

GEOG 101 Introduction to Physical Geography – Fall 2008

INSTRUCTOR: Dr. Dean Fairbanks, Butte 527, dhfairbanks@csuchico.edu, X5780

Office Hours: MW 11am-12pm, TR 10-11am, F 1-2pm

LECTURE: MW 12:00-12:50 pm @ 2.0hrs/week

LAB & INSTRUCTOR: Dr. Fairbanks; M 2-4:50 pm

Michael Commons; W 2-4:50 pm

COURSE DESCRIPTION: Provides a survey of the basic processes that determine energy flows through the atmosphere, and examines the subsequent matter interactions among water, rock, soil, vegetation, and landforms that create and modify the Earth's surface. Understand the fundamentals of matter and energy through recognition of landscape patterns, and the physical, chemical and biological principles and functions that create those patterns, in order to understand the natural environment, and the role of humans affected by and affecting that environment. This is an approved General Education course under Area B, Sub-Area B1 Physical Universe.

GE OBJECTIVES: GEOG 101 is a **General Education (GE)** course in **Area B, Sub-Area B1 Physical Universe**. It is intended for those students with no previous college-level physical science coursework. The GE Program at CSU, Chico has five goals:

- to improve reading, writing, critical thinking, discussion and speaking skills, mathematical reasoning, analysis and problem solving, and the ability to access, evaluate, and apply information;
- to instill efficient, effective learning skills that will keep the student on a path of perpetual intellectual curiosity;
- to enhance general knowledge and attitudes so that students have a well informed, integrated, and coherent picture of the universe and humanity, including the living and non-living physical universe; human cultures, societies and values; and the artistic and intellectual legacy of humanity;
- to broaden knowledge about the impact, perspectives, and contributions provided by cultural, racial, ethnic, gender, cognitive, and global diversity; and
- to provide, for each student, coherence, connectedness, and commonalty within broad areas of undergraduate education.

The objectives of courses in **Area B, Sub-Area B1** are to provide students opportunities to develop understanding of the physical universe through the fundamental concepts of matter and energy, and to promote an understanding and appreciation of the methodologies of natural science as investigative tools and of the limitation of scientific inquiry. The following general goals will be achieved as per the **Area B1** requirements:

- Students will demonstrate understanding and appreciation of the methodologies of the natural sciences as investigative tools.
- Students will demonstrate understanding and appreciation of the scientific method as well as the limitations of scientific inquiry.
- Students will demonstrate understanding of the fundamental concepts of matter.
- Students will demonstrate understanding of the fundamental concepts of energy.

- Students will demonstrate their understanding through collaborative learning and problem solving techniques in a laboratory setting, as well as through lecture, readings and exams.

The physical geography perspective integrates information from other fields such as geology, biology, physics, and chemistry to present a pattern and process paradigm to understanding natural landscapes. Explore aspects of physical geography such as solar energy, atmosphere, water resources, soil and vegetation distributions within a global to local context. Examples of current research in the field of physical geography expose students to the thought process associated with the scientific method. Learn to think critically about the geographic environment by examining the effect of the environment on humans and human impact on the physical geographic environment. The following specific goals will be achieved as they pertain to **this course**:

- Use and think about maps and spatial data of physical environmental phenomena.
- Understand and interpret the implications of associations among physical phenomena in places.
- Recognize and interpret at different scales the relationships among physical patterns and processes.
- Become familiarized with the tools used to view, interpret processes, and recognize change occurring in our physical geographic environment.
- Develop an understanding of earth's physical landforms, and the processes controlling variations in weather and climate, soils, and plant communities around the world.
- Provide a foundation upon which to build a better understanding of the human interrelationships with the physical environment.

ORGANIZATION:

The course is based on four parts: *Energy-atmosphere system; water, weather, and climate systems; Soils, ecosystems and biomes; and Earth surface-atmosphere Interface.*

These parts will introduce students to fundamentals (energy and matter), processes, interactions, scientific analysis methods and spatial patterns within the physical geographic environment, which are associated with the atmosphere, hydrosphere, lithosphere, and biosphere.

REQUIREMENTS:

Students are responsible for all class materials and should be prepared for lectures by reading the assigned textbook chapters before class and laboratory assignments by reviewing and printing the laboratory manual available via WebCT Vista before laboratory section.

The course requires writing above the 2,500 words required of all GE courses. Effective writing, critical reading, thinking, and a broad familiarity with physical processes operating locally, globally and universally are important learning goals of this course.

