Physical Geography Laboratory (Geo 206L) Fall 2011
Room 201 Geography Building

Section 001: Monday 10:20am – 12:10pm
Section 002: Wednesday 10:20am – 12:10pm
Section 003: Tuesday 7:00pm – 8:50pm

Prerequisite: Geo 206 or Geo 206 concurrently
Instructor: Bradley Miller
Office: Rm. 19 Geography Building (basement)
Phone: (517) 432-1844, E-mail: bamiller@msu.edu
Office hours: Tuesday 5-6:50pm (office) or Friday 4-5pm (lab)
Also by appointment.

Supervisor: Dr. Randy Schaetzl
128 Geography Building
soils@msu.edu; 353-7726

You are required to bring your course pack to each class. Course packs are available at the Student Book Store (SBS).

Objectives: This course is designed to introduce you to several topics in the field of physical geography. The course does not follow a lecture format; main ideas and topics are developed through classroom interaction and completion of weekly exercises.

Lab Exercises: There are 13 labs. Answers to exercise questions may be solved individually or as a group (2-4 people); however, you are each responsible for submitting your own completed lab in order to develop an understanding of the topic covered.

Each student is expected to read the introduction to each lab exercise BEFORE coming to that session.

Beyond correct answers, coming to class on-time, and answering questions in complete, concise sentences with thorough explanations (when necessary) will affect your grade.

Lab 8 involves writing a formal lab report, rather than just answering questions. More instructions will be given as to how to write a formal lab report in the prior weeks leading up to the lab.

Lab assignments are due at the start of the following week’s lab. Late labs will not be accepted for full credit, and will be marked down 50%, in addition to points subtracted during grading. Labs that are handed in two weeks late will receive a grade of zero. If you know you will miss a lab period for a documented reason, please notify me ahead of time via email or phone.
Field Trips:
Lab 8 – the class will meet at the Geography Building (in room 201) as usual, but from there walk across Bogue St. to an old-growth forest known as the Sanford Natural Area. There, the class will conduct some vegetation sampling exercises. **Be sure to wear walking shoes and weather-appropriate clothing to this lab.**

Lab 13 – involves a field trip to the Red Cedar Natural Area. Please meet at the Red Cedar Natural Area at the labs normal time and DO NOT be late.

The *Red Cedar Natural Area* is situated along the east side of the Red Cedar River, south of Kalamazoo St. approximately one half mile west of Harrison Rd. If you need to park, there is a paved lot located on the south side of Kalamazoo St. just west of the bridge.

Dress for the weather. Because it will be in April, wear long pants, boots, hats, gloves, etc. Site location and lab details will be discussed in the weeks prior to the lab.

Exams:
During the semester there will be two exams – a midterm and a final during exam week. Each exam is worth 100 points each. The format will be fill-in-the-blank, multiple-choice, matching, essay, etc. The final exam is **not** comprehensive, although many concepts are related throughout the course.

General Rules:
Three rules:

1) Arrive to class on time.

2) Participate and strive to learn.

3) If you don’t understand something, **ASK** questions!

Number three is particularly important. A great way to learn new material is by asking questions, whatever they may be. Chances are good that others in the class have the same question, so do yourself and others a favor by asking!

**Cheating will not be tolerated. Although group work is allowed and encouraged on the labs, anyone caught cheating on an exam or plagiarizing an assignment will receive a zero.**

Other Information:
Any student with a documented disability should contact the Resource Center for Persons with Disabilities (353-9642, rcpd@msu.edu) as soon as possible after the start of the semester in order to develop reasonable accommodations. Please let me know if you have any special requirements of which I should be aware.

Grading:
There will be 13 labs, 1 written report, and 2 exams. Final grades will be computed as a percentage of points earned out of a total 600 available points. Grades will be based on the following distribution:
### Grading:
- 13 Laboratory exercises: 350 points
- Laboratory 8 report: 50 points
- 2 Exams: 200 points (100 points each)
- **Total:** 600 points

Grades will be determined using the following scale:

- 92-100% = 4.0
- 70-78% = 2.0
- 88-92% = 3.5
- 65-70% = 1.5
- 82-88% = 3.0
- 60-64% = 1.0
- 78-82% = 2.5
- < 60% = 0.0

