is due, that weekly write up (which would be from the previous lab class) is still due on-line by the beginning of the lab class that the student misses. In other words, missing a lab class on a day that a weekly write up is due does not change the due date/time of that weekly write up.

**Late weekly write ups are NOT accepted.**

Students who miss a lab, **regardless of the reason for the absence (except for very limited exceptions noted in the "attendance" section)**, will receive a zero for the weekly write up for that lab. The instructor will compare attendance records to weekly write up submissions and will assign a grade of zero for any

weekly write up that is submitted when the student was marked absent on the day that the activities pertaining to that weekly write up were completed.

The weekly write up is graded based on thorough completion and on accuracy when there is a specific correct answer for a question. Some questions have multiple parts and points will be deducted when all parts of the question are not answered. There are usually questions pertaining to the hypotheses. For these questions, the first part of the question asks whether the data supported or did not support the hypothesis. You must answer this part of the question and your answer **MUST USE THE TERMS "SUPPORTED" OR "NOT SUPPORTED" (OR "DID NOT SUPPORT")** in your data. You will **NOT RECEIVE CREDIT** if you substitute the terms **TRUE or FALSE**, or the terms **ACCEPTED or REJECTED (NOT ACCEPTED)**. We are refraining from the use of the terms "accepting" or "rejecting" a hypothesis because we are not subjecting the data we collect to statistical tests, as would be done in an actual research setting.

The second part of the hypothesis questions asks you to explain why you stated that the data supported or did not support the hypothesis. For this part of the question, your answer **MUST**

**REFERENCE SPECIFIC DATA.**

For example, it is not acceptable to state "The hypothesis was supported by the data because that is what our data showed." You would instead say something like "The hypothesis was supported by the data which showed that men's average weight of 175 pounds was greater than women's average weight of 125 pounds."

Students can access the weekly write up grading rubrics (posted on Blackboard for each week's lab activities) to see what value toward the point total will be attributed to each part of the weekly write up.

**3. Weekly Pre-Lab Quizzes (63.25 of the 300 possible points, or 21.087%)**

For each week in which lab classes meet (except for the first lab meeting during the 2<sup>nd</sup> week of the semester) students must complete a weekly pre-lab quiz, which is posted on the course Blackboard page. It is the student's responsibility to figure out how to use the Blackboard "quiz" function (called an "assessment") in a timely manner, as there will be no "do-overs" after the due date for a quiz has passed.

The weekly pre-lab quiz contains questions about the upcoming (next lab class) lab activities. The purpose of the weekly pre-lab quiz is to hold

students accountable for reading the upcoming lab activities before coming to lab class. Why is this important? If you read the activities prior to coming to class you will be less confused about the activities, you will learn more from the activities that you conduct, and you will move more smoothly through the activities resulting in a more efficient use of your time.

The weekly pre-lab quizzes are "open lab manual" but students are expected to do their own work. Copying each other's answers is considered cheating and all cases of suspected cheating will be referred to the GMU Honor Committee with a minimum recommended sanction of zero on the quiz.

Weekly pre-lab quizzes are graded on accuracy. The weekly pre-lab quizzes are due by 11:59pm on Sundays (regardless of which lab section you are in) as preparation for the lab classes that occur the following week. Due to labs not meeting the week of spring break (3/14-3/18), there is no weekly pre-lab quiz due on Sunday, 3/13.

Students will be able to see their score on the weekly pre-lab quiz immediately after they submit it but they will not be able to see the correct answers until after the due date and time for each quiz passes.

There will be 12 weekly pre-lab quizzes, **each worth 5.75 points**

for a total of 69 points. In calculating the final lab grade, only 63.25 points will be included. This is basically the same thing as dropping the lowest weekly pre-lab quiz grade.

The weekly pre-lab quiz component of the lab grade requires an estimated 1.5 hours of work outside of lab class for each week that lab meets (this time is for reading the activities and taking the quiz).

**Late submission will not be allowed for this component and students who do not complete a weekly pre-lab quiz by its due date and time will receive a zero for that quiz, no exceptions.**

Students will receive credit for timely completion of a weekly pre-lab quiz, even if they end up missing the lab to which the pre-lab questions pertain. In other words, if a student completes a weekly pre-lab quiz due by 11:59pm on a Sunday but then misses their lab on Monday, the student will still receive credit for the weekly pre-lab quiz that they completed even though they will not receive credit for the weekly data sheet and weekly write up submissions for the missed lab.

Each weekly pre-lab quiz will be available for a minimum of one week, opening no later than 12:00am on the Monday before it is due at 11:59pm on the following Sunday.

**4. Lab Syllabus and Safety Quiz** (12 of the 300 possible points, or 4%)

Students will complete a "lab syllabus and safety quiz" which will be **due by 11:59pm on Sunday, 2/6/22**. This quiz is separate from the weekly pre-lab quizzes and the grade received on it **cannot be dropped**. The purpose of this quiz is to ensure that students 1) have read the lab syllabus and understand its provisions and 2) have read the "Lab Safety Rules and Practices" portion of the lab manual and understand those rules and practices. Students may refer to the lab syllabus and the "Lab Safety Rules and Practices" as they answer the questions on this quiz. Copying each other's answers is considered cheating and all cases of suspected cheating will be referred to the GMU Honor Committee.

