ESC 101 (Earth Environments) 4 credits

Fall semester, 2012

Instructor: Ryan L. Perroy (rperroy@uwlax.edu), 2022 Cowley, tel: 785-8334
Office Hours: 1-3 PM Wednesday, 9-11 Thursday, or by appointment
Lecture: MWF 8:50-9:45 am, 1400 Centennial Hall
Laboratory: Mondays 9:55-11:55 (**J. Kueny**), 1:10-3:10, or 3:20-5:20, 256 or 204 Cowley Hall, or outside

Tutor: Ben Stanek, Murphy Learning Center (Room 256, Murphy Library)
Tutor Hours: Tues. 6:30-9:00 PM; Thurs. 4:30-7:00 PM

Course Objectives:
ESC 101 is designed to provide a comprehensive introduction to physical geography, focusing on those aspects that create and modify the Earth's surface. We will touch upon a wide variety of subjects including geology, hydrology, geomorphology, pedology, and biogeography, examining how they interrelate with human activities in the larger functioning of the planet. The greater aim of the class is to produce a scientifically literate population that is "sufficiently knowledgeable about scientific facts and applications to make skilled decisions concerning their use in addressing society's problems".
Specific learning objectives include: understanding and applying the scientific method, synthesizing and analyzing information and data, numerical analysis, and basic problem solving. Weekly labs will provide an opportunity to apply and expand upon material presented in lecture through hands-on and computer (including The Math You Need (TMYN), Excel, and Google Earth) exercises. The knowledge and experience gained from this course will prove useful for future work in many different fields relating to the environment, agriculture, engineering, and the natural sciences.

Required Materials:
-*Introducing Physical Geography,* (5th edition), by Alan Strahler (available from textbook rental)
-iClicker handset (available from textbook rental)
-*Laboratory handouts* (provided), hand-held calculator (not a phone), internet connection at home or school

Grades will be determined as follows:

Mid-term exams (3)	30%
Final exam	20%
Laboratory quizzes (4)	20%
TMYN quizzes	5%
Laboratory online exercises	10%
Lecture quizzes (best 10)	10%
Participation	5%

Letter grade break-down:
A = 93 - 100% A/B = 89 - 92% B = 83 - 88% B/C = 79 - 82% C = 70 - 78% D = 60 - 69%

Class Procedures:
This course is wide-ranging and comprehensive, therefore timely reading and completion of assigned material will be very helpful. Lectures will generally follow the text material but will also bring in outside materials. All assigned readings will be considered fair-game for tests, even if not directly covered in lecture.

Questions are **welcome** and **encouraged** at any time. Students that actively engage and ask questions typically significantly outperform students that do not. Lecture quizzes are generally unannounced and may be conducted via iClicker. Exams are scheduled in advance: no make-ups will be given without prior permission. All **cell phones, laptops**, and **other electronic devices** must be turned off during class. To avoid penalty for absences due to illness or other emergencies, students must inform me ASAP via e-mail.

Laboratory Section: ESC101 labs provide an opportunity to work though the material presented in lecture in a more active and 'hands on' environment. Attendance, participation, and comprehension of the lab materials are required to succeed in this class. Lab activities may be held outside, in the lab room (Cowley 256), or in the computer lab (Cowley 204). Following each week's lab, you will complete a 'laboratory online exercise' on D2L. This weekly D2L exercise will test your understanding of the material and must be answered and submitted by 5 pm the Friday following lab. In addition, for four of the lab sessions there will be a preparatory TMYN online exercise (see lab schedule and D2L content tab for details). These TMYN exercises must be done BEFORE their respective lab sessions and can be attempted an infinite number of times. There will also be four lab quizzes given over the course of the semester to directly gauge your understanding of the lab materials (see class schedule for dates). *Always bring your calculator and textbook to lab.*

EcoExplorer Mississippi River Cruise: There will be a mandatory 1.5 hour cruise (outside of class) on the Mississippi River that students must attend, see D2L site for times and sign-up details.

Plagarism/Academic misconduct:
Academic misconduct is unacceptable and a violation of the UW-L student honor code: http://www.uwlax.edu/records/UGCat/Regulations/Disciplinary.htm.
All work handed in for this class must be the students' own individual work. Plagiarism or cheating in any form may result in failure of the assignment or exam, failure of the course, and may include harsher sanctions. Refer to the Eagle Eye at http://www.uwlax.edu/StudentLife/academic_misconduct.htm#14.03 for a detailed definition of academic misconduct. For helpful information on how to avoid plagiarism, go to http://www.uwlax.edu/murphylibrary/research/plagiarism.html. You may also visit the Office of Student Life if you have questions about plagiarism or cheating incidents. I encourage you to discuss any concerns regarding plagiarism or cheating with me directly and well before any assignments are handed in. Failure to understand what constitutes plagiarism or cheating is not a valid excuse for engaging in academic misconduct.

Students with disabilities
Any student with a documented disability (e.g., physical, learning, psychiatric, vision, or hearing, etc.) who needs to arrange reasonable accommodations must contact the instructor and the Disability Resource Services office (165 Murphy Library, 785-6900) at the beginning of the semester. Students who are currently using the Disability Resource Services office will have a copy of a contract that verifies they are qualified students with disabilities who have documentation on file in the Disability Resource Services office. It is the student's responsibility to communicate their needs with the instructor in a timely manner.

Saving student work
I save student work for 2 weeks into the new semester and then recycle it.

