

# ISP 203L: Geology and the Human Environment – Spring 2020

## PURPOSE OF LAB

The ISP 203L laboratory is designed to introduce you to strategies that we can use to understand the world around us. We have focused this lab on the Red Cedar River (RCR) to provide you with a better understanding of your local environment. These labs should provide you with a hands-on basis for understanding the scientific process in a local context.

## ISP 203L Goals\*

By the end of the course, students will be:

1. Knowledgeable of **physical, chemical, and biological** attributes of watersheds that contribute to the ecological integrity of the ecosystem. Students should be able to **apply** this knowledge in contexts outside of the RCR. (Aligned with University goals #1 and 3 and CISGS goals #1 and 3)
2. Capable of conducting a scientific investigation. You will be **collecting** and **analyzing** data throughout the semester. Additionally, you will be **developing** and **testing** hypotheses pertaining to the RCR on multiple occasions. (Aligned with University goals # 1 and 3 and CISGS goals # 1, 2, and 3)
3. Communicate evidence based results. You will individually **document** and both **create** and **present** a scientific investigation. (Aligned with University goals # 1, 2 and 3 and CISGS goals # 1, 2, and 3)

\*(Please see MSU Institutional and CISGS learning goals below)

## MSU institutional Learning Goals

### 1. Analytical Thinking

The MSU graduate uses ways of knowing from mathematics, natural sciences, social sciences, humanities, and arts to access information and critically analyzes complex material in order to evaluate evidence, construct reasoned arguments, and communicate inferences and conclusions

- a. Acquires, analyzes, and evaluates information from multiple sources
- b. Identifies and applies, as appropriate, quantitative methods for defining and responding to problems

### 2. Effective Communication

The MSU graduate uses a variety of media to communicate effectively with diverse audiences

- a. Identifies how contexts affect communication strategies and practices
- b. Engages in effective communication practices in a variety of situations and with a variety of media

### 3. Integrated Reasoning

The MSU graduate integrates discipline-based knowledge to make informed decisions that reflect humane social, ethical, and aesthetic values

- a. Uses a variety of inquiry strategies incorporating multiple views to make value judgments, solve problems, answer questions, and generate new understandings

## **Goals for Student Learning in Integrative Studies-General Science (CISGS)**

All ISB/ISP courses are a mixture of thematic and disciplinary approaches to knowledge of the physical and biological sciences. Completion of the required curricula will lead to the following competencies:

1. **Scientific Knowledge:** Students will be able to describe some of the major concepts in science and be able to use them to explain important natural phenomena.
2. **Scientific Practice:** Students will be able to discriminate between ideas that do and do not constitute proper subjects for science, give examples of how scientific understanding itself constantly evolves, and be able to use scientific approaches to solving problems in the natural world.
3. **Scientific Appreciation:** Students will hopefully learn to value the efforts of physical and biological scientists as they continue to address practical needs and continue research into matters of fundamental and lasting importance.

## **STRUCTURE OF LAB**

You will be working in groups with 3-5 other students. All laboratory work will be completed as a group, while **all assignments will be completed individually**. Please do not remove materials from your lab room unless told to do so by your instructor. **Come prepared – you are expected to wear appropriate shoes and clothing for working out of doors.**

Contact your instructor if you have any questions about the lab, absences from lab, or grades.

Instructor Name: \_\_\_\_\_

Instructor Office Hours: \_\_\_\_\_

Instructor Email: \_\_\_\_\_

Contact the ISP 203L **Laboratory Director** if you have any questions about the program or if you have any suggestions for the lab:

**Oswaldo Hernandez**

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118 North Kedzie Hall

## **Grading Policy:**

This laboratory is a **stand-alone course**. Your grade will be calculated based upon on-time completion of individual and group assignments. You will **INDIVIDUALLY** complete pre-lab assignments, post-lab assignments, and a scientific investigation (individual project). **All**

assignments **MUST be completed on time and submitted as a PDF**. You will receive **zero points** for late assignments and for assignments not submitted as a PDF. **Assignments will NOT be accepted for labs you failed to attend.**

Assignment	Points
Pre-lab (14 @ 5 points each)	70
Post-lab (14 @ 10 points each)	140
Project Proposal	40
Individual Project	100
Exams (midterm / final)	(50 / 90)

## GRADING SCALE

GPA	Minimum %	GPA	Minimum %
4.0	90	2.0	70
3.5	85	1.5	65
3.0	80	1.0	60
2.5	75	0.0	<60

## LABORATORY POLICIES

### Attendance Policy:

**Laboratory attendance is mandatory.** Assignments will **NOT** be accepted for labs you failed to attend. You must attend the section for which you are officially enrolled. A 0.0 grade will be issued for the lab or the entire course if you attend the wrong section without informing your Instructor as well as the Lab Coordinator. In the event of a missed lab due to grief, a Grief Request Form can be found in the RO home page (<https://reg.msu.edu/>).