### Disclaimer:
Announcements in class take precedence over the syllabus.

### Course Schedule & Please Note:
Lab numbers DO NOT match up with the order the labs are completed.

<table>
<thead>
<tr>
<th>LAB TOPIC</th>
<th>Week of</th>
<th>Readings BEFORE class (pages)</th>
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<tbody>
<tr>
<td>Introductions</td>
<td></td>
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<tr>
<td>Lab 1: Map Interpretation and Analysis</td>
<td>Aug. 31</td>
<td>5-8</td>
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<tr>
<td><strong>Labor Day, Classes Cancelled on Monday</strong></td>
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<tr>
<td>Section 2 &amp; 3 will meet this week to do lab 1</td>
<td>Sept. 5</td>
<td>No class for section 1</td>
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<tr>
<td>Lab 2: Reading and Interpreting Topographic Maps</td>
<td>Sept. 12</td>
<td>15-22</td>
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<td>Lab 3: Digital Map Interpretation and Analysis</td>
<td>Sept. 19</td>
<td>47-49</td>
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<td>Lab 4: Climates of the World (Part 1)</td>
<td>Sept. 26</td>
<td>65-72</td>
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<tr>
<td>Lab 5: Climates of the World (Part 2)</td>
<td>Oct. 3</td>
<td>85-90</td>
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<tr>
<td>Lab 6: Biomes of the World</td>
<td>Oct. 10</td>
<td>103-105</td>
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<td><strong>Midterm Exam</strong> Covers Labs 1-6</td>
<td>Oct. 17</td>
<td><strong>Study!</strong></td>
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<tr>
<td>Lab 7: Seed Dispersal Mechanisms and Plant Succession</td>
<td>Oct. 24</td>
<td>115-116</td>
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<tr>
<td>(Part 1)</td>
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<tr>
<td>Lab 8: Seed Dispersal Mechanisms and Plant Succession</td>
<td>Oct. 31</td>
<td>131-132</td>
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<td>(Part 2): <strong>Field Trip</strong></td>
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<td>Lab 9: Describing and Characterizing Soils</td>
<td>Nov. 7</td>
<td>137-142</td>
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<td>Lab 10: Geomorphic Processes and Landforms: Rivers</td>
<td>Nov. 14</td>
<td>155-160</td>
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<td>Lab 13: <strong>Field Trip</strong> to the Red Cedar River Area</td>
<td>Nov. 21</td>
<td>205</td>
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<td>Lab 11: Geomorphic Processes and Landforms: Glaciers</td>
<td>Nov. 28</td>
<td>173-180</td>
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<tr>
<td>Lab 12: Geomorphic Processes and Landforms: Wind</td>
<td>Dec. 5</td>
<td>190-198</td>
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<td>Final Exam in 201 Geography, tentative schedule:</td>
<td>Dec. 12</td>
<td><strong>Study!</strong></td>
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<td>Section 1 and 2: Thursday, Dec. 15th, 10am-noon</td>
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<td>Section 3: Tuesday, December 13th, 8-10pm</td>
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Useful Readings:


In addition too, any basic book on physical geography from the MSU library or an online retailer.

Key Terms and Concepts

Terms

**Relief** - The variations in elevation of an area of the earth's surface.

**Gradient** - The rate of inclination, or slope.

Concepts:

**Unit Conversions**

Conversion factors allow you to convert between different units of measurement. Certain simple conversion factors should be memorized, such as:

- $2.54 \text{ cm} = 1 \text{ inch}$
- $5280 \text{ feet} = 1 \text{ mile}$
- $100 \text{ cm} = 1 \text{ m}$
- $1000 \text{ m} = 1 \text{ km}$

If you memorize these simple unit conversions, then you can easily convert between more complicated units simply by multiplying by multiplying by the number 1. The key is to use a form of the number 1 that directs you towards the unit you are trying to achieve. For example, you know that $60 \text{ minutes} = 1 \text{ hour}$, so

\[
\frac{60 \text{ minutes}}{1 \text{ hour}} = 1
\]

It is possible to chain these conversion factors together to do more complicated conversions. The key is to make sure that units cancel each other out. For example, to convert 60 feet to centimeters, you would do the following....

\[
60 \text{ feet} \times \frac{12 \text{ inches}}{1 \text{ foot}} \times \frac{2.54 \text{ cm}}{1 \text{ inch}} = 1829 \text{ centimeters}
\]

You can see that the units cancel out in this conversion.

\[
60 \text{ feet} \times \frac{12 \text{ inches}}{1 \text{ foot}} \times \frac{2.54 \text{ cm}}{1 \text{ inch}} = 1829 \text{ centimeters}
\]