

Course Competencies Template - Form 112

| GENERAL INFORMATION | | | |
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| Name: Dr. Curtis McKinney | Phone #: 7-1689 | | |
| Course Prefix/Number: GLY4700C | Course Title: Geomorphology | | |
| Number of Credits: 4 | | | |
| Degree Type | <input type="checkbox"/> B.A. <input checked="" type="checkbox"/> B.S. <input type="checkbox"/> B.A.S <input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input type="checkbox"/> A.A.S. <input type="checkbox"/> C.C.C. <input type="checkbox"/> A.T.C. <input type="checkbox"/> V.C.C | | |
| Date Submitted/Revised: 5/15/08 | Effective Year/Term: 2008-1 | | |
| <input type="checkbox"/> New Course Competency <input checked="" type="checkbox"/> Revised Course Competency | | | |
| Course to be designated as a General Education course (part of the 36 hours of A.A. Gen. Ed. coursework): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | |
| The above course links to the following Learning Outcomes: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Communication <input checked="" type="checkbox"/> Numbers / Data <input checked="" type="checkbox"/> Critical thinking <input checked="" type="checkbox"/> Information Literacy <input type="checkbox"/> Cultural / Global Perspective </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Social Responsibility <input type="checkbox"/> Ethical Issues <input checked="" type="checkbox"/> Computer / Technology Usage <input type="checkbox"/> Aesthetic / Creative Activities <input checked="" type="checkbox"/> Environmental Responsibility </td> </tr> </table> | | <input checked="" type="checkbox"/> Communication <input checked="" type="checkbox"/> Numbers / Data <input checked="" type="checkbox"/> Critical thinking <input checked="" type="checkbox"/> Information Literacy <input type="checkbox"/> Cultural / Global Perspective | <input type="checkbox"/> Social Responsibility <input type="checkbox"/> Ethical Issues <input checked="" type="checkbox"/> Computer / Technology Usage <input type="checkbox"/> Aesthetic / Creative Activities <input checked="" type="checkbox"/> Environmental Responsibility |
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| Course Description (limit to 50 words or less, must correspond with course description on Form 102): This course is a study of planetary surfaces and processes that create landforms. The student will focus on survey of geomorphic forms and the processes that originated them, application of remote sensing and GIS/GPS technology to study geomorphologic processes, analytical skills including field experience, and practical applications, especially to geological hazards. | | | |
| Pre-requisite(s): none | Co-requisite(s): none | | |

Course Competencies: (for further instruction/guidelines go to: <http://www.mdc.edu/asa/curriculum.asp>)

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| Competency 1: The student will demonstrate a knowledge of the geologic history by: |
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1. Identifying, interpreting, and applying appropriate methods of geologic dating such as early methods of index fossils and stratigraphic sequences and recent methods using radioactive isotopes to determine how many years ago a given rock sample was formed.
2. Identifying the major physical events in each of the geologic eras such as the building of mountain chains and the shifting of entire continents.
3. Explaining how geologic structures are a dominant control in the evolution of various landforms.
4. Evaluating how a geomorphic process controls the development of distinctive landforms.
5. Differentiating between monocyclic landscape and multi-cycle landscape.
6. Indicating the age of most of the world's features and the reason for the common age.
7. Analyzing how the development of present day land forms have been influenced by climatic changes and geological activity of the Pleistocene.

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Reviewed By Director of Academic Programs Date: _____

Competency 2: The student will demonstrate a knowledge of the historical development of geomorphology and fundamental concepts of modern geomorphology by:

1. Outlining the early development of geomorphology and the people involved with its development.
2. Analyzing the problems confronting the development of geomorphic principles and concepts.
3. Explaining the “Principle of Uniformitarianism” and give examples of its application.

Competency 3: The student will gain knowledge of the geomorphic processes on the Earth’s surface by:

1. Comparing, contrasting, and differentiating between the processes of physical and chemical weathering and erosion, including examples of each process.
2. Differentiating between the landforms and deposits created by wind, water, and ice erosion.
3. Describing the processes of mass wasting and giving examples of structures developed by mass wasting.
4. Examining the erosional and depositional activities of streams, and giving examples of stream-developed features.
5. Classifying the activities associated with ground water and giving examples of ground water developed features.
6. Listing coastal activities involved with erosion and deposition, giving several examples of features developed by waves, currents and tides.
7. Discussing the erosional and depositional activities of wind, and giving examples of the resulting erosional and depositional features.
8. Explaining the development and movement of glacial ice, and giving examples of glacial erosional and depositional features.
9. Analyzing how man’s activities have influenced the leveling of the earth’s surface, and giving examples of the activities.
10. Summarizing how stream activity produces an increase in relief of an area, and giving examples of the common stream-produced features.
11. Showing how ground water can build up the earth’s surface and giving examples of the features involved with the buildup.
12. Discussing how coastal regions may be built up by wave’s tides and ocean currents, and listing the common features found in the coastal area.
13. Illustrating how wind can cause the build up of the earth’s surface, and giving examples of the wind-produced features.
14. Analyzing how folding of the earth’s crust elevates the earth’s surface.
15. Illustrating how faulting of the earth’s crust elevates the earth’s surface.
16. Discussing how volcanoes elevate the surface of the earth.
17. Analyzing the relationship between folding, faulting, volcanic activity, and plate tectonics.
18. Explaining how extraterrestrial objects can elevate the surface of the earth.

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Competency 4: The student will demonstrate knowledge of geomorphic features using map, imagery, and current uses of technology by:

- a. Identifying geomorphic surface features from map, photograph, and satellite images.
- b. Interpreting topographic maps.
- c. Relating landforms illustrated on maps and imagery to geologic processes.
- d. Applying remote sensing, GIS, and GPS to geomorphic processes.

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