**5. Scientific Paper Tutorial - On-Line Assignment** (12 points out of the lab total of 300 points, or 4%)

Students will complete an assignment titled "Scientific Paper Tutorial On-Line Assignment". This assignment is posted in the lab Blackboard page. The purpose of this assignment is to introduce students to the content, organization, and format of a scientific paper in preparation for the assignment of writing a formal lab report in the format of a scientific paper. This



assignment requires students to review a tutorial about the format and content of a scientific paper in general and then to read an actual scientific paper. The assessment for this assignment is an on-line quiz pertaining to both the contents of the tutorial and the scientific paper. This assignment is worth 12 points and the grading is based on accuracy. **This assignment is due by 11:59pm on Sunday, 3/6/22. This assignment will not be accepted late.**

6. **Formal Lab Report With Peer-Review** (4 points for the report out of the lab total of 300 points, or 14.34%, and 8 points for the peer-review process out of the 300 points possible, or 2.67%)

Students will complete one formal lab report, based on the following two activities:

- ***"Water Quality - Activity 8 - Pollutants - Inoculating Algal Cultures"***
- ***"Water Quality - Activity 9 - Pollutants - Effects on Algal Growth"***

The first activity, "Water Quality - Activity 8 - Pollutants - Inoculating Algal Cultures," will be conducted during the week of 2/14/22-2/18/22 and constitutes the set up of the experiment. The conclusion of the experiment and the gathering of the data will be completed as part of the second activity, "Water Quality - Activity 9 - Pollutants - Effects on Algal

Growth," which will be completed during your lab class the week of 2/28/22-3/4/22.

The goal of this assignment is to introduce students to the style of writing used to present the process and results of scientific experimentation. Students will be prepared for the task by completing the following:

- reading the lab activities in the lab manual which are structured in a manner similar to that of scientific papers (in terms of presenting hypotheses and methods, directing the collection of data, and analyzing that data though the discussion and conclusions questions)
- completing the "scientific paper tutorial on-line assignment"
- listening to the lab instructor's explanation of the expected content and format of the formal lab report and the grading rubric for the assignment
- reading the "Writing a Lab Report" section of the lab manual
- reading the grading rubric for this task (which is available on Blackboard)
- participating in the peer-review process in which each student's report will be evaluated by two classmates and each student will evaluate the reports of two classmates.

Data will be collected and observations will be made by the lab group during the execution of the assigned lab activity, but **the formal lab report must be the independent work of each student**. Students will submit their report electronically to the lab Blackboard page. The SafeAssign program incorporated into Blackboard will evaluate each student's lab report for possible plagiarism. Students are NOT to copy graphs, figures, illustrations or any written portion of the formal lab report from other students (past or present) or from any other source. **Students suspected of plagiarizing an part of their lab report will be referred to the GMU Honor Committee and will be subject to its process and consequences.**

Students who are repeating this course may incorporate portions of their previous lab report into the current lab report provided that the **new data** is utilized, all report sections are adjusted accordingly, and that they cite their previous work. A student who chooses to utilize this approach must keep in mind that plagiarism checking software will be able to compare the current report to reports submitted in the past. In other words, if a student plagiarized portions of their previously submitted report, it will be detected on the currently

submitted report and will still be considered a violation of the Honor Code (even if your previous lab instructor failed to catch the plagiarism).

The minimum sanction recommended for a violation of the Honor Code on this assignment will be a zero on the assignment.

The first due date for the formal lab report assignment is your lab class the week of 3/28/22-4/1/22 when the **peer-review process** is conducted.

**Students must print out and bring to their lab class the week of 3/28/22-4/1/22 TWO hard copies of their formal lab report.**

If students arrive at lab class on the day peer review is scheduled without the hard copies of their lab report they will be permitted to go to an appropriate location on campus to retrieve or print the hard copies but they will be assessed the normal penalties for being tardy to lab class and they may not be able to receive full credit for the peer review process if their tardiness renders them unable to evaluate the lab reports of two classmates.

During the peer-review process, each student will grade the formal lab reports of two of their classmates using the grading rubric. This means that each student will have their formal lab report graded by two of their classmates. The purposes of the peer-review process are to:

- provide an incentive for students to scrutinize, evaluate and understand the formal lab report grading rubric prior to submitting their lab report to their lab instructors for grading (the instructors will be using the same grading rubric as the used in the peer-review process)
- give students the opportunity to learn by seeing examples of formal lab reports of different qualities
- give students the opportunity to improve their formal lab report based on input from their peers prior to it being submitted for grading by the lab instructor.