### Late Policy:

**NO LATE ASSIGNMENTS WILL BE ACCEPTED.** Assignments must be submitted over DESIRE TO LEARN. Assignments are due by class time for the section you are enrolled. You must see the Laboratory Director **BEFORE** the INDIVIDUAL project due date if you have a conflict. **Students arriving 10 minutes after the start of class will be considered LATE and their prelab will NOT be accepted. Students arriving 20 minutes after the start of class will be considered ABSENT and neither prelab nor postlab will be accepted.**

### Make-Up Labs:

Make-up labs will **ONLY** be offered under special circumstances and with approval of your instructor. Make-up labs will only be offered for special cases of DOCUMENTED illness, accident, or other emergency. You must complete a **Request for a Make-Up Lab** (found in your lab documents folder on D2L) to schedule a make-up lab. This request must be accompanied by **appropriate documentation** of illness, accident, or other emergency situation. This form must be turned in to your instructor via email **prior to your NEXT**

**scheduled lab.** All reasons for make-up requests will be kept strictly confidential. Your instructor will notify you of a scheduled make-up via email.

### **Academic Integrity:**

Each week, you are responsible for completing a pre-lab assignment. Completion of these pre-labs is ABSOLUTELY essential for participation in the lab itself. All pre-lab, post-lab, and project assignments must be completed **ON YOUR OWN AND IN YOUR OWN WORDS**. The university policy on academic integrity will be followed when dealing with such issues in class. Please don't present someone else's work as your own; it makes everyone unhappy!

Definition of Academic Integrity:

<https://www.msu.edu/~ombud/academic-integrity/What%20is%20Academic%20Integrity.html>

<https://ombud.msu.edu/academic-integrity/Academic%20Integrity%20at%20MSU.pdf>

Plagiarism Policy:

<https://www.msu.edu/~ombud/academic-integrity/plagiarism-policy.html>

### **Online SIRS:**

Michigan State University takes seriously the opinion of students in the evaluation of the effectiveness of instruction and has implemented the SIRS (Student Instructional Rating System) process to gather student feedback. This course utilizes the "online SIRS" system; this approach is being used to reduce paper waste. You will receive an email sometime during the last two weeks of class asking you to fill out the SIRS online form at your convenience. Please note the final grade for this course will not be accessible on STUINFO during the week following the submission of grades for this course unless the SIRS online form has been filled out. You will have the option on the online SIRS form to decline to participate in the evaluation of the course - we hope, however, that you will be willing to give us your frank and constructive feedback so that we may instruct students even better in the future.

### **Laptops and Electronic Devices:**

Electronic devices such as tablets and laptops should only be used during instructor approved times during class. You will be using Excel throughout the semester. Excel software is available to all MSU students via the following link ([Office 365 software](#)). Be sure to install the software **INSTEAD of the Excel App**.

### **Programmatic Assessment**

This course is being evaluated as part of a program assessment. Program assessment provides information about student ideas, attitudes, and behaviors and will be a baseline for future assessment of student learning. Your participation is inherent in your enrollment in this course, although you can request via your course instructor, without penalty, that your course work will be included only in MSU internal reporting documents but not in

external dissemination. Otherwise, by participating in this course, you are acknowledging that any course-related material collected can be used anonymously in research publications and presentations. For further information about this study, please contact Dr. Claudia Vergara at [vergara@msu.edu](mailto:vergara@msu.edu) or MSU's IRB at [irb@msu.edu](mailto:irb@msu.edu).

## Final Exams

Final Exams are scheduled during your regularly scheduled lab meeting time during finals week ([course schedules](#)).

**Please see your instructor as soon as possible if you have any disabilities that may need special accommodation.**

## ASSIGNMENT DUE DATES:

- Your first assignments, **Lab 1: Pre-lab and Post-lab**, are to be completed during lab one.
- REMINDER: No late assignments will be accepted.** Assignments must be submitted over DESIRE TO LEARN. Assignments are due by class time for the section you are

