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**Ohio Articulation Number (OAN)
Course Submission Form
2005-2006**



College/University Cuyahoga Community College

Course(s) Submitted(Title & Course #) Physical Geography ESCI-1310 for
Ohio Articulation Number OSS006

Date 9/28/2005 Course 1 of a 1 Course OAN mapping.

Name and title of individual submitting on behalf of the college/university

Name Peter Ross Title District Director, Transfer and Alternative Credit

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Credit Hours 3 qtr _____ sem x

Lecture Hours 3

Laboratory Hours 0 (if applicable)

Pre-Requisites(s) Course work (if applicable)

none

Placement Score (if applicable)

(Name of test) _____

(Domain) _____ (Score) _____

Catalog/Course Description (Includes Course Title and Course #)

Fall 2005-Summer 2007

Texts/Outside Readings/Ancillary Materials

See CCC Course Outline in Course Objectives

Course Objectives and/or Plan of Work

Board of Trustees Date: 10/23/97

Effective Date: 08/26/98

CUYAHOGA COMMUNITY COLLEGE
OFFICIAL COURSE OUTLINE

SUBJECT AREA TITLE Earth Science

COURSE TITLE Physical Geography

SUBJECT AREA CODE-COURSE NUMBER ESCI - 1310

COURSE CREDIT HOURS 03

I. DESCRIPTION OF COURSE:

A. CATALOG DESCRIPTION:

Introductory study of physical elements of geography. Includes earth-sun relationships, maps, atmospheric components and interactions, elements and controls of weather and climate, water resources and their distribution, vegetation associations, animal associations, ecological relationships, soil types, landforms, and plate tectonics. World distribution, causal relationships and significance to man stressed. To fulfill laboratory science requirements, students should also enroll in related laboratory course.

B. LECTURE HOURS: 03

C. LABORATORY HOURS: 00

D. OTHER REQUIRED HOURS: 000

E. PREREQUISITE(S): None

II. PERFORMANCE OBJECTIVES:

Upon successful completion of ESCI-1310 Physical Geography, the student should be able to:

- A. Explain the interrelationships of the atmosphere, hydrosphere, lithosphere, and biosphere.
- B. Explain the seasons in terms of sun angles.
- C. Explain heating and cooling of the atmosphere in terms of energy transmission, reception and reradiation.
- D. Construct the hydrologic cycle and to define its components.
- E. Explain the global patterns of airflow as they relate to pressures.
- F. Explain the weather patterns of different parts of the earth and the reasons for the variations that occur from one place to another.
- G. Explain the reasons for different climates in different parts of the earth.
- H. Explain the relationships that exist between climate and vegetation patterns around the world.
- I. Define the relationships that exist between different biotic components of the

biosphere.

- J. Explain the relationships that exist between climate, vegetation and soils.
- K. Explain the effect of different landforms on weather, climate, biota and soils.
- L. Explain the theory of plate tectonics and how plate tectonics determine landforms and continent locations and sizes.

III. TOPICAL OUTLINE:

A. Introduction

- 1. The scope of physical geography
- 2. History of geography
- 3. Earth origin and location
- 4. Uniqueness of the earth
- 5. The ecosphere, its components, and their interactions

B. Mapping

- 1. The geographic grid
- 2. Map projections and their properties
- 3. Essential components of maps
- 4. Isolines
- 5. Scales
- 6. Topographic maps
- 7. Role of remote sensing
- 8. GPS (global positioning system).
- 9. GIS (geographic information system)

C. Earth-sun relationships

- 1. Primary motions of the earth
- 2. Secondary motions of the earth

D. Atmosphere

- 1. Composition and layers of the atmosphere
- 2. The earth-atmosphere system
- 3. Energy transfer mechanisms
- 4. Causes of local imbalances in the energy budget
- 5. Heating and cooling of the atmosphere