The scores that students receive on their formal lab report from their peers WILL NOT COUNT TOWARD THEIR OFFICIAL GRADE ON THE FORMAL LAB REPORT! However, the peer review process will be the only opportunity students will have to receive feedback on the report prior to it being submitted for grading by the lab instructor. The purpose of the grades received from one's peers is to give students a sense of the grade they might receive from the lab instructor grading the lab report with the same grading rubric used by the peers. **Participating fully in the peer-review process will be**

**worth 8 points of the 300 possible lab points, or 2.67%.**

Full credit for the peer-review process will be given for a student who is present and arrives on time on the day of peer-review, brings two hard-copies of their formal lab report, and reviews and grades (using the grading rubric) the formal lab reports of two peers in a thoughtful, thorough, conscientious manner. Fully-participating students will leave their lab class the week of 3/28/22-4/1/22 with two peer-graded copies of their formal lab report.

Students will have two weeks between the scheduled peer review process and the due date of the formal lab report to revise their formal lab report, incorporating as appropriate the comments received and corrections suggested in the peer-review process. Students must **submit to the Blackboard submission folder an electronic copy of the formal lab report, in the form of a .doc or .docx document, by the beginning of their lab class during the week of 4/11/22-4/15/22. NO LATE SUBMISSIONS OF THE FORMAL LAB REPORT WILL BE ACCEPTED.** It is NOT acceptable to email your lab instructor the electronic version of your formal lab report instead of submitting it to the submission folder. The lab report must be

submitted to the submission folder in order for the SafeAssign program to check it for plagiarism. It is the student's responsibility to submit their formal lab report to the submission folder successfully by the due time and date specific to their lab section. This means you are responsible for making sure that there are no technical difficulties that will prevent you from submitting your formal lab report in a timely manner. This may mean that you should plan on submitting the formal lab report **prior** to the due time/date so that if a technical difficulty arises you will have time to resolve it and still submit your formal lab report in on time.

The formal lab report submitted electronically by the beginning of each student's lab class the week of 4/11/22-4/15/22 will be **GRADED EXTREMELY STRICTLY relative to the grading rubric provided on the lab Blackboard page!!!!** This statement is not made to be intimidating. It is made to emphasize that the grading rubric will be adhered to closely and that students should compare their lab report to the grading rubric before submitting the report. If students have given due diligence to this assignment, participated fully in the peer-review process, and taken advantage of all resources available to assist in executing this assignment, then

their grade should be satisfactory. Lab instructors will be grading the formal lab report based on the grading rubric (posted on the lab Blackboard page) available to students since the beginning of the semester and utilized in the peer-review process. It is the student's responsibility to understand the provisions of the grading rubric.

Lab instructors will post grades for and feedback on the **formal lab report** to Blackboard **by the beginning of each student's lab class during the week of 5/2/22-5/6/22.**

The final grade for the **formal lab report will be worth 43 of the 300 points for lab, or 14.34%** of the lab grade.

A student is not precluded from submitted the formal lab report if they are absent from lab class on the day the lab activity that serves as the basis of the lab report is completed. In such a case, it is the student's responsibility to obtain the data from the activity from one of their group mates and use that data and other information available through the formal lab report preparatory assignments and information to write the formal lab report. If a student does not participate in the formal lab report peer-review process (or is absent from lab on the day the process is conducted), they will receive a grade of 0 for the peer-

review process but they will still be permitted to submit the formal lab report (by the due date/time).

7. **Lab Manual Book Check** (7 of the 300 possible points, or 2.33%)

The on-line lab manual is required for this course. Students are required to have purchased their lab manual, redeemed their access code **and** set up their lab manual account on-line **no later than 11:59pm on 2/6/22 which is the same date and time that the first weekly pre-lab quiz is due and the lab syllabus and safety quiz is due.**

A "lab manual book check" will be conducted using the lab manual on-line roster feature available to lab instructors. Students who appear on this roster no later than 11:59pm on 2/6/22 will receive 7 points toward their lab total of 300 points. If a student does not appear on the lab manual on-line roster by 11:59pm on 2/6/22, then the student will receive 0 points for this grade component. **PLEASE NOTE:** Simply purchasing the lab manual prior to 11:59pm on 2/6/22 is insufficient to obtain the 7 possible points for this grade component since just purchasing the lab manual will not enter the student's name into the lab manual on-line roster. In order for a student's name to appear in the lab manual on-line roster, a student must also redeem their lab manual access code (received at

purchase) **and** set up their lab manual account.

There is only one opportunity to receive the lab manual book check points and failing to purchase the manual, redeem the access code and set up the lab manual account no later than 11:59pm on 2/6/22 will result in a permanent loss of these 7 points.

The purpose of this grade component is to provide an incentive for students to obtain the required lab materials in a timely manner. Students are encouraged to obtain access to the on-line lab manual as soon as possible since the materials in it will be needed to complete the activities the first week that lab class meet (1/31/22-2/4/22) and to complete the first weekly pre-lab quiz which is due by 11:59pm on 2/6/22. However, for those that have not obtained access prior to the lab manual book check deadline, the materials needed for the first week that lab classes meet and the first weekly pre-lab quiz are available on Blackboard.

## VI. Course Policies

### A. Lab Safety Orientation and Rules and Acknowledgement Form

EVPP 113 lab is a relatively safe laboratory experience. However, there are always potential risks involved in any lab or field activity. Students are responsible for reading and abiding by the "Lab Safety Rules

and Practices" found in the lab manual. These safety guidelines are designed to alert you to the potential safety hazards associated with, and safe behaviors and practices expected during, EVPP 113 lab class. Instructor's may expel a student from the lab classroom at any time if the instructor believes that the student's actions or behavior presents a safety risk to themselves or anyone else in the classroom.

