Texas A&M University

Core Curriculum

Initial Request for a Course Addition to the Fall 2014 Core Curriculum

Foundational Component Area: Life and Physical Sciences

In the box below, describe how this course meets the Foundational Component Area description for Life and Physical Sciences. Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

How does the proposed course specifically address the Foundational Component Area definition above?

BESC 201: Introduction to Bioenvironmental Sciences surveys environmental science highlighting the roles and effects of biological components, including most significantly humans. A further emphasis is placed on scientific literacy when interpreting all sides of environmental issues.

Through interaction with media, readings, lectures and class discussion students review and evaluate data and observable facts related to science-based studies of the environment. A major theme will be to examine environmental issues in the context of these studies, with particular emphasis on the role of the scientific method in the study. Further, students are expected to provide written explanations of how exposure to the data and the conclusions from studies relates to their own worldview.

Core Objectives

Describe how the proposed course develops the required core objectives below by indicating how each learning objective will be addressed, what specific strategies will be used for each objective and how student learning of each objective will be evaluated.

Critical Thinking (to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information):

Learning Outcomes:
- Apply information learned through readings and other media posted within the learning management system
- Comprehend the interdisciplinary concepts integral to environmental science
- Analyze current environmental issues and evaluate potential solutions
- Assess the costs and benefits of conservation vs. remediation or technological solutions

Assessment:
- Students will take weekly online quizzes to assess their comprehension of the reading and other media. Further there will 4 unit exams given in class (multiple choice). Prompts within the journal assignments will be designed to assess how students integrate and synthesize their understanding of data, course concepts, and scientific principles to bolster, modify and/or create their own worldviews. Further, creative thinking will be assessed during evaluation of the group podcast assignment.

Communication (to include effective development, interpretation and expression of ideas through written, oral and visual communication):

Learning Outcomes:
- Relate the features of human populations to different types of environmental degradation
- Recognize the impact of globalization on the environment
- Recognize the ecological footprints left by different peoples of the Earth
- Participate in class discussions and actively listen to student presentations
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Work effectively in a group to create a presentation about an assigned country
Recognize the variety of worldviews associated with the environment
Excavate and describe your own worldview and speculate about how and why you formed it

Assessment:
Students will work in groups to create podcast presentations that highlight the demographic and environmental issues of a country. This assignment requires students to practice oral, written and visual communication skills. Effective group work will require oral negotiation among team members and the podcasts themselves will require effective narration. Students will work together to create written scripts for the narration and a written transcript for the podcast will be submitted with the assignment. The podcasts will be evaluated based on effective use of visual communication to include: graphs, photographs, animation, video clips or simulations as appropriate. Students will be expected incorporate data in their presentations to effectively convey the issues specific to the country. Assessment of the podcast assignment includes the quality of the end product (based on a rubric provided, used by both the instructor and members of the class via peer review) and also the quality of individual participation in its creation (based on within group reflection on peer performance).

Students will respond to journaling prompts within the eCampus journal tool. This assessment is designed to encourage students to reflect on the relationship between their worldview and the scientific principles (supported by data rich specific examples) in the course. Thus, grading will be based on both effective written and visual communication (e.g. graphs, tables, figures) and also evidence of reflection and connection.

Student participation in class discussions during face-to-face meetings will constitute oral communication. To deal with issues of class size and introvert/extravert inherent differences these discussions will be staged in a variety of different contexts (e.g. spontaneous responses to questions during lecture, think-pair-share arrangements, small groups with prompts provided prior to class) to provide ample opportunity for students to perform. When topics engender a great deal of discussion there is also the possibility of providing a forum within the eCampus discussion area, which many students find satisfying instead of just dropping the topic due to the end of the lecture period. Participation in class and class attendance are 10% of the grade. An attendance sign-in sheet will be distributed each day of class. Each unexcused absence results in a deduction of 0.5 points up to a total of 5 points associated with attendance. Participation will involve subjective assessment by the instructor of the degree to which students contribute meaningfully to class discussion as well as evidence of active listening.

Empirical and Quantitative Skills (to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions):

Learning Outcomes:
Apply information learned through readings and other media
Analyze current environmental issues and evaluate potential solutions
Assess the costs and benefits of conservation vs. remediation or technological solutions

Assessment:
Students will take weekly online quizzes and also in class exams to assess their ability to apply information to make informed conclusions. In instances where simple calculations are appropriate for a concept these will be included on quizzes and exams.

Students will respond to journal prompts within the eCampus journal tool. This assessment is designed to encourage students to reflect on the relationship between their worldview and the concepts in the course. Thus grading will be based on both effective communication (see communication) and also evidence of reflection and connection (as defined in the AACU VALUE rubric integrative learning: www.aacu.org/valu/rubrics/pdf/integrativelearning.pdf). It is
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It is important to note, students will be prompted to support their journal entries with appropriate reference to data and observable facts (e.g., graphs, figures, specific conclusions from studies, etc.) and the degree of effectiveness of this will be part of the journal assessment.

Teamwork (to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal):

Learning Outcome:
Work effectively in a group to create a presentation about an assigned country

Assessment:
Students will work in groups to create podcast presentations that highlight the demographic and environmental issues of a country. Assessment of this includes the quality of the end product (based on a rubric provided, used by both the instructor and members of the class via peer review) and also the quality of individual participation in its creation (based on within group reflection on peer performance).

The assessment of teamwork will be most evidenced by within group feedback provided to the instructor and to the students.

Please be aware that instructors should be prepared to submit samples/examples of student work as part of the future course recertification process.