



BROWARD COMMUNITY COLLEGE COURSE OUTLINE

LAST REVIEW: 2005-2006
(i.e. 2003-2004)

NEXT REVIEW: 2010-2011
(i.e. 2008-2009)

STATUS: A

COURSE TITLE: Physical Geography

COMMON COURSE NUMBER: GEO 2200

CREDIT HOURS: 3

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:
(Voc. Course ONLY)

Lecture:	48	Lab:
Clinic:		Other:

PREREQUISITE(S): none

COREQUISITE(S): none

PRE/COREQUISITE(S): none

COURSE DESCRIPTION: This course serves as an introduction to the manner in which natural systems function at global and regional scales. The course uses a geographical perspective to analyze landforms, climate, the water cycle, and the biosphere, examining spatial relationships and regional variations and addressing spatial patterns of human activity as related to environmental phenomenon.

UNIT TITLES

1. Foundations of Geography and Physical Geography
2. The Atmosphere, Global Temperature, and the Seasons
3. Spatial Dimensions of Atmospheric and Oceanic Circulation
4. Atmospheric Water and Weather
5. Global Climate Systems and Their Spatial Distribution
6. Introduction to Geomorphology and the Spatial Analysis of Landforms
7. Earthquakes and Volcanoes: Process Geomorphology
8. Weathering, Karst Processes, and Mass Movement
9. Eolian, Fluvial, and Coastal Geomorphology
10. Glaciation
11. Geography of Soils
12. Global Ecosystems and Biomes
13. Human-Environmental Interaction



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Common Course Number: GEO2200

UNITS

Unit 1

General Outcome:

- 1.0 The student shall: understand the nature of geography; its foundation as a both a natural science and a social science; and basic core concepts in geography and physical geography such as location, scale, and systems theory.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Define geography and list its basic approaches and its component elements.**
- 1.2 Define primary organizing concepts in geography such as “region”, “longitude”, “geographical process”, “site vs. situation”, “meridians”, “time zones”, “great circle”, etc.**
- 1.3 Distinguish between different types and scales of maps.**
- 1.4 Distinguish between the earth’s four “spheres” and understand the connection between each and the discipline of geography.**
- 1.5 Identify the component elements of “Technical Geography” (e.g., G.I.S. and remote sensing), “Physical Geography” (e.g. geomorphology and climatology), and “Human Geography”.**



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Unit 2

General Outcome:

- 2.0 The student shall: Understand the relationship between solar energy, the atmosphere, and the seasons and understand how spatial factors are at work in the latter relationships.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Identify types of solar radiation and how it reaches the earth's surface**
- 2.2 Define key terms such as "solar wind", "albedo", "temperature" and "perpendicular/ecliptic".**
- 2.3 Identify spatial variations in seasons and the factors that influence seasonal change.**
- 2.4 Identify the component elements of the atmosphere, its functional zones, its variable (including anthropogenic) components and how each of the latter exhibit spatial patterns.**



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Unit 3

General Outcome:

- 3.0 The student shall: Develop an understanding of the spatial dimensions of atmospheric and oceanic circulation, the factors responsible for this circulation, and the impacts of this circulation.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Define key terms such as “air pressure”, “barometer”, “pressure gradient”, “wind”, “convection”, “Coriolis force”, “friction force”, “anemometer”, “pressure cells”, “Horse Latitudes”, “jet stream”, “gyre”, and “Gulf Stream”.**
- 3.2 Distinguish between high pressure and low pressure cells and the results of the latter.**
- 3.3 Identify key areas of high and low pressure (i.e., semi-permanent pressure cells) on the earth’s surface and their causes.**
- 3.4 Identify the world’s main atmospheric and oceanic currents and the nature of their movement.**
- 3.5 Explain the basis of atmospheric and ocean circulation, particularly as manifested spatially.**
- 3.6 Distinguish between localized, short-term circulations in both the atmosphere and oceans as opposed to long-term global circulations and the causes of all of the latter.**



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Unit 4

General Outcome:

- 4.0 The student shall: Understand atmospheric processes especially as spatially manifested.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Define key terms such as “humidity”, “hygrometer”, “adiabatic lapse rate”, “front”, “condensation point”, and “occlusion”.**
- 4.2 Distinguish between relative and absolute humidity; different types of precipitation; different types of fog; basic cloud types and characteristics; and the varied means by which air can rise**
- 4.3 Identify geographical factors responsible for variations in atmospheric phenomenon.**
- 4.4 Explain the cause/process of certain atmospheric phenomenon that characteristic of Florida and the southeastern United States.**



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Unit 5

General Outcome:

- 5.0 The student shall: understand the earth's climate system, how it is classified and how climates vary spatially**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Define key terms such as “monsoon”, “savanna”, “tundra”, “taiga”, “desertification”, “Sahel”, “Marine west coast climate”, “El Nino”, and “continentality”**
- 5.2 Distinguish between the world's major types of climates, their characteristics and spatial distribution.**
- 5.3 Label major climatic zones on a world map.**
- 5.4 Identify geographical factors responsible for determining climate and climate change.**