Students will answer questions pertaining to the "Lab Safety Rules and Practices," along with questions pertaining to the lab syllabus, on the "Lab Syllabus and Safety Quiz" described earlier this syllabus.

Students will be required to sign and submit the "Lab Safety Orientation and Safety Rules Acknowledgement Form". This form is found in the lab manual (and on Blackboard). Students must print out this form and complete it, including an original signature, and submit it in hard-copy form to their lab instructor no later than the beginning of the 3<sup>rd</sup> lab class meeting. **Students who do not submit this form at the beginning of the 3<sup>rd</sup> lab class meeting will...**

- **not be permitted to participate in lab classes** until the form is submitted
- **receive zeros for all lab work missed due to their absence(s) AND any absences for this reason WILL count toward the maximum of five missed labs** prior to receiving a final grade

of "F" for the lab course

- **have 3 points deducted from their entire lab grade**

## B. Attendance

### 1. Expectations

**Attendance is expected and required at ALL labs.** When a student misses a lab exercise, they miss more than just the data that was gathered. The student misses first-hand observations, hands-on experiences, cooperative learning opportunities, the use of equipment, and exposure to the challenges of experimental design and data collection techniques. With that in mind, it follows that there is no way to fully "make-up" that learning experience when a lab class is missed, **regardless of the validity of the reason for the absence.** To rephrase: **Even if the absence is unavoidable, the result of a valid reason, and/or not your fault, being absent will result in a zero for that week's weekly data sheets and weekly write ups.** Simply obtaining the data from another student and completing the weekly data sheets does not and cannot serve as a substitute.

Due to the hands-on, experiential nature of a lab course, students who fail to attend at least 60% of the lab classes will be deemed to have failed the course, regardless of the point total accrued on work

completed, and will receive a final grade of "F." This means that a upon incurring a 6<sup>th</sup> lab class absence, the student has dropped below the passing threshold of attending at least 60% of the lab classes (this lab class will meet 13 times during the semester meaning that a student who misses 6 labs has attended only 53.8% of the lab classes and will receive a final grade of "F" regardless of the point total accrued on completed work).

## 2. Consequence of Missing a Lab

### a. General

Students are expected to make every attempt to fulfill the scheduling commitment that they made when they registered for their lab section. Students **absent from lab for ANY REASON will not be permitted to submit the weekly data sheets or the weekly write ups** for the day missed and will receive a **zero** for those grades. For learning purposes, students are responsible for obtaining all information and data from the missed lab class from their group members, not from their lab instructor. When a student misses a lab class, they are still responsible for knowing and understanding lab material.

**STUDENTS CANNOT**

**MAKE UP A MISSED LAB BY ATTENDING ANOTHER LAB SECTION!!!!!!**

### b. Labs Missed Due to Late Registration

Labs missed because a student registered late (after the start of the semester and prior to the last date to add, 1/31/22) for the class **will still count as absences and the student will receive zeros for any work** (weekly data sheets, weekly write up, weekly pre-lab quizzes) associated with those missed labs. Labs missed due to adding the course late **WILL** also count toward the maximum of five missed labs prior to receiving a final grade of "F" for the course.

### c. Labs Missed Due Participation in University Activities or Religious Observances

According to University Academic Policy (AP) 1.6.1, students must provide their instructor within the first two weeks of the semester a list of "the dates of major religious holidays on which they will be absent, and the dates for which they are requesting an excused absence for participation in any university-sponsored activity scheduled prior to the start of the semester, and as soon as possible otherwise." Please

refer to AP 1.6.1 at <https://catalog.gmu.edu/policies/academic/registration-attendance/registration-attendance.pdf> for additional information.

Students who miss a lab due to a religious observation or participation in a university-sponsored activity **AND** notified their lab instructor two lab classes in advance, per AP 1.6.1, **will** be permitted the following "reasonable" opportunities to reduce the impact on their grade of those lab absences, as noted below:

- Students may obtain the data from the missed lab from a group mate and use it to complete the weekly write up which must be submitted on-line prior to the beginning of the lab class following the missed lab class (meaning the due date is the same as for students who did not miss the lab and is subject to the submission provisions of this component of the lab course work). Students will therefore receive credit for the weekly write up for a lab missed for religious observance or participation in university-sponsored activities.
- Students will receive credit for a weekly pre-lab quiz that they complete

even if the quiz pertains to a lab subsequently missed for religious observance or participation in university-sponsored activities. The due date for the weekly pre-lab quiz will be the same for a student that subsequently misses a lab for a religious observance or participation in a university-sponsored event as for students that did not miss the lab.

Academic policy 1.6.1 requires that "reasonable" opportunities be provided to reduce the impact on a student's grade caused by missing a lab due to a religious observance or participation in a university-sponsored event. Since there is no way to recreate for absent students the execution of the hands-on, interactive experiences that occur during the lab class, there is **NO** "reasonable" opportunity to make up the following aspects of the course work and students absent due to religious observance or participation in university-sponsored activities are subject to the following:

- Even though students are expected to obtain the data from activities conducted during a lab class that they missed (so that they can learn the



concepts, prepare for exams), students will NOT receive credit for those weekly data sheets. In other words, students will receive a zero for the weekly data sheet grade for the week that they miss lab due to religious observance or participation in university-sponsored activities.

