

GEOGRAPHY 572: INTRODUCTORY PHYSICAL GEOGRAPHY

Fall Semester, 2008

Class Time: MWF, 10-11a

Location: Morrill 204

Instructor: Joel Hartter

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**Office Hours: Monday 1-3p, Wednesday 1-2p,
or by appointment**

Required Text

Strahler, A. and A. Strahler. 2005. *Introducing Physical Geography*. 4th Edition. John Wiley and Sons (ISBN: 047167950X)

A student companion website is offered from the publisher here:

<http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0471417416&itemTypeId=BKS&bcsId=1172>

Note: Contacting your instructor by email is preferred. Students should put GEOG 572 in the title of the email.

Course Description

This course provides an introduction to some of the main concepts of geomorphology including landform development and processes and descriptive accounts of landform characteristics. There will be an overview of atmospheric characteristics as they pertain to weather and climate phenomena and patterns.

Grading and Assessment

This course will have three non-cumulative examinations carrying equal weight. There will be a test review before each test. There may be opportunities for extra credit throughout the semester.

Below is a breakdown of how letter grades are assigned

95-100%	A	77-79%	C+	67-69%	D+
90-94%	A-	73-76%	C	63-66%	D
87-89%	B+	70-72%	C-	60-62%	D-
83-86%	B	60-69%	D	below 60%	Fail
80-82%	B-				

****Make-up exams will not be given other than for a verifiable emergency.** In the event of an emergency, it is the student's responsibility to contact me no later than one class period after the test date to make arrangements for a make-up. Make-up exams will be different than the ones given to the rest of the class.

General Rules

While some circumstances make being absent from classes unavoidable, students are expected to attend all classes. An attendance register will *not* be taken. It is the student's responsibility to attend classes and the student who fails to do so will also suffer the consequences of being absent, such as missed concepts, etc. Talking during the class lecture is not permitted because it is disruptive and prevents others from receiving their money's worth (they too have paid for the course). Students will not be required to remain in the class and may leave at anytime if they must talk. Students must turn off all pagers, cell phones and other noise making devices as this too is disruptive.

Important Dates

Test 1: Friday October 3

Test 2: Friday November 7

Test 3: TBD

Important dates: Friday October 17, no class
 Friday November 28, no class
 Friday Dec. 12, last class

Dissemination of Information

Information will be posted regularly to the course website. It is your responsibility to check Blackboard regularly for any changes to the course schedule, and for updates on quizzes and exams.

Class Demeanor

Students are expected to be punctual, decently dressed, and to turn their cell-phones off prior to the commencement of lectures. Students are expected to attend every class.

Disabilities

If you are a student with a documented disability who will require accommodations in this course, please register with Disability Services for Students in the Memorial Union building, Room 118 (862-2607) for assistance in developing a plan to address your academic needs.

Academic Misconduct

Please note the University has no tolerance for students who break the University Academic Honesty Policy. Please see the Students Rights, Rules, and Responsibilities Handbook for a full description (<http://www.unh.edu/student/rights/srrr0708.pdf>).

Plagiarism and cheating are both academic crimes. Never (1) turn in an assignment that you did not write yourself, (2) turn in an assignment for this class that you previously turned in for another class, or (3) cheat on an exam. If you do so, it may result in a failing grade for the class, and further ramifications at the University level. Please see me if you have any questions about what constitutes plagiarism. Anyone caught cheating on an exam will be reported to the college.

List of Topics

Topics and page numbers are provided below. Please do the reading before coming to class. Students are responsible for, and will be tested on, all material covered in the text and lectures. Students are advised to bring their texts to each lecture as there will be numerous references to diagrams and other illustrations in the text.

