Request for Courses in the Core Curriculum

| Originating Department or College: <u>Department of Biology and Chemistry, College of Arts and Sciences</u> | | | | | | | |
|--|---|--|-----------------------|-------------|----------------------------|--|--|
| F | Person Making | g Request: | Marvin E. Bennett | | | | |
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| (| Course Number and Title: GEOL 1303 Physical Geology Lecture | | | | | | |
| F | | n separate docume leted Catalog Add/0 us | | | | | |
| | List the student learning outcomes for the course (Statements of what students will know and/or be able to do as a result of taking this course. See appended hints for constructing these statements.) | | | | | | |
| | Student Learning Objectives: Upon successful completion of this course, students will be able to: | | | | | | |
| 1. | Use critical | thinking and the sci | entific method to exa | amine ques | tions relating to geology. | | |
| 2. | Collaborate | effectively on a res | earch project. | | | | |
| 3. | . Communicate scientific information both verbally and through written reports. | | | | | | |
| 4. 5. 6. | . Define and discuss geological processes that alter the earth's surface. | | | | | | |
| <u>(</u> | Core-Curriculum Learning Outcomes: | | | | | | |
| 1 | 1. Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of | | | | | | |
| | information. (SLOs: 1, 5, 6) | | | | | | |
| 2 | 2. Communication Skills: Students will demonstrate their ability to communicate effectively by using written | | | | | | |
| | communication. (SLOs: 3, 5) | | | | | | |
| - | 3. Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts | | | | | | |
| , | resulting in informed conclusions. (SLOs: 1,2) 1. Teamwork: includes the ability to work effectively with others to support a shared goal. (SLOs: 2) | | | | | | |
| - | 4. Teamwork: includes the ability to work effectively with others to support a shared goal. (SLOs: 2) | | | | | | |
| (| Component Ar | rea for which the co | urse is being propose | ed (check o | ne): | | |
| | - | mmunication | 01 1 | | rican History | | |
| | M | athematics | | | rnment/Political Science | | |
| | La | nguage, Philosophy | , & Culture | Socia | l & Behavioral Science | | |
| | Cr | eative Arts | | Com | oonent Area Option | | |
| | _X_ Li | fe & Physical Scienc | es | | | | |
| Competency areas addressed by the course (refer to the appended chart for competencies that are required and | | | | | | | |
| | optional in each component area): | | | | | | |
| | _X_ Cr | itical Thinking | | Team | work | | |
| | _X (| Communication Skil | ls | | onal Responsibility | | |
| | | _X_Written Comr | | Socia | l Responsibility | | |
| | | Oral Commun | | | | | |
| | = | Visual Comm | | | | | |
| | _X_ Er | npirical & Quantitat | tive Skills | | | | |

Because we will be assessing student learning outcomes across multiple core courses, assessment assigned in your course must include assessment of the core competencies. For each competency checked above, indicate the specific course assignment(s) which, when completed by students, will provide evidence of the competency. Provide detailed information, such as copies of the paper or project assignment, copies of individual test items, etc. A single assignment may be used to provide data for multiple competencies.

Critical Thinking:

Prior to the exam, students will be given a "Earth Composition" problem, where they will be asked the question "How can we determine the composition of the internal regions of our planet?" The students will be assigned to break into groups and use critical thinking skills to determine what methodologies are used to determine rock types in inaccessible regions of the earth and their limitations. As a component the following exam, students will be given a two part essay question concerning this question. A critical thinking rubric with domains for creative thinking, depth of inquiry, evaluation of importance and synthesis of information can be scored from the essay response, or the essay can be up loaded for evaluation by the Core Curriculum Assessment Committee.

Communication Skills:

On the exam, for the second part of the "Earth Composition" problem, students will be asked write an essay discussing the how the velocity of seismic waves through different rock types is used to determine the internal composition of the planet and to identify factors that can confound their calculations. The instructor can score the written essay for organization, focus, style and grammar using a modified WIN rubric, or the written essay can be up loaded for evaluation by the Core Curriculum Assessment Committee.

Empirical & Quantitative Skills:

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On the exam, for the first part of the "Earth Composition" question, students will be asked to calculate density and composition of rock formations based on seismic wave velocities. The instructor can assess the logical reasoning behind the calculation and extrapolations, or the students' answers can be up loaded for evaluation by the Core Curriculum Assessment Committee.

Teamwork:

The same "Earth Composition" assignment can be used to assess teamwork as well. The students will be given a survey to assess their participation on the project as well as an evaluation of their each member's contribution.

| Will the syllabus vary across multiple sections of the course? Yes If yes, list the assignments that will be constant across the sections: | _X_ No |
|---|--------|
| Social Responsibility: N/A | |
| Personal Responsibility: N/A | |

Inclusion in the core is contingent upon the course being offered and taught at least once every other academic year. Courses will be reviewed for renewal every five (5) years.

The department understands that instructors will be expected to provide student work and to participate in university-wide assessments of student work. This could include, but may not be limited to, designing instruments such as rubrics, and scoring work by students in this or other courses. In addition, instructors of core courses may be asked to include brief assessment activities in their courses.

Reviewed and approved by the Core Curriculum Committee on February 15, 2013.