

# **Course Syllabus (version 1 – 16 November 2015)**

## **Department of Geographical Sciences**

### **398B: Advanced Geographical Environmental Systems**

**Tu/Thu 12:30 pm to 1:45 pm**

**0117 Tydings Hall**

**Instructor:** Dr. Eric S. Kasischke

**Office:** 1153 LeFrak Hall

**Office hours:** Tuesdays 11-12 pm, or by appointment

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#### **Course Content**

This course will provide the students with an overview of the key elements of physical geography, including biogeography (factors and processes that control the geographical distributions of plants and animals), climatology (processes associated with controlling variations in weather and climate), and geomorphology (factors and processes that control changes to the physical structure of the earth's surface in relation to geological structures). The course will present lectures in of these areas, as well as lectures on the inter-relationship between the three. The goal of the course is to provide students with an understanding of how the underlying sub-disciplines of physical geography can be used to understand factors shaping spatial and temporal variations in the earth's terrestrial ecosystems and land surfaces. The course will serve as the foundation needed for 400-level physical geography courses offered in the Department of Geographical Sciences.

## Course Prerequisite

While this course has no prerequisites, GEOG 201 and GEOG 211 are suggested.

## Relationship to Other Courses

GEOG398B is a pre-requisite for GEOG442: Biogeography

## Course Materials

A variety of materials will be used for this course. For the lectures on biogeography, readings will be assigned from ***Fundamentals of Biogeography, Second Edition***, by Robert J. Huggett. This text is available at no cost as a pdf, which will be posted on **CANVAS**. A write up for all lectures will be provided by the instructor, and will be posted on **CANVAS**.

## Course Communication

The main course communication will be carried out through **CANVAS** within the University of Maryland Enterprise Learning Management System (ELMS; <https://elms.umd.edu>). All students enrolled in the course have access to the system. In addition to communications, **CANVAS** will be used by the instructor and the TA to post assignments and grades and by the students to submit their assignments.

## Provisional Schedule

Please, note that modifications may be introduced to the schedule as the semester progresses. Updated schedules will be announced in class and made available to all students via **CANVAS** as soon as possible.

	Class number	Lectures	Lecture Topic
26-Jan	1	1	Class Overview
28-Jan	2	2	Important cycles in physical geography - water, soils, and carbon
2-Feb	3	3	Studying physical geography through time
			Part A. Climatology
4-Feb	4	4	Overview of Climate Drivers
9-Feb	5	5	Winds: horizontal and vertical motion
11-Feb	6	6	Ocean Circulation
16-Feb	7	7	General and Secondary Atmospheric Circulation
18-Feb	8	8	Teleconnections and large-scale drivers of climate
23-Feb	9	9	Drivers of Climate - Atmospheric CO2 and CH4
25-Feb	10	10	Climate Drivers in the Southern Hemisphere
1-Mar	11	Exam 1 (Lectures 1 to 9)	
			Part B. Geomorphology
3-Mar	12	11	Intro to Geomorphology
8-Mar	13	12	Plot-scale Processes - Soils and Weathering
10-Mar	14	13	Local-scale Processes - Geomorphic Hydrology and Hillslope processes
15-Mar	Spring Break		
17-Mar	Spring Break		
22-Mar	15	14	Local to Regional Scale Processes - Glaciers, Permafrost, and Wind deposition of soils
24-Mar	16	15	The Hydrologic Cycle
			Part C. Biogeography
29-Mar	17	16	Overview of Biogeography
31-Mar	18	17	Distribution of species - dispersal and habitats
5-Apr	19	18	Environmental factors and species distribution
7-Apr	20	19	Limits on species distribution - interactions with other species
12-Apr	21	Exam 2 (Lectures 10 to 18)	
14-Apr	22	20	Populations
19-Apr	23	21	Biodiversity and Communities
21-Apr	24	22	Ecosystem Metabolism
26-Apr	25	23	Community Change
			Part D. Physical Geography as an Integrated Science
28-Apr	26	24	Disturbances to Terrestrial Ecosystems
3-May	27	25	The carbon cycle
5-May	28	26	Modeling of climate change - the integration of physical geography - part 1
10-May	29	27	Modeling of climate change - the integration of physical geography - part 1
12-18 May		Exam 3 (Lectures 19-27)	

## **Grade Determination**

The grade for this course will be based on three different parts. (a) Hourly exams (60%); (b) Homework assignments (30%); and (c) in class quizzes (10%).