- E. Temperature
 - 1. Temperature measurements and trends
 - 2. Mechanisms of heat transfer
 - 3. Vertical and latitudinal temperature trends
 - 4. Human activity and air temperatures
- F. Pressure and winds
 - 1. Atmospheric pressure measurements
 - 2. Vertical and latitudinal pressure trends
 - 3. Wind measurement, direction and velocity
 - 4. Planetary wind systems
 - 5. Local wind systems
 - 6. Geostrophic winds
 - 7. The jet stream
 - 8. Currents
 - 9. El Niño
- G. Water in the atmosphere
 - 1. The hydrologic cycle
 - 2. Atmospheric moisture
 - 3. Measurement of humidity
 - 4. Condensation - fogs and clouds
 - 5. Precipitation types and causes
 - 6. Geographic distribution of precipitation
 - 7. Seasonal distribution of precipitation
 - 8. Human activity and precipitation patterns
- H. Meteorology
 - 1. Air masses
 - 2. Types of fronts
 - 3. Severe storms - thunderstorms, tornadoes, hurricanes
 - 4. Weather prediction
 - 5. Human activity and weather patterns
- I. Climatology
 - 1. Determining factors of climate
 - 2. Köppen climate system

3. Description of the different climate types
4. Causes of climate change
5. Glacial climates and their cause
6. Human activity and climate patterns
- J. Hydrology
 1. Properties of water
 2. The hydrologic cycle
 3. Groundwater
 4. Types of aquifers - artesian and water table
 5. Water withdrawal from aquifers
 6. Ocean water
 7. Surface waters
 8. The Great Lakes
 9. Human activity and water availability
- K. Pedology
 1. Production of soils and soil horizons
 2. Soil properties
 3. Soil chemistry
 4. Soil classification
 5. Global distribution of soils
 6. Human activity and soils
- L. Ecology
 1. Ecosystem componen
 2. Energy flow
 3. Food chains
 4. Nutrient cycles
 5. Biotic relationships
 6. Human activity and ecosystems
- M. Flora and fauna
 1. Controls on vegetatio
 2. Life forms of plants
 3. Terrestrial biomes and their distribution
 4. Ecological succession and community structure

5. Animal types, relationships, adaptations and distribution

6. Human activity and biotic patterns

N. Geology

1. Earth structure and composition

2. Rock types and methods of formatio

3. Plate tectonics theory

O. Landforms

1. The influence of climate on erosional and depositional processes

2. The influence of bedrock and soils on erosional and depositional processe

3. The effects of landforms on weather, climate, biota

4. Stream erosion and depositio

5. Ground water erosion and deposition

6. Glacial erosion and deposition

7. Aeolian erosion and deposition

IV. METHODS OF STUDENT EVALUATION MAY INCLUDE ANY OF THE FOLLOWING:

A. Quizzes

B. Lecture examinations

C. Participation in class

D. Reports on current literature

E. Worksheets on textbook comprehension

V. RESOURCES MAY INCLUDE ANY OF THE FOLLOWING:

A. Bradshaw M., and R. Weaver. Foundations of Physical Geography. Wm. C. Brown, 1995.

B. Christopherson, R. W.. Elemental Geosystems - A Foundation in Physical Geography. Prentice-Hall, 1995.

C. De Blij, H. J., and P. O Muller . Physical Geography of the Global Environment. 2nd ed Wiley & Sons, 1995.

D. Gabler, R. E., R. J. Sager, and D. L. Wise. Essentials of Physical Geography. 5th ed Saunders College Publishing, 1997.

E. McKnight, Tom L.. Physical Geography - a Landscape Appreciation. 5th ed
Prentice-Hall, 1996.

Description of Assessment and/or Evaluation of Student Learning

See CCC Course Outline in Course Objectives

Master Syllabi and Working Syllabi (if both are used)

See CCC Course Outline in Course Objectives

Additional Documentation

OBR Use

Action

Approved	
Additional Information Requested	
Rejected	
Date	

Ohio Articulation Number Form Directions

This form is used to submit your course information to the Ohio Board of Regents, for all courses that make up OAN requirements. This document is a form, so the only fields that need to be filled in can be. When you open this, make sure the top of the screen, where the name of the document is displayed, says "Document1" or something similar to that. When you open this form from a location other than inside of word, it creates a blank template to fill in. Please fill it in with the appropriate course information from your institution. All of the fields in this document are expandable, and will grow to fit as much data in them as you need.

Once you are done submitting your course information, you need to save this file. Since Word opened a blank version of this file, so you will need to rename it to save it. Under file, choose "Save as" and then input the name of the file. The naming scheme for this form is Institution-Year-OAN number-Course Title.

Example, if you were ABC Community College, and you were submitting your Calculus110 course, the name of the file would be ABC-2005-OMT005-Calculus110. If two (or more) courses are required to fulfill that same OAN, you would submit ABC-2005-OMT005-Calculus110Calculus111.

When you are done with your submissions, please send them electronically to the Ohio Board of Regents so we can keep your information on file.