Texas A&M University
Core Curriculum
Initial Request for a Course Addition to the Fall 2014 Core Curriculum

Foundational Component Area: Social and Behavioral Sciences

In the box below, describe how this course meets the Foundational Component Area description for Social and Behavioral Sciences. Courses in this category focus on the application of empirical and scientific methods that contribute to the understanding of what makes us human. Courses involve the exploration of behavior and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture.

The proposed course must contain all elements of the Foundational Component Area. How does the proposed course specifically address the Foundational Component Area definition above?

In this course students will learn about the human-coastal interface and factors which have led to the dominance of the coastal realm in human settlement preferences. Various cultures interact with the coastal and ocean environments differently, such as the value placed upon fish stocks and local fisheries, coastal wetlands, coastal armoring and water quality. The quantitative and empirical effects of climate, weather and oceanography on the coasts, and the human settlements and activities contribute to an overall appreciation of the importance of international cooperation to preserve and protect these resources.

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.

The proposed course is required to contain each element of the Core Objective.

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

The students will analyze the human-coastal interface with respect to the human perspective of what is meant by the coastal realm, how human settlements along the coast have developed and changed over time, and how climate, weather and oceanographic processes and changes affect human settlements along the coast. Students will examine what steps humans have taken to minimize or otherwise cope with these effects. Here are addressed many key concepts (e.g., spatial interaction, regionalization, questions of place, distribution patterns both local and regional and environmental interaction). Students examine concepts in terms of population locations/densities, energy systems, coastal processes and effects on settlements and coastal utilization and apply creative thinking to predict future effects on settlements and utilization as a result of rising sea levels and changing climates. Student learning will be evaluated through exams, class participation and presentations/discussions of reading assignments and projects.

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

The students will interpret and discuss the human-coastal interactions of settlement, exploitation, and conservation along with human adaptations necessary to keep pace with various stakeholder changes in attitudes about the coastal environment and the resources therein. Effects on the coastal realm and planning for such as a result of events such as rising sea levels and climate change are communicated through class discussions. Students will develop strong visual communication skills through interpretation of images presented in each class. Lectures include a cadre of images taken from space platforms (earth-viewing astronaut photography and satellite data) as well as ground-based photography for other representations of the concepts being discussed (e.g., urbanization of coastal regions or planning for and recovery from major storms). Students interpret and synthesize the information presented from
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lecture material, readings, and group discussions and present their summaries orally as either individual presentations or group projects. Students effectively express their synthesis of the concepts in written form with essays on midterms and exams.

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

The students will utilize quantitative skills particularly through the study of population dynamics in coastal areas of the world, changes in fish stocks and commercial fisheries over time and water quality concerns. Students utilize numerical data also for such items as calculating water balances (changing with time) and drawing conclusions concerning such on settlements. Other examples include scenarios such as how coastal land-use planners/city planners would approach rapidly eroding beaches (economic concerns such as tourism), do they take a hardening of the coastline approach such as with a seawall or breakwater or, use soft methods such as beach nourishment, establish of no-build areas or wildlife preserves? Same for such items as causeway construction, does one take a “cheaper” approach and use land fill with maybe a small drawbridge for circulation of the water inlet or does one spend the money and develop an elevated causeway allowing for greater water circulation and fish migration.

Social Responsibility (to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities):

The students will learn the effect of humans on the coastal and ocean environment, how laws have evolved to protect fisheries and other resources from exploitation and the impact and the societal responsibility to limit uncontrolled waste streams (run-off, dumping, other forms of pollution). The students will also study approaches various communities have taken to protect coastal areas (includes examination of ecological or soft protection versus hardening of the coastal area; through engineering structures) and associated ramifications.

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