### ***Hourly Exams***

The course includes 3 non-cumulative exams, where the third exam will be given during Final Exam Week. All exams will be “closed book” and will present a combination of question styles (multiple choice, fill in the blank, and short answer). On each exam day, students are encouraged to come to class at least 5 min early as the exams will start promptly at 12:30 p.m. All students (including students who are late to class) must complete the exam by 1:45 pm. Each exam will count as 20% of the final grade).

### ***Homework Assignments***

During the term, four homework assignments will be assigned. Each homework assignment will consist of a written question that requires the student to integrate material presented across multiple lectures. Each assignment will require a short written essay of 750 to 1000 words in length. The student will be given one-week to complete each assignment. Each homework assignment will count for 7.5% of the student’s grade. Without a legitimate excuse, students will be penalized for late assignments, based losing 0.5% for every 2 days the assignment is late (e.g., an assignment that is 2 days late can receive a maximum of 7%, 4 days late, a maximum of 6.5%, etc).

### ***In class quizzes***

Throughout the term, six pop quizzes will be presented that cover the material presented in the lecture that day. Quizzes can be made up if a student has a legitimate excuse for missing class that day. Each quiz will count for 2% of the student’s grade, with the lowest quiz score not being counted.

### ***Extra credit assignment***

An optional extra credit assignment (worth 10% of the grade) will be offered to all students in the course. The assignment will be defined and posted after the second hourly exam. Students, interested in completing an extra credit assignment should notify the instructor and receive his approval to continue with the selected project.

### ***Exam make up policy***

Students unable to take the test should notify the instructor at least 3 working days before the scheduled exam date (if the student has a known reason for an excused absence) or within 3 days following the exam if the student experiences an unexpected reason for missing the exam (e.g., illness) to schedule a make up date. The make up exam must be taken within a week of the scheduled exam date. Failure to take the make up exam or schedule a make up date will result in a zero on the exam.

### **Expectations of Students in the Class**

Class attendance is not required. However, students should be aware that a large portion of the material covered in the class is not available in the assigned textbook and will be presented in lectures only. Students are strongly recommended to take careful notes during the lectures.

Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to demonstrate civility with one another, the teaching assistant, or the instructor will be subject to referral to the Office of Student Conduct or to the University Campus Police. You are expected to adhere to the Code of Student Conduct.

In this class, students will be allowed to use their personal computers or other means of technology to take class notes.

### **Academic Integrity**

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.shc.umd.edu>.

The University's ***Honor Pledge*** must be included in every assignment and exam submitted by the students:

*"I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/paper/examination."*

## **Students with Disabilities**

Every effort will be made to accommodate students who are registered with the Disability Support Service (DSS) Office and who provide the instructor with a University of Maryland DSS Accommodation form which has been updated for the Spring 2016 semester. This form must be presented to the instructor no later than 22 February 2016. The instructor will not be able to accommodate students who are not registered with DSS or who provide the instructor with documentation which has not been reviewed and approved by UM's DSS Office after 23 February 2016.

## **Medical excuses**

Campus Senate policy requires students who are absent due to illness/injury to furnish documentary support to the instructor for a Major Grading Event, which includes the three hourly exams for this course. Students must contact the instructor by email or by phone prior to class time in which the student will indicate he/she has an illness/injury. The student must present written documentation verifying his/her illness/injury on the first day of class that he/she returns to class. The student will not be allowed to make up exams if he/she has not provided this documentation. In addition, if it is found that the student has falsified the documentation provided, he/she will be referred to the University's Student Conduct Office.

## **Religious observance**

As per University Policy, the exams for this course have not been scheduled during major religious observances for the Spring 2016 term. By 11 February 2016, students must provide the instructor, in writing, a request for a make up exam for a specific exam date on this syllabus that students are unable to make due to a specific religious observance (specify) on a specific date. Please refer to the Online Catalog Policy on Religious Observance. Please remember that accommodations are NOT made for travel to and from the religious observance.