

15-90

Univ cc App 1/19/10
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[GEOS][150][Geology of the National Parks]-DEAdd-2015-11-30

Form Information

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*Indicates a required field

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Proposing Department/Unit*	Geoscience	Contact Phone*	72379

Course Level* undergraduate-level

Distance Education Section

- Complete this section only if adding Distance Education to a New or Existing Course

Course

Prefix/Number*

GEOS150

Course Title*

Geology of National Parks

Type of Proposal*

See CBA, Art. 42.D.1 for Definition

online

**Brief Course
Outline***

Give an outline of sufficient detail to communicate the course content to faculty across campus. It is not necessary to include specific readings, calendar or assignments

As outlined by the federal definition of a "credit hour", the following should be a consideration regarding student work - For every one hour of classroom or

direct faculty instruction, there should be a minimum of two hours of out of class student work.

1. Geological processes that have created and shaped our national parks
 - a. Sedimentation (Grand Canyon, Zion, Canyonlands, Virgin Islands, Gros Morne)
includes examples of marine sequences, desert sands, reef carbonates, and ancient shorelines
 - b. Volcanism (Mount Rainier, Hawaii, Haleakala, Crater Lake, Yellowstone)
includes examples of strato- and shield-volcanoes, collapsed calderas, and hydrothermal hot springs
 - c. Deformation (Grand Teton, Rocky Mountain, Shenandoah, Death Valley, Acadia, Isle Royale)
includes examples of block faulting, thrust faulting, basin and range faulting, tectonic melages, and metamorphism
 - d. Weathering and Erosion (Grand Canyon, Shenandoah, Bryce Canyon, Arches, Badlands, Mammoth Caves, Carlsbad Caverns)
includes examples of river systems, mass wasting, fracture/joints, ancient soils, and cave development
 - e. Glaciation (Glacier, Yosemite, Blacier Bay, Isle Royale)
includes examples of mountain glaciation and continental ice-sheets
2. Earth History illustrated by National Parks
 - a. Assembly of the continents (Voyageurs, Rocky Mountain)
 - b. History of eastern U.S. - Appalachians (Gros Morne, Shenandoah, Great Smokies)
 - c. History of western U.S. - Laramide (Grand Teton, Denali, Rocky Mountains)
 - d. Life Through Geological Time
 - i. PreCambrian Life (Isle Royale, Glacier)
 - ii. Paleozoic Life (Burgess, Grand Canyon, Big Bend)
 - iii. Mesozoic Life (Dinosaur National Monument)
 - iv. Cenozoic Life (Badlands)
3. Human Interaction with National Parks
 - a. Pollution (Grand Canyon, Death Valley)
 - b. Groundwater usage (Mammoth Caves, Everglades)
 - c. Ancient Cultures (Mesa Verde)

Rationale for Proposal (Required Questions from CBA)

**How is/are the
instructor(s)
qualified**

**in the Distance
Education
delivery**

**method as well as
the discipline?***

Dr. Branan has taught Geology of National Parks on the IUP campus ten times over the last six years. Four of those were during 4 week summer sessions, giving her the experience needed to teach fast-paced sessions of this course. Dr. Branan has also taught distance education courses as well. She began teaching them five years ago and has taught six sessions of Dynamic Earth (GEOS 101) online since then. Four of these six sessions were three week courses during pre-summer and/or winter sessions. She has also taken numerous courses provided by the IUP IT department to enhance her ability to successfully teach online, including, an Online Development Workshop and several D2L courses, as well as the D2L boot camp. Finally, Dr. Branan continues to enhance her knowledge of online teaching by keeping up to date on the current research and thinking on the topic.

For each outcome in the course, describe

Outcome 1: to examine the growth and development of the North American continent as preserved in the spectacular rock outcrops of its national parks.

how the outcome will be achieved using

Beyond the lecture-enhanced power points outlining this information, students will be directed to specific websites which highlight video animations of many of the more challenging 3-d processes we will tackle in the course.

Distance Education technologies.*

Outcome 2: to explore and analyze major geologic hypotheses and unresolved controversies, as they pertain to national parks.

Again, lecture-enhanced power points are the basis for getting the students to understand these scientific idea. However, they will be further enhanced by the requirement of students to read and analyze current research and news articles that highlight the most recent information available. Students will be required to discuss this information via online discussion forums.

Outcome 3: to appreciate and value the scientific as well as scenic value of national parks, and to become aware of the threats to their preservation.

Both of the first two objectives are geared toward the scientific understanding of what we see in the national parks. But, the scenic value and understanding threats to preservation requires a significant amount of visuals. Pictures enhance the typical lecture-enhanced power points, but various national park videos also highlight the amazing beauty found within. Students will be required to complete a final project in which they plan a virtual trip to a national park of their choice. This trip must be extremely detailed and include information everything the park has to offer a visitor, including its geology. Past experience with this project shows that students get an in-depth understanding of many of the concepts we've covered during this project, by relating them specifically to a particular area.

How will the instructor-student and

All students will be enrolled in D2L forums and required to post assignment analysis for other students to view. Student-student interactions will be encouraged through follow-up assignments that require questions/responses to other student postings. A component of the final course grade will be based on the quality of questions/responses made to discussion boards.

student-student interaction take place?*

(if applicable)

How will student achievement be evaluated?

Student achievement will be assessed through regular quizzes on the material, as well as several essay exams that require students to incorporate and synthesize assignments, readings and student discussions. Final projects will also be incorporated into the evaluations that show how students can take their new-found knowledge of geological processes and apply them to a specific national park.

How will academic honesty for tests and assignments be addressed?*

Students will be required to log-in using university credentials to view, respond and submit all assignments. In the absence of proctored exams (which would be very difficult for some students to complete, e.g. military personnel) academic integrity will be encouraged through essay questions that require participation and knowledge from the entire course.