- Absences from lab due to a religious observance or participation in a university-sponsored activity, assuming the lab instructor has been informed of these absences within the first two lab classes of the semester, WILL count toward the five absences permitted prior to triggering a final grade of "F" for the lab course.

### 3. Consequence of Missing More Than Five Labs

Due to the importance of participating in the lab portion of the EVPP 113 course, MISSING MORE THAN FIVE LABS IS EQUIVALENT TO BEING PRESENT FOR LESS THAN 60% OF THE HANDS-ON EXPERIENCES OF A LAB COURSE AND WILL, THEREFOR, RESULT IN A FINAL GRADE OF "F" FOR THE LAB COURSE, regardless of the

point total accrued on completed work.

### 4. Adjustments to Compensate for Strict Attendance Policy

The following provisions are meant to offset the strict attendance policy for lab.

#### a. Some Points Dropped from Three Lab Components

In calculating the final lab grade, 75 the 81.25 weekly data sheet points will be included, 79.75 of the 87 weekly write up points will be included, and 63.25 of the 69 weekly pre-lab quiz points will be included. This is essentially equivalent to dropping the lowest grade from each of these three lab grade components.

#### b. Perfect Attendance Bonus

Since attendance at all lab class meetings is expected and important, STUDENTS WHO HAVE **PERFECT ATTENDANCE** IN LAB WILL RECEIVE **EXTRA CREDIT** IN THE AMOUNT OF **6 POINTS** (2%) ADDED TO THEIR FINAL LAB GRADE. For the purpose of this bonus, "perfect attendance" is defined as not missing any lab classes AND not having received any penalties for late arrival, early departure, poor behavior or participation! In other words,

being marked present for every lab but showing up late to or leaving early from some number of them is **not** considered "perfect attendance" and neither is being present at every lab yet not participating fully in some number of them. Students who register for the class late and miss labs for this reason, miss labs due to religious observation or participation in university-sponsored events will be eligible for a pro-rated perfect attendance bonus, assuming they can provide the documentation of late registration and/or have met all the requirements of advance notification of absence due to religious observation or participation in university-sponsored events as noted earlier in this syllabus in sections VI.B.2.a. and VI.B.2.b.

### C. Switching Lab Sections

Students who anticipate that they will have schedule conflicts on more than five occasions for the lab section for which they are registered should consider changing their registration to a different section, space permitting. Lab instructors will **NOT** entertain requests for an "unofficial" lab switch. All changes in lab sections must be "official" (through the registrar's office) and, therefore, must be completed by **GMU's official last day to add a**

**class, 1/31/22.**

### D. Personal Electronic Device Use in Lab

As noted previously, students are required to bring to every lab class a personal, web-enabled device for the purpose of accessing the on-line lab manual and electronically completing and submitting the weekly data sheets prior to leaving each lab class. **However, no personal electronic devices are permitted to be used in lab class** at any time or for any purpose OTHER THAN to access the on-line lab manual or other websites necessary for the execution of the lab activities and completion of the data sheets. Students using such devices for any purpose during the pre-lab lecture or for non-lab-related purposes at any time during the lab class will be considered to be engaging in inattentive behavior and will be subject to the penalties specified above in the "deductions from the weekly data sheets grade" section.

### E. Resolving Academic Disputes Between Lab Instructors and Students

Students who have academic disputes with their lab instructor, particularly about grades, must make every effort to resolve those disputes by working directly with their lab instructor. Students are strongly encouraged to document the issues they have and all attempts they have made to resolve them. **Please note:** If a student seeks to involve the course

coordinator in resolving an academic dispute with a lab instructor, the student should be aware that the course coordinator will: 1) expect that the student has already approached the lab instructor and, therefore, that the lab instructor will be aware of the student and their identity and issue; 2) discuss the situation with the lab instructor and, in so doing, identify the student and the issue involved; and 3) require a meeting with the student, the lab instructor, and course coordinator, simultaneously, to discuss the issue and its resolution.

#### F. Email Expectations

To comply with federal privacy laws, both students and instructors **must** use their GMU email accounts to correspond with each other. It is further expected that students use their GMU email account in order to receive important University information, including messages related to this class (see also "student privacy" in section VII part D below). 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 **lab section you are in** will help the lab 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 simply be "see syllabus."

#### G. 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 or course coordinator will inform students of this necessity and provide instructions for accessing and completing the alternative activities.

