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.

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?

The learning outcomes and teaching strategies used in Nutrition for Health and Healthcare, NUTR 222, fully meet the expectations for the Life and Physical Sciences foundational component area. The primary focus of this course is to describe the fundamental principles of nutrition and the role the diet plays in disease prevention and treatment. Basic understanding of impaired physiology that leads to diagnosis of disease is presented. Students then learn how specific dietary components such as nutrients influence the systems, which ultimately results in either enhanced or suppressed risk of chronic disease development. In addition, how the scientific method is used to develop correlations between dietary choices and disease incidence are also discussed. Finally, students learn how modifications to lifestyle choices related to food selections have a significant impact on health status. This is an online course that meets the core objectives through instructional techniques and individual assignments.

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):

Critical thinking is a key component of this course. Much of the lecture content will focus on examples of epidemiological and experimental observations that have lead to the scientifically grounded correlations between an individual's diet and health status. In addition, questions will be posed in lectures in the latter half of the course that challenge the students to apply what we have been learning in the earlier examples to scientific questions relevant to that day's lecture. The primary place that critical thinking will be assessed is in case study assignments. For these assignments students must take knowledge learned in the course and analyze a hypothetical situation regarding the health status of an individual(s). Typically these assignments result in the student needing to synthesize information from multiple sources and sections of the course in order to come up with novel answers to questions asked.

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

Within the case study assignments described above a student's ability to effectively communicate their interpretations of the problems and descriptions of correct answers to the questions will be routinely assessed in both peer- and instructor-evaluation formats. For the first case study, students will work in groups and students will be
required to communicate ideas in written format via the chat function in eLearning. A specific grading rubric is used by team members to evaluate other students in their group while a separate rubric is used by the instructor to assess overall communication skills. For the second case study, students will complete the assignment individually and will submit their response to the questions in the form of a short oral presentation. This will be conducted in a live video conference via Skype. If enrollment in the course is such that this becomes impractical, students will submit their responses via recorded video. A video recorded lecture will provide instruction on how to effectively communicate complex scientific information to a general audience. The assignments will be graded using rubrics for content and oral communication and feedback provided by the instructor. In addition, students are encouraged to participate in online discussions that go on throughout the course and are incentivized to do so by offering bonus points on tests. These activities are not graded assignments because we have found that open communication between students results in an intriguing flow of ideas. However, the instructor will provide routine feedback to students as to how they may most effectively communicate their ideas to garner support for their point of view. Finally, the videos and slide sets used for lectures in this course are intended to teach students how appropriate visual aids and graphics can dramatically improve the effectiveness of communicating complex scientific ideas to multiple types of audiences.

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

As stated above, much of the basis for what we know about the influence of diet on chronic disease is based on epidemiological and experimental findings. In the course, specific observational facts are presented and appropriate numerical data provided to support these claims. Students are then required to utilize these findings to draw conclusions to answer examination questions. These quantitative skills are also routinely assessed in the case study assignments depending on the hypothetical situation proposed. However, intentional instruction is provided as to how to quantitatively interpret these types of data and all exams include test questions related to evaluating a student’s competency in this area.

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

As previously stated, the first case study assignment is a group project in which three to four students work together. The ability of students to express their opinions and views and to accept those of others is central to this assignment. The nature of the hypothetical situations presented in these assignments is that while they are based on scientific fact related to human physiology, they also very often have a sociological/psychological component that results in different points of view that must be resolved between students prior to completing the assignment. For example, we often challenge students to use scientific findings to come up with specific recommendations for complex problems such as the growing prevalence of childhood obesity.

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