CORE TEXT(S):

Christopherson (2008). *Geosystems*. 7th Edition, John Wiley Press, NY.

Goodes World Atlas (2006). 21st edition, Rand McNally.

Additional web-based materials available on WebCT Vista

GRADING POLICIES:

Will be determined by scores on the three lecture midterm examinations, the lecture final examination, reading quizzes, laboratory assignments and lab final exam as follows*:

First Exam	100 points
Second Exam	100 points
Third Exam	100 points
Final Examination	120 points
Quizzes (10)	100 points (subject to change)
Lab assignments (14)	140 points
Lab Final Examination	<u>50 points</u>
Total	710 points

* Point system is subject to change

Laboratory practical's: All exercises will be due at the beginning of your laboratory section one week after it was assigned. 10% will be deducted each day for any exercise turned in late up to two days; *no credit will be given for tardiness longer than two days, unless a doctor approved illness is noted.*

Attendance policy: Attendance is expected at every class and laboratory meeting. There is information presented in lecture and laboratory that is not necessarily covered directly in the text. I understand, however, that personal things happen during any semester that may keep you from class. Therefore, everyone is granted one excused absence. Any additional unexcused absences will affect your final grade.

Course Etiquette: Minor requests: Please, turn off cell phones in lecture and lab to avoid disruption. Please do not eat in lecture or lab (we're ALL hungry!). Please do not bring drinks in glass bottles into lecture or lab.

§ Student assignments will be handed back promptly in lab section. Any material not picked up in lecture/lab will be retained for one semester, and then discarded.

Disability Support Services: If you have a documented disability that may require reasonable accommodations, please contact Disability Support Services (DSS) for coordination of your academic accommodations. DSS is located across from Kendall Hall in the University Center building. The DSS phone number is 898-5959 or FAX 898-4411. Visit the DSS website at <http://www.csuchico.edu/dss/>.

Statement on Academic Honesty: Academic misconduct (as defined in the current California State University, Chico catalogue, pg 47, 635) will not be tolerated. Students are encouraged to discuss course materials inside and outside the classroom. However, all written lab material submitted by students must be their own work *exclusively*. No answers to questions cribbed from other students, other classes or the Internet. The highest standards of honesty are expected when taking exams: no sneaking, peeking or cheat sheeting. If you have any questions about what constitutes academic dishonesty, or the consequences of academic misconduct, consult the current university catalogue, the Office of Student Judicial Affairs (Kendall 110), or ask me.

MW - LECTURE SCHEDULE*				
Dates		Lecture topics	Text chapters	Lab (field trip) M or W 2-5pm
Aug	25 27	Physical geography and the scientific method; energy/matter Geographic grid: Latitude, Longitude, Seasons and Time	1, Internet	1
Sept	1 3	PUBLIC HOLIDAY Earth-Sun Relationships, latitude	2 3	2
	8 10	Earth's Atmosphere Energy balance and energy budgets, solar radiation principles	4	3
	15 17	Planetary and local temperature patterns Atmospheric pressure and moisture	5 6	4 (Campus)
	22 24	Global, regional and local wind systems, ocean currents First Examination		5 (Campus)
Sept Oct	29 1	Condensation, precipitation forms and processes Air masses and fronts, storm systems	7 8	6
	6 8	Finish Atmosphere unit, Review Global climate systems, classification, applied climatology	10	7
	13 15	Hydrological cycle Water resources	9	8 (BCCER)
	20 22	The biosphere: ecosystem processes and patterns Terrestrial biomes, organism distribution and pattern	19 20	9
	27 29	Second Examination Internal earth energy – radioactive decay, earth materials, rock cycle	11	10
Nov	3 5	Tectonic processes in the Earth's crust, earthquakes Diastrophism-folding and faulting, volcanic activity	12	11 (BSS 211)
	10 12	Weathering processes and mass transport mechanisms Solution weathering and erosion	13	12
	17 19	Soils development and classification Third Examination	18	13 (Campus)
	24-28	THANKSGIVING BREAK		
Dec	1 3	Fluvial processes, watersheds, stream erosion, flooding Landforms created by wind	14 15	14 (BSS 211)
	8 10	Ocean energy, coastal processes and landforms Glacial and periglacial processes and landforms	16 17	Lab takehome Final
	15-19	Final Examination		

* Subject to change by instructor with no notice provided.