1. THE EARTH AS A ROTATING PLANET (Ch. 1)

- The shape of the Earth: 24
- Earth rotation: 26
- Geographic grid: 26-30
- Global time: 32-38
- Earth's revolution around the sun: 38-42

2. EARTH'S GLOBAL ENERGY BALANCE (Ch. 2)

- Electromagnetic radiation: 52-56
- Insolation: 57-61
- Composition of the atmosphere: 62
- Sensible and latent heat: 63-67
- Global energy budget: 67-70

3. TEMPERATURE (Ch. 3)

- Air temperature: 88-90
- Daily cycle of air temperature: 91-94
- Temperature structure of atmosphere: 95-99
- Factors controlling air temperature patterns: 103-108
- Greenhouse effect: 108-109

4. ATMOSPHERIC MOISTURE AND PRECIPITATION (Ch. 4)

- The hydrosphere (including the three states of water): 120
- Hydrologic cycle and global water balance: 121-122
- Humidity (specific and relative): 123-125
- Adiabatic process: 125-127
- Clouds: 127-129
- Precipitation (Orographic, convective and cyclonic): 129-138

5. GLOBAL CLIMATES (Ch. 7)

- Global precipitation: 215-220
- Climate classification, overview of climates (low, mid, & high latitudes): 221-262

6. BIOGEOGRAPHIC PROCESSES (Ch. 8)

- Energy and matter flow in ecosystems: 280-286
- Carbon cycle: 288-291
- Nitrogen cycle: 292-293
- Ecological biogeography (water need, temperature, climatic factors, geomorphic factors, edaphic factors, species interactions): 293-304
- Ecological succession: 304-306
- Historical biogeography (evolution, speciation, extinction, dispersal, distribution patterns): 307-316
- Biodiversity 317-318

7. GLOBAL BIOGEOGRAPHY (Ch. 9)

- Terrestrial ecosystems (forest, grassland, desert, tundra): 333-357

8. FRESH WATER OF THE CONTINENTS (Ch. 15)

- Hydrologic cycle: 512-513
- Ground water (water table surface, aquifers): 514-515
- Problems of groundwater management: 518-520
- Surface water (overland and stream flow, stream discharge): 520-525
- Stream flow (impacts of urbanization, floods): 525-527
- Lakes (origins), Guest lecture by Dave Buck, University of Florida: online readings

9. EARTH MATERIALS (Ch. 11)

- The crust and its composition, rocks and minerals: 396-400
- Igneous rocks: 400-405
- Sedimentary rocks: 405-412
- Metamorphic rocks: 412-413
- Rock cycle: 413-416

10. THE LITHOSPHERE AND PLATE TECTONICS (Ch. 12)

- The structure of the earth: 423-425
- Major relief features of the Earth's surface: 426-432
- Plate Tectonics (plate motions and interactions; global system of lithospheric plates; subduction tectonics; orogens and collisions; continental rapture and new ocean basins): 432-442

11. VOLCANIC AND TECTONIC LANDFORMS (Ch. 13)

- Landforms: 452-453
- Volcanic activity (strato volcanoes; shield volcanoes): 453-460
- Landforms of tectonic activity (fold belts; faults and fault landforms): 461-468
- Earthquakes (earthquakes and plate tectonics; seismic sea waves): 469-473

12. WEATHERING AND MASS WASTING (Ch. 14)

- Physical weathering (frost action; salt-crystal growth; unloading): 483-486
- Chemical weathering and its landforms: 487-488
- Mass wasting (slopes; soil creep; earthflow; environmental impact of earthflow; mudflow and debris flood; landslides): 488-494

13. LANDFORMS MADE BY RUNNING WATER (Ch. 16)

- Fluvial processes and landforms (erosional and depositional landforms): 546-547
- Slope erosion (rilling, colluvium and alluvium): 547-549
- Work of streams (stream erosion, stream transportation): 550-551

14. LANDFORMS MADE BY WAVES AND WIND (Ch. 18)

- Work of waves (wave characteristics, cliffs and scarps, beaches, littoral drift): 598-606
- Tidal currents: 606
- Types of coastlines: 607-612
- Wind action (erosion by wind): 613
- Sand dunes: 614-619