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Unit 6

General Outcome:

- 6.0 The student shall: develop a basic understanding of earth materials, geomorphology, and the spatial analysis of landforms.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 Define key terms such as “geological time”, “geomorphology”, “Pangaea”, “uniformitarianism”, “catastrophism”, and “lithosphere”**
- 6.2 Distinguish between different types of rocks; the different zones of the earth’s interior; the varied types of interactions among lithospheric plates**
- 6.3 Demonstrate understanding of the spatial dimensions of orogenesis and other landform processes.**
- 6.4 Label the earth’s major landforms and topographical regions on a map**



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Unit 7

General Outcome:

7.0 The student shall: Understand processes related to earthquakes, volcanoes, and landform processes, especially as manifested geographically.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

7.1 Define certain key terms such as “continental shield”, “hot spot”, “composite volcano”, “subduction zone”, “faulting”, and “plutons”

7.2 Recognize geographical patterns visible in landforms and landform genesis.

7.3 Identify different types of volcanoes, different types of faulting, and variations in landform features caused by the latter processes.

7.4



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Unit 8

General Outcome:

8.0 The student shall: Understand the phenomenon of weathering, karst processes, and mass movement as agents of change in the physical landscape.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

8.1 Define key terms/concepts such as: “dynamic equilibrium”, “karst processes/landforms”, “mass movement”, “soil creep”, and “regolith”.

8.2 Identify and distinguish between the different types of weathering.

8.3 Identify karst landforms and the processes responsible for their creation.

8.4



Common Course Number: GEO2200

Unit 9

General Outcome:

- 9.0 The student shall: understand the geomorphological processes that shape the landscape in desert, coastal, and riparian environments and how the latter exhibit spatial spatial patterns.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 9.1 Define key terms such as: “fluvial geomorphology”, “stream gradient”, “drainage basin”, “eolian”, “loess”, “desert creep”, “cut bank”, “oxbow lake”, “braided stream”, “alluvial fan”, “delta”, and “point bar”**
- 9.2 Distinguish between basic drainage patterns and how they vary geographically.**
- 9.3 Identify eolian, riparian, and coastal landform processes, especially as they exhibit spatial patterns.**
- 9.4 Identify and distinguish between erosional and depositional landform features on the earth’s surface.**
- 9.5**



Common Course Number: GEO2200

Unit 10

General Outcome:

10.0 The student shall: understand the characteristics of glacial and periglacial landscapes, how the latter are spatially manifested, and the process of glaciation.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

10.1 Define key terms such as: “ice cap”, “ice sheet”, “alpine glacier”, “ablation”, “firn”, “equilibrium line”, “abrasion”, “moraine”, “cirque”, “tarn”, “esker”, “horn”, “arête”, “paternoster lakes”, and “drumlin”.

10.2 Distinguish between the different landform features created by glaciation and understand the specific process(es) responsible for the creation of each.

10.3 Identify glaciation trends in the earth’s geomorphological history as well as contemporary phenomenon as related to glacial ice.

10.4 Label the earth’s principle glacial features and glaciated landform areas on a map.

10.5



Common Course Number: GEO2200

Unit 11

General Outcome:

11.0 The student shall: understand the nature, composition, and origins of soil; how soil types lend themselves to different human activities; and the geographic distribution of the earth's primary soil types.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

11.1 Define key terms such as: "soil water", "capillary water", "hygroscopic water", "gravitational water", "ground water", "soil profile", "soil horizon", "ped", "loam", and "humus"

11.2 Identify and distinguish between the major classifications of soil types and how they are geographically varied.

11.3 Identify the different component elements of soils.

11.4 Distinguish between the different soil horizons and their associated properties.

11.5



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Unit 12

General Outcome:

12.0 The student shall: Understand the concepts of ecosystems, biomes, and how they vary across the surface of the earth.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

12.1 Define key terms such as: “biogeography”, “phytogeography”, “ecosystem”, “biome”, “limiting factors”, and “ecumene”.

12.2 Identify and distinguish between the earth’s major terrestrial biomes.

12.3 Label the earth’s primary terrestrial biomes on a world map.

12.4



Common Course Number:

Unit 13

General Outcome:

13.0 The student shall: Understand the characteristics of human-environmental interaction, and the theories and potential consequences as related to the latter.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

13.1 Define certain key terms/concepts such as: “deforestation”, “Malthusian equation”, “environmental determinism”, “environmental degradation”, “global warming”, “ozone”, “conservation”, and “preservation”.

13.2 Identify and distinguish between the three distinct historic schools of thought concerning human-environmental interaction.

13.3 Identify geographical factors which shape human-environmental interactions.

13.4 Propose possible solutions for certain environmental problems faced by mankind.