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GEOG 102N.01: Introduction to Physical Geography

Eric Edlund

University of Montana - Missoula

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**Geography 102N: Introduction to Physical Geography
Fall, 2002**

Lectures: Monday-Wednesday-Friday 12:10-1:00
Lecture Hall: Social Sciences Building 356
Website: <http://www.umt.edu/geograph/edlund/g102/>

Instructor: Eric Edlund
Office Hours: T 1:00-3:00, W 1:00-3:00 or by appointment
Office/Phone: Social Sciences Building 207 / 243-6126
email: edlund@selway.umt.edu

Course Assistant: Elizabeth Hartsoch
Office: SS 215
Geog Dept Phone: 243-4302

REQUIRED TEXT: Strahler & Strahler, 2002, *Physical Geography: Science and Systems of the Human Environment* (2nd edition including GeoDiscoveries CD)

Additional readings will be announced in class and accessible through the course website.

Course Description

This course provides an introduction to physical geography: the study of the Earth's natural environments. The course begins with the principles and mechanisms of climate and weather, and then examines vegetation and ecosystems on global and regional scales. Throughout the course we use specific regional examples to illustrate and understand global processes. We give special attention to global environmental problems such as "greenhouse" warming and climatic change, the stratospheric ozone layer, tropical storms and other extreme weather events, and the El Niño/La Niña oceanic-atmospheric circulation pattern. The course is designed to be both challenging and interesting. It provides essential background for further study in meteorology, climatology, hydrology, ecology, and biogeography.

Discussion Sections

The assistant instructor for this class is Elizabeth Hartsoch, a Geography graduate student with a background in biology and previous experience with Geography 102. She will conduct a weekly discussion section dedicated to problem solving, clarification of challenging concepts, and work on the problem sets (see below). The discussion sections will meet for one hour at the following times (choose the one-hour timeslot that works best for you):

Monday	11:10 a.m. – noon
Wednesday	6:00 – 7:00 p.m.
Thursday	9:10 – 10:00 a.m.

All sections meet in Social Sciences 262 (Geography Colloquium Room). Attendance is optional but strongly encouraged.

Grading

Problem Sets: There will be six assignments during the course of the semester, each distributed approximately two weeks before its due date. Due dates are firm. Late assignments will be penalized 10% each class period following the due date. There are no makeup problem sets, but you may drop your lowest problem set score—in other words, your final problem set grade will be based on your five (5) highest problem set scores. Attend the optional discussion section for assistance on the assignments. The problem sets count 30% of your course grade.

Exams: The two mid-term exams (weeks 5 and 10) each count for 20% of your course grade; the final exam counts for 30% of your course grade. The final exam is cumulative but primarily focused on the last third of the course. Exams consist of multiple choice and short answer questions; the final exam will also have map-based questions. Examples from previous years' Geography 102 classes will be posted on the class website.

Makeup Exams: None. A student who misses one midterm exam for a documented medical or other legitimate reason may have her/his remaining exam(s) in the course weighted proportionately higher to compensate for the missed score.

Extra Credit: Extra credit assignments will be offered occasionally during the semester; some of these assignments will be announced in advance, and others will be offered only during a single day's class or week's discussion sections. Other than the assignments offered by the instructors, there will be no extra credit opportunities in this class. The official extra credit assignments may add a total of up to 7% to your total grade.

Final Grades: The final grades will not be "curved." After the final exam, grades will be assigned based on each student's point total as a percentage of the total possible problem set, midterm, and final exam points, as follows:

85% and above	A
75% and above	B
65% and above	C
50% and above	D
below 50%	F.

P/NP Grades: For students taking the course on a P/NP (pass/not pass) basis, a grade of "C" or better is a passing grade (P). A grade of "D" or "F" is a non-passing grade (NP).

Assistance and Study Habits

This course covers a wide range of material. The course instructor and teaching assistant will try to provide as much help as you seek. However, **you** are responsible for studying as much as it takes to learn the material. Here are our comments and recommendations regarding "study habits":

- You should spend **about two hours studying for each class meeting**, with additional time spent preparing for tests and completing exercises. Lectures will make more sense if you have completed the text readings on the topics beforehand!
- The textbook and the lectures are designed to complement one another—you can't choose one or the other.
- The class web site should be used only to supplement your class notes. If you miss a

lecture, you should arrange to get a copy of that day's notes from a colleague in the class.