TENTATIVE SCHEDULE (subject to change)

Day	Date	Subject	Suggested Readings
W	9/5/2012	Intro & Basics	Ch 1
F	9/7/2012	Origin of the Earth	Chpt. 11
M	9/10/2012	Geologic Time	Chpt. 11
M	9/10/2012	Lab 1: Dating & Geographic Concepts	TMYN Plotting
W	9/12/2012	Structure of the Earth	Chpt. 11
F	9/14/2012	Geologic Principles	Chpt. 11
M	9/17/2012	Rock cycle & Rock types	Chpt. 11
M	9/17/2012	Lab 2: Rocks & Minerals	
W	9/19/2012	Plate tectonics	Chpt. 11

F	9/21/2012	Earthquakes & Volcanoes 1	Chpt. 12
M	9/24/2012	Earthquakes & Volcanoes 2	Chpt. 12
M	9/24/2012	Lab 3: Tectonics	TMYN Rates
W	9/26/2012	*Review session for Midterm 1*	
F	9/28/2012	**MIDTERM 1**	
M	10/1/2012	Weathering Processes 1	Chpt. 13
M	10/1/2012	Lab 4: Weathering/Maps	TMYN Slope & Topo
W	10/3/2012	Weathering Processes 2	Chpt. 13
F	10/5/2012	Soils 1	Chpt. 10
M	10/8/2012	Soils 2	Chpt. 10
M	10/8/2012	Lab 5: Soils, **Lab QUIZ 1**	
W	10/10/2012	Soils 3	Chpt. 10
F	10/12/2012	Solar Energy & Seasons	Chpt. 1
M	10/15/2012	Atmosphere 1: Composition	Chpt. 2
M	10/15/2012	Lab 6: Atmosphere/Microclimate	
W	10/17/2012	Atmosphere 2: Energy & Temp	Chpt. 3
F	10/19/2012	Greenhouse gases	Chpt. 2&3
M	10/22/2012	Water in the Atmosphere	Chpt. 4
M	10/22/2012	Lab 7: Climate modeling	
W	10/24/2012	Atm. Circulation	Chpt. 5
F	10/26/2012	Weather	Chpt. 6
M	10/29/2012	*Review session for Midterm 2*	
M	10/29/2012	Lab 8: Atm. Circulation, **Lab QUIZ 2**	
W	10/31/2012	**MIDTERM 2**	
F	11/2/2012	Eolian Processes	Chpt. 16
M	11/5/2012	Desertification	Chpt. 16
M	11/5/2012	Lab 9: Eolian	TMYN Units
W	11/7/2012	Oceans 1	Chpt. 5
F	11/9/2012	Oceans 2	Chpt. 5
M	11/12/2012	Coastal systems	Chpt. 16
M	11/12/2012	Lab 10: Oceans	
W	11/14/2012	Rivers 1	Chpt. 15
F	11/16/2012	Rivers 2	Chpt. 15
M	11/19/2012	*Review session for Midterm 3*	
M	11/19/2012	Lab 11: Rivers, **LAB QUIZ 3**	
W	11/21/2012	**MIDTERM 3**	
F	11/23/2012	Thanksgiving Break	
M	11/26/2012	Glaciation 1	Chpt. 17
M	11/26/2012	Lab 12: Glaciers	
W	11/28/2012	Glaciation 2	Chpt. 17
F	11/30/2012	Paleoclimate 1	Chpt. 17
M	12/3/2012	Paleoclimate 2	Chpt. 17
M	12/3/2012	Lab 13: Paleoclimate	
W	12/5/2012	Climate change 1	Chpt. 8
F	12/7/2012	Climate change 2	Chpt. 8
M	12/10/2012	Ecosystems & Nutrient cycling	Chpt. 8
M	12/10/2012	Lab 14: Climate Change **LAB QUIZ 4**	
W	12/12/2012	*Review session for Final Exam*	
F	12/14/2012	**FINAL EXAM**	

Helpful Hints to do well in ESC101

1. **Ask questions when you don't understand something!** There is a very high likelihood that your classmates have the same question(s), even if they won't admit it. Be a hero!

2. Come to class (and bring your iClicker).

3. Do the readings and online exercises (both on D2L and on TMYN) ahead of time. If there are sections you have difficulty understanding, first read those sections over again slowly until you either understand them or can exactly identify the part you do not 'get'. Then follow through with a reputable source (including the instructor and/or tutor) to get your questions answered.

4. Become familiar with Microsoft Excel, including using basic functions (e.g., finding the average of a column of numbers) and sorting and plotting different types of data.

5. Know your basic metric conversions and what the prefixes mean:

Multiplication Factor	Prefix	Symbol
$1{,}000{,}000{,}000 = 10^{9}$	giga	G
$1{,}000{,}000 = 10^{6}$	mega	M
$1{,}000 = 10^{3}$	kilo	k
$100 = 10^{2}$	hecto	h
$1 = 1$		
$0.01 = 10^{-2}$	centi	c
$0.001 = 10^{-3}$	milli	m
$0.000001 = 10^{-6}$	micro	μ
$0.00000001 = 10^{-9}$	nano	n

6. When studying, test your mastery of the material by making up different examples in your head and then asking yourself questions like 'what would happen if you changed variable X?'. Do not only memorize terms- self-test your knowledge!

7. Try and think about not only the basics of what we cover (e.g., how plate tectonics works, how glaciers work, how atmospheric circulation works) but also think about connections between the different units we cover (e.g., how do plate tectonics affect atmospheric circulation patterns?).

8. Use the ESC101 tutor (See top of syllabus for details on hours and location).

9. Take advantage of office hours and/or set up a meeting with me if you have any concerns or questions whatsoever, the sooner the better. If you do set up a meeting, show up.

10. Expect to work hard.

11. Use proper punctuation and salutations in all e-mail correspondence.

12. **Ask questions when you don't understand something!**