#### H. 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 in Blackboard:

- **Lab grades recorded each week:**
  - Weekly Data Sheets: The column for each lab's weekly data sheets grade will be headed with the date range of the week of the lab class in which the activities were

- completed followed by "WDS" (for "weekly data sheets"), the number of possible points, and the posting date and time. For example, for the first week that labs meet this semester the column will be headed "1/31-2/4 WDS (out of 6.25)(posted 1/12/22, 9:15pm)". The weekly data sheets grades are recorded as the number of points received, not as a percentage score. The column heading will not reflect the due date and time since all students across all lab sections for a given week must submit their weekly data sheets prior to leaving their lab class during that week.
- Weekly Write Up: The column for each lab's weekly write up grade will be headed with the date range of the week in which the activities were completed followed by "WWU" (for "weekly write up"), the number of possible points, and the posting date and time. For example, for the first week of the semester the column will be headed "1/31-2/4 WWU (out of 7.25)(posted 1/15/22, 9:12am)".  
**NOTE:** The date does not reflect the due date range since this column is used for all students across all sections of the lab course and the due date and time is different depending on a student's lab section. However, it is the student's
- responsibility to know that the weekly write ups are due prior to the beginning of the lab class after the lab class in which the activities were completed. The weekly write up grades are recorded as the number of points received, not as a percentage score
- Weekly Pre-Lab Quiz: The column for each week's weekly pre-lab quiz grade will be headed with the due date, followed by "WPLQ due date by 11:59pm" and abbreviations of exercise names and activity numbers, the number of possible points, and the posting date and time. For example, for the first weekly pre-lab quiz for the semester the column is headed "2/6 WPLQ due by 11:59pm: Succession on a Small Scale 1-2 (posted 1/12/22, 5:12pm)". The weekly pre-lab quiz grades are recorded as the number of points received, not as a percentage score.
  - Lab grades recorded once during the semester:
    - Lab Syllabus and Safety Quiz: The grade for the lab syllabus and safety quiz will be recorded as the number of points received, not as a percentage score, and will appear in a column headed "2/6 LSSQ due 2/6 by 11:59pm - Lab Syllabus-Safety Quiz (out of 12)(posted 1/12/22, 3:19pm)".

- Scientific Paper Tutorial: The grade for the scientific paper tutorial assignment will be recorded as the number of points received, not as a percentage score, and will appear in a column headed "3/6 Sci Pap Tutorial due 3/6 by 11:59pm - Scientific Paper Tutorial On-Line Assignment ASSESSMENT (posted 1/12/22, 3:12pm)".
- Lab Manual Book Check: The grade for the lab manual book check will be recorded as the number of points received and will appear in a column headed "2/6 Lab Manual Book Check due by 11:59pm (out of 7)".
- Formal Lab Report: The grade for the formal lab report will be recorded as a percentage score. This is the only grade that will be recorded as a percent rather than as the number of points received out of the number of points possible. The heading for this grade column will be different for each lab section since there will be a submission folder for each lab section. The column heading will begin with "FLR" followed by the due date for a specific section and other section-specific information.
- Peer Review: The grade for the peer review assignment associated with the formal lab report will be recorded as the number of points received and will be appear in a column headed "3/28-4/1 Peer Review (out of 8)."
- Lab grade total columns: The following columns, headed as shown below, will update automatically throughout the semester:
  - "WDS Total (max of 75)": This column will show a running total of all points accrued to date on the weekly data sheets (WDS). Since Blackboard cannot "drop" the score it is important to note that this column could show a total higher than the maximum 75 points from this grade component that will count toward the final lab grade.
  - "WWU Total (max of 79.75)": This column will show a running total of all points accrued to date on the weekly write ups (WWU). Since Blackboard cannot "drop" the score it is important to note that this column could show a total higher than the maximum 79.75 points from this grade component that will count toward the final lab grade.
  - "WPLQ Total (max of 63.5)": This column will show a running total of all points accrued to date on the weekly pre-lab quizzes (WPLQ). Since Blackboard cannot "drop" the score it is important to note that this column could show a total higher than the maximum 63.25 points from this grade

- component that will count toward the final lab grade.
- **"# Lab Absences"**: This column will show a running total of THE NUMBER OF LAB **ABSENCES** THAT HAVE OCCURRED TO DATE IN THE SEMESTER. **Please make sure you read the preceding sentence carefully.** This column will show **ABSENCES** - as in the number of labs missed - not attendance as in the number of labs at which you were present. This is **not** a point column that contributes to the total number of lab points accrued! This column provides both the student and the instructor an easy way to **track a student's total number of absences to date**. Since students who miss more than 5 lab classes will receive a final grade of "F" for the course (regardless of the total number of points accrued on completed work) it important to both parties to be able to quickly assess total absences. **A "0" in this column is a good thing - meaning that a student has had no lab absences.** If the number in this column is greater than 5, then the student has failed to attend at least 60% of the lab classes and will receive a final grade of "F" in the course (regardless of the total number of points accrued on completed work).

**It is important to note that Blackboard is NOT set up to calculate a student's overall lab course grade at any point during the semester.** Blackboard is not capable of dropping the lowest score from the grade components from which the lowest score will ultimately be dropped when the instructor calculates the final course grade.

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 course grade is much higher than it actually is.

A "grade calculation spreadsheet" is posted in Blackboard and students may use it to estimate their grade at any point in time. Use of the spreadsheet can only produce an estimate and the strength of the estimate will depend on how much work yet remains to be completed and/or graded.

It is the student's responsibility to be aware of the lab attendance policy and of the number of absences they are accruing in lab class.