## LAB SCHEDULE - Lab schedule is tentative and may change due to weather

Dates	Topic
Jan 7 - 9	LAB 1: Intro / Great Fossil Find
Jan 14 - 16	LAB 2: Observing the RCR
Jan 21 - 23	LAB 3: Project Brainstorm
Jan 28 - 30	LAB 4: Measuring / Data <b>Project Proposal Section I due (10pt)</b>
Feb 4 - 6	LAB 5: Excel
Feb 11 - 13	LAB 6: Soil Texture and Permeability
Feb 18 - 20	LAB 7: Sediment of the RCR <b>Project Proposal Section I revision and III due (15pt)</b>
Feb 25 - 27	<b>Midterm</b>
March 3 - 5	<b>SPRING BREAK: NO LABS</b>
March 10 - 12	LAB 8: Macroinvertebrates of the RCR
March 17 - 19	LAB 9: Technical Standards Bioassay I <b>Project Proposal Sections I, III revisions and section II due (25pt)</b>
March 24 - 26	LAB 10: Technical Standards Bioassay II
March 31 - April 2	LAB 11: Riparian Zones <b>Project Proposal Sections I, II, and III final revisions due</b>
April 7 - 9	LAB 12: TBD
April 14 - 16	LAB 13: Project Workday
April 21 - 23	Lab 14: Individual Project Presentations
April 28 - 30	Final Exams

## **COURSE ADJUSTMENTS FOR ONLINE LEARNING DUE TO COVID-19 IMPLEMENTED MID-MARCH 2020**

### **Meetings:**

We will no longer have face to face meetings for the remainder of the semester. We will be required to access course content via D2L and Zoom platforms.

Last week (March 10-12), before the announcement to cancel face to face meetings, some students attended lab 8. After the announcement, we cancelled labs for the remainder of the week and students were unable to complete lab 8. We will rename this as lab 08a. If you already attended last week (Sections 1-12) you do not have to attend this week.

This week (March 17-19) will be named lab 08b and will allow students to catch up and ALL be on the same schedule. Materials for lab 08b will be posted asap.

**D2L** will still be our primary means of disseminating information, assignments (pre and post labs), and dropboxes. Additionally, we will provide links to Zoom office hours and lab sessions via D2L.

**Zoom links** will be available by lab section number. You will only be able to access sections for which you are enrolled. Instructors will be available on Zoom during your regularly scheduled lab sections and during their designated office hours. Office hours and instructor contact information is available under the "Lab Documents" folder on D2L.

Email is still an available means of communication with your instructor. Instructor contact information is available under the "Lab Documents" folder on D2L.

### **Schedule and Due Dates:**

We will need to adjust the lab schedule as well as due dates for proposals and project presentations as indicated on the "Lab Schedule Addendum" posted to D2L under the "Lab Documents" folder.

### **Project Proposals:**

Proposal **deadlines** have been delayed by 1 week to accommodate disruption due to the online transition. The new due dates are reflected in the "Lab Schedule Addendum" posted to D2L under the "Lab Documents" folder.

If your proposal **topic** is location based (Red Cedar River, MSU student body, MSU neighborhoods, etc.), counter to social distancing (interviews, interactions, etc.), or somehow presented with new challenges and unlikely to be completed, contact your laboratory instructor ASAP. Instructor contact information is available under the "Lab Documents" folder on D2L.

### **Grades:**

Grade calculations will need to be adjusted. We plan to decrease the number of pre and post labs due from 14 to 12. The individual project point value will decrease from 100 points to 80 points.

Finally, we will no longer require a final exam. In place of the final exam **time** we will have the post assessment or part II of the quantitative literacy assessment we took during lab 3. Completion of BOTH the pre and post quantitative literacy assessment is still worth 15 extra credit points.

<b>Original</b> Grade categories / Assignments	<b>Points</b>
Pre-lab (14 @ 5 points each)	70
Post-labs (14 @ 10 points each)	140
Project Proposal	40
Individual Project	100
Exams (midterm / final)	(50 / 90)

<b>Revised</b> Grade categories / Assignments	<b>Points</b>
Pre-lab (12 @ 5 points each)	60
Post-labs (12 @ 10 points each)	120
Project Proposal	40
Individual Project	80
Exams (midterm)	50

### **COVID-19 LAB SCHEDULE UPDATE**

<b>Dates</b>	<b>“Tentative” Lab</b>
March 10-12	Lab 8a: Technical Standards Bioassay I
March 17-19	Lab 8b: Technical Standards Bioassay I (continued for students unable to attend lab the previous week)
March 24-26	Lab 9: Technical Standards Bioassay II  <b>Project Proposal Sections I, III revisions and section II due (25 pts)</b>
March 31 – April 2	Lab 10: Project Workday I
April 7-9	Lab 11: Project Workday II  <b>Project Proposal Sections I, II, and III final revisions due</b>
April 14-16	Lab 12: Project Workday III
April 21-23	Lab 13: Individual Projects Due Assessments released for 1 week
April 28-30	Assessments Week – Complete Assessment Released Last Week