- The **GeoDiscoveries CD** has several modules that we believe are valuable complements to the textbook. Edlund and Hartsoch will refer to these modules in class and discussion sections.
- Most importantly (based on our statistical analysis of students' performance in previous years' classes), you should take advantage of the optional **discussion sections**.

Best wishes for a great semester!

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 Assistant Instructor: Elizabeth Hartsoch
 Textbook: Strahler & Strahler, 2002, *Physical Geography: Science and Systems of the Human Environment* (2nd edition with *GeoDiscoveries* CD)
 Website: <http://www.umt.edu/geograph/edlund/g102>

COURSE SCHEDULE

Day	Date	Lecture Topic	Reading	Exercise Due
W	4-Sep	Introduction; scope of course	Chap. 1-2	
F	6-Sep	Size & shape of earth; measurement, lat-long	Chap. 3	
M	9-Sep	Maps and projections	Chap. 3	
W	11-Sep	Earth & sun; axial tilt, seasonality	Chap. 3	
F	13-Sep	EM radiation, global energy balance	Chap. 4	
M	16-Sep	Insolation: land/ocean; sensible/latent heat	Chap. 4	
W	18-Sep	Structure and composition of atmosphere	Chap. 4-5	
F	20-Sep	Stratospheric Ozone	Chap. 4	<i>Lat-long, sun angle</i>
M	23-Sep	"Greenhouse Effect"	Chap. 4-5	
W	25-Sep	Radiation Balance	Chap. 5	
F	27-Sep	Temperature	Chap. 5	
M	30-Sep	Global/regional patterns of temperature	Chap. 5	
W	2-Oct	Global climate change	Chap. 5	
F	4-Oct	MIDTERM 1	-	<i>Temperature, isotherms</i>
M	7-Oct	Humidity, precipitation	Chap. 6	
W	9-Oct	Clouds; air pollution	Chap. 6	
F	11-Oct	Temperature & air pressure	Chap. 7	
M	14-Oct	Pressure gradient, "Coriolis Effect", friction	Chap. 7	
W	16-Oct	General circulation of atmosphere and oceans	Chap. 7	
F	18-Oct	Pacific Ocean, El Niño Southern Oscillation	Chap. 7	<i>Adiabatic processes, general circulation</i>
M	21-Oct	Air masses & fronts	Chap. 8	
W	23-Oct	Tropical cyclones	Chap. 8	
F	25-Oct	Wave (mid-latitude) cyclones	Chap. 8	

Day	Date	Lecture Topic	Reading	Exercise Due
M	28-Oct	Severe storms	Chap. 8	
W	30-Oct	Hydrologic processes	Chap. 16 (floods)	
F	1-Nov	Snow, avalanches	handout	<i>Weather maps</i>
M	4-Nov	MIDTERM 2	-	
W	6-Nov	Climate classification, global climates	Chap. 9	
F	8-Nov	Principles of Ecology	Chap. 23, handout	
M	11-Nov	Veterans Day (no lecture)	-	
W	13-Nov	Tropical rainforest climates & environments	Chap. 10, 24	
F	15-Nov	Tropical rainforests (cont'd)	Chap. 10, 24	
M	18-Nov	Tropical savannas	Chap. 10, 24	
W	20-Nov	Desert processes and lifeforms	Chap. 10-11, 24	
F	22-Nov	Deserts (cont'd)	handout	<i>Global ecosystems I</i>
M	25-Nov	Mediterranean (summer-dry) environments	Chap. 11	
W	27-Nov	Wednesday before Thanksgiving (no lecture)	-	
F	29-Nov	Thanksgiving Holiday (no lecture)	-	
M	2-Dec	Midlatitude forests and grasslands	Chap. 11, 24	
W	4-Dec	High latitude/high altitude forests, tundra	Chap. 11, 24	
F	6-Dec	Paleoclimatology & global change	Chap. 20	<i>Global ecosystems II</i>
M	9-Dec	Evolutionary ecology	handout	
W	11-Dec	Island biogeography & biodiversity	handout	
F	13-Dec	Open session	-	
W	18-Dec	FINAL EXAM, 8:00-10:00am	-	

Dates to Remember

R	5-Sep	Finalize registration by this date to avoid an extra \$40 fee
M	23-Sep	Last day to add/drop on CyberBear (full fee refund for drop)
M	14-Oct	Last day to drop (need signatures on paper form, no fee refund)
M	14-Oct	Last day to change grading option (P/NP to letter grade or vice versa)
M	4-Nov	Begin CyberBear registration for Spring 2003