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 113 lab is governed by the GMU Honor Code. Please refer to the Office of Academic Integrity website

at <https://oai.gmu.edu> for a full description of the code and the honor committee process. All course work is expected to be completed INDIVIDUALLY. Copying classmates' work on any assignment or quiz (except for the sharing of raw data) is considered **cheating** and a violation of the Honor Code. The formal lab report must be the independent work of each student. If an instructor discovers that two or more students have submitted work (especially lab reports) that are partially or entirely identical, all students involved will be reported to the Honor Committee with a minimum recommended sanction of a zero on the assignment. 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 (ODS). 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 ODS and are waiting to hear from a counselor, please inform your instructor. For more information on disability accommodations, visit the Office of Disability website at <https://ds.gmu.edu/>.

#### **C. Diversity**

The following is George Mason University's "Diversity Statement", verbatim from <http://stearnscenter.gmu.edu/professional-development/mason-diversity-statement>.

*"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 GMU email account to receive important University information, including messages related to this class (see also "email expectations" above). See <https://registrar.gmu.edu/ferpa/> for more information.

#### **E. Student Support Resources**

There are a number of 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 at <http://catalog.gmu.edu/>
- University Policies at <https://universitypolicy.gmu.edu/>
- Counseling and Psychological Services at <http://caps.gmu.edu/>
- INTO George Mason (program for international students) at <http://www.intohigher.com/us/en-us/the-universities/into-mason.aspx>
- Learning Services at <https://learningservices.gmu.edu/about-learning-services/>
- University Career Services at [http://careers.gmu.edu/?\\_ga=1.173099747.1501406856.1441291419](http://careers.gmu.edu/?_ga=1.173099747.1501406856.1441291419)
- University Writing Center at <http://writingcenter.gmu.edu/>

#### **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 (go to <https://ready.gmu.edu/masonalert/> to register) in the event of a campus emergency. Please review the Emergency Preparedness Guides at <https://ehs.gmu.edu/guides/>.

#### **G. Safe Return to Campus Requirements**

All students taking courses with a face-to-face component are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (<https://www2.gmu.edu/safe-return-campus>). Similarly, all students in face-to-face and hybrid courses must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. **Only students who receive a "green" notification are permitted to attend courses with a face-to-face component.** Faculty are permitted to ask you to show them that you have

received a Green email and are thereby permitted to be in class.

Students are required to follow Mason's current policy about facemask-wearing, which can be found at <https://www.gmu.edu/safe-return-campus/personal-and-public-health/face-coverings>.

Lab Schedule

| Week # | Mon  | Tue  | Lab Exercises/Activities  | Location       |
|--------|------|------|---|----------------|
| 1      | 1/24 | 1/25 | <ul style="list-style-type: none"> <li><b>No Labs This Week</b> (1<sup>st</sup> day of semester is Monday, 1/24, but labs will not begin until 2<sup>nd</sup> week of the semester)</li> </ul>  | Not applicable |
| 2      | 1/31 | 2/1  | <ul style="list-style-type: none"> <li><b>Administrative review</b></li> <li><b>Syllabus review</b></li> <li><b>Safety review</b></li> <li><b>Tragedy of the Commons</b> <ol style="list-style-type: none"> <li>Public Versus Private Resource</li> <li>Hardin's Article (<i>assigned, do on own, due week of 2/7 by beginning of lab class</i>)</li> </ol> </li> </ul>   | Lab            |
| 3      | 2/7  | 2/8  | <ul style="list-style-type: none"> <li><b>Biodegradation &amp; Solid Waste Mgt.</b> <ol style="list-style-type: none"> <li>Biodegradation - Set Up</li> <li>Simulated Landfill - Set Up</li> </ol> </li> <li><b>Energy: Alternatives and Conservation</b> <ol style="list-style-type: none"> <li>Personal Energy Inventory - Data Collection - <i>explanation only-not due</i></li> </ol> </li> </ul>   | Lab            |
| 4      | 2/14 | 2/15 | <ul style="list-style-type: none"> <li><b>Energy: Alternatives and Conservation</b> <ol style="list-style-type: none"> <li>Building Insulation &amp; Light Bulbs</li> <li>Hot Water Heater Insulation</li> <li>Watt Usage by Electrical Devices</li> <li>Personal Energy Inventory - Data Collection - <i>questions on data collection?-not due</i></li> </ol> </li> <li><b>Water Quality</b> <ol style="list-style-type: none"> <li>Pollutants - Inoculating Algal Cultures (<i>set up of activity for formal lab report</i>)</li> </ol> </li> </ul> | Lab            |
| 5      | 2/21 | 2/22 | <ul style="list-style-type: none"> <li><b>Energy: Alternatives and Conservation</b> <ol style="list-style-type: none"> <li>Photovoltaics</li> <li>Generating Electricity with a Turbine</li> <li>Personal Energy Inventory - Data Collection - <b>due this week by end of lab</b></li> <li>Personal Energy Inventory - Data Compilation</li> </ol> </li> </ul>  | Lab            |

