World Problems: Science, Economics, and Ethics

1. What is the theme you propose for your group of courses? In what ways do you think this theme speaks to issues important to our freshman population? To the University’s mission?

The theme of this First Year Learning Community is to provide our students with the foundation to make informed and ethical decisions. Students entering our campus will face serious issues throughout their lives, such as global warming, energy, and nuclear weapons, to name a few. As contributing members of society, our students will have to make key decisions regarding these current world issues.

Informed and ethical decision-making requires both the ability to distinguish facts from fiction, and the insight to foresee the consequences of decisions. In Physics 1410 and Economics 1000, students will use evidence to analyze current social and global issues, and investigate the incentives that govern human behavior as regards such issues, and in Philosophy 1103 students will learn the analytical tools for use in such analyses as well as the ethical ramifications of various decisions. We want to encourage our students to ask themselves and others “how can that be?” and “does this seem reasonable?”

Another major theme involves the moral implications associated with such decisions. For this, a broad distribution of perspectives is essential. Every decision we make involves more than just facts, but requires an analysis of the potential ethical outcomes. For instance, environmental policies that may ease unemployment in the short term may lead to grave outcomes in the long term.

The three courses in this cluster span three different colleges at CSUEB. By infusing diversity, we hope to provide students with the opportunity to analyze current world issues from different perspectives. By discussing relevant topics, we hope to engage students in multifaceted ways.

This cluster is specifically designed to address important aspects of the University’s mission statement regarding the application of education to life and enabling students to be responsible contributors to society: “Cal State East Bay welcomes and supports a diverse student body... that prepare students to apply their education to meaningful lifework, and to be socially responsible contributors to society...“

2. List the three courses (prefix, number, title, units).
3. Explain how the theme will be used to integrate course content in each course. If appropriate, please describe how students will be involved in researching the theme and when in the year that will happen. (Describe the contribution of each discipline’s perspective on the theme that will help create a coherent learning experience for the students.)

The major theme of this cluster is centered around developing the foundation for our students to use objective information to make informed decisions while simultaneously taking into account the moral consequences of those decisions. Facts are required to understand the various choices surrounding contemporary issues, thus we propose that Phys 1410 open the sequence.

In Phys 1410, students will learn about the science behind current events. As an example, a major topic in this course is energy, including modern society’s dependence on fossil fuels and the scientific merits and challenges associated with various alternative energy sources. Students will use order-of-magnitude estimates to gain intuition about energy use and availability in different global sectors, and use these facts and evidence in classroom discussions.

In Econ 1000, students will study the natural and economic incentives that guide human behavior regarding current global challenges. For example, the supply and demand for fossil fuels and alternative energy sources will be investigated, as well as political efforts to manipulate the supply and demand.

In Phil 1103, students will learn about the social implications associated with current events and technologies. The impact of decisions related to these topics and technologies and their potential ethical outcomes will be analyzed. In keeping with the example above, in Phil 1103, students may analyze the fairness of imposing emissions standards designed to curtail climate change on poor developing countries that did not create the climate change problem in the first place.

From this sequence, students will learn about the scientific facts of current issues (Phys 1410), how we might incentivize a change in human behavior regarding such issues (Econ 1000), and what sorts of ethical implications such changes or failures to change may have (Phil 1103).
4. Explain how each course in the proposed learning community will support student learning of each of the cluster's lower division general education area learning outcomes and General Education requirements. Please use the GE course application forms to address this question. (If the course has already been approved for GE credit, and the current application form was used, please attach a copy. If the course has not yet been approved for GE credit, the use of the application form will permit review for GE credit, even if the cluster application is not selected.

Students in this cluster will:

(1) Develop an appreciation and understanding of current events and their relation to different fields of study
(2) Be able to make order-of-magnitude estimates in order to make quantitative predictions and calculations in relation to current events
(3) Demonstrate an understanding of essential ideas in physics, economics, and philosophy and use these to make informed decisions
(4) Develop an appreciation that knowledge in many disciplines is required to make objective conclusions/decisions

Economics 1000, Physics 1410, and Philosophy 1103 will satisfy D1, B1, and C2 of the general education requirements. Students in this cluster will be exposed to current world issues and problems and investigate potential solutions (as any future leader or any other profession may encounter). From the combination of physics, economics, and philosophy, students determine what/if any problem needs to be solved, what are the possible solutions, and the feasibility of each solution.

In order to assess how well we are meeting our learning outcomes, we will have our students write responses to short-answer questions concerning current events. We will ask students to take into account the different perspectives learned throughout the cluster when formulating their response. Using these short-answer questions, we will track the evolving thought-process of our students and use these to gauge the efficacy of meeting our learning outcomes.

GE applications are attached below.

5. Attach course outlines for the three courses. Each course outline should indicate how the theme would be used in the course and any student activities that cross all three courses. (For example, will there be common reading(s) in the three courses?
Will there be common assignments, or assignments on which students work the entire year? Will students keep a cluster portfolio? Etc.

In this cluster, the common thread throughout each course is to provide our students with the knowledge and know-how to make informed and ethical decisions. Covering common topics and studying them using the analytic tools specific to that course will aid in accomplishing this.

Syllabi for each class area attached.
Approved by Department Chairs:

Signature

PHIL

Date

Department

Signature

Physics

Date

Department

3/4/2014

Approved by College Dean/Associate Dean from each participating college¹

Signature

CSCI

Date

4/4/14

Signature

CLASS

Date

4/4/2014

Signature

Date

4/4/2014

Signatures of three faculty members: Ideally, the person who will teach the courses will participate in the cluster planning. However, recognizing the staffing difficulties departments face, the faculty member who plans the cluster must agree to provide a thorough orientation to the expectations and methods developed for the learning community to the actual instructor. We each agree, if selected, to meet on for six hours during the following three days for an end-of-Spring workshop on interdisciplinary curriculum, pedagogy and course integration

Signature

Date

04/04/2014

Signature

Date

03/04/14

Signature

Date

04/09/14

¹ While Colleges do not approve courses for GE, College approval assures support for departmental participation.