Lab Schedule - continued

| Week # | Mon  | Tue  | Lab Exercises/Activities  | Location       |
|--------|------|------|---|----------------|
| 6      | 2/28 | 3/1  | <ul style="list-style-type: none"> <li>• <b>Water Quality</b></li> <li>9. Pollutants - Effects on Algal Growth <i>(Note: This is the basis of the formal lab report)</i></li> <li>• <b>Writing a Lab Report</b></li> <li>• <b>Energy: Alternatives and Conservation</b></li> <li>6. Wind Turbines</li> <li>7. Hydrogen Fuel Cell</li> <li>• <b>SCIENTIFIC PAPER TUTORIAL ON- LINE ASSIGNMENT DUE 3/6/22 by 11:59pm</b></li> </ul> | Lab            |
| 7      | 3/7  | 3/8  | <ul style="list-style-type: none"> <li>• <b>Energy: Alternatives and Conservation</b></li> <li>1. Converting Sunlight into Heat</li> <li>2. Solar Water Heater</li> <li>• <b>Water Quality</b></li> <li>7. Drinking Water Quality</li> <li>• <b>Biodegradation &amp; Solid Waste Mgt</b></li> <li>2. Biodegradation - Observation</li> </ul>  | Lab            |
| 8      | 3/14 | 3/15 | <ul style="list-style-type: none"> <li>• <b>NO LABS - SPRING BREAK</b></li> </ul>   | Not applicable |
| 9      | 3/21 | 3/22 | <ul style="list-style-type: none"> <li>• <b>Biodegradation &amp; Solid Waste Mgt</b></li> <li>6. Microbial Degradation - Set Up</li> <li>8. Microbial Composition of Various Soil Environments - Set Up</li> <li>• <b>Pollution Remediation</b></li> <li>1. Pollution Consequences - Effects of an Oil Spill on Feathers</li> <li>2. Remediation - Mechanical Cleanup of Oil Spill</li> </ul>                                     | Lab & outside  |
| 10     | 3/28 | 3/29 | <ul style="list-style-type: none"> <li>• <b>Water Quality</b></li> <li>5. Groundwater Purification by Soil</li> <li>• <b>Biodegradation &amp; Solid Waste Mgt</b></li> <li>7. Microbial Degradation - Completion</li> <li>• <b>Formal Lab Report PEER-REVIEW PROCESS</b></li> </ul>   | Lab & outside  |

Lab Schedule - continued

| Week # | Mon  | Tue  | Lab Exercises/Activities  | Location      |
|--------|------|------|---|---------------|
| 11     | 4/4  | 4/5  | <ul style="list-style-type: none"> <li>• <b>Water Quality</b></li> <li>10. Wastewater Treatment</li> <li>• <b>Biodegradation &amp; Solid Waste Mgt</b></li> <li>9. Microbial Composition of Various Soil Environments - Completion</li> <li>• <b>Pollution Remediation</b></li> <li>3. Bioremediation of Oil Spill - Set Up</li> <li>6. Bioremediation of an Industrial Pollutant - Set Up</li> </ul> | Lab & outside |
| 12     | 4/11 | 4/12 | <ul style="list-style-type: none"> <li>• <b>Sustainability</b></li> <li>1. Green Building Field Trip - <i>modified to on-campus only</i></li> <li>• <b>Atmosphere Issues</b></li> <li>1. Air Quality - Particulates - Set Up</li> <li>5. Air Quality - Detecting Atmospheric Gases</li> <li>• <b>Formal Lab Report Electronic Submission Due (by beginning of lab class)</b></li> </ul>               | Lab & outside |
| 13     | 4/18 | 4/19 | <ul style="list-style-type: none"> <li>• <b>Pollution Remediation</b></li> <li>4. Bioremediation of Oil Spill - Monitoring</li> <li>7. Bioremediation of an Industrial Pollutant - Monitoring</li> <li>• <b>Atmosphere Issues</b></li> <li>4. Air Quality - Acid Rain</li> </ul>  | Lab           |
| 14     | 4/25 | 4/26 | <ul style="list-style-type: none"> <li>• <b>Biodegradation &amp; Solid Waste Mgt</b></li> <li>3. Biodegradation - Completion</li> <li>5. Simulated Landfill - Completion</li> <li>• <b>Atmosphere Issues</b></li> <li>2. Air Quality - Particulates - Completion</li> <li>12. Ozone Depletion - Effect of UV Radiation on Cells - Set Up</li> </ul>   | Lab & outside |

Lab Schedule - continued

| Week # | Mon | Tue | Lab Exercises/Activities  | Location |
|--------|-----|-----|---|----------|
| 15     | 5/2 | 5/3 | <ul style="list-style-type: none"> <li>• <b>Pollution Remediation</b></li> <li>5. Bioremediation of Oil Spill - Completion</li> <li>8. Bioremediation of an Industrial Pollutant - Completion</li> <li>• <b>Atmosphere Issues</b></li> <li>8. Global Warming - CO<sub>2</sub> - An Efficient Greenhouse Gas</li> <li>13. Ozone Depletion - Effect of UV Radiation on Cells - Completion</li> <li>• <b>Graded Formal Lab Report Available to Students</b></li> </ul> | Lab      |