Application for General Education Credit
for Lower Division Fine Arts Course (Area C1 or C3)

Course title: **Science, Ethics, and Technology**
Course number **PHIL 1103**

Courses approved for general education credit must provide students with explicit instruction in the approved student learning outcomes. **Please be as specific as possible in your explanations, describing topics, readings, assignments, activities and assessments that illustrate how the course supports students' acquisition of the learning outcomes.** Remember, there may be no one on the review committees who has any knowledge of your discipline. Attach the course syllabus and any assignments and/or assessments needed to support your explanations.

Please use this template to address ALL of the following learning outcomes:

Purpose of Science GE: The goal of lower division general education in the natural sciences is to gain basic knowledge and learn key principles in the life and physical sciences as essential for an informed citizenry. In addition, students should recognize the experimental and empirical methodologies characteristic of science and understand the modern methods and tools used in scientific inquiry.

1. Students will demonstrate through oral and written work a critical examination of philosophical literature as it relates to social and political perspectives on technology.

   Students will analyze the social and political relationship between technology and freedom, democracy and active citizen participation.

2. Through oral and written work, students will demonstrate their ability to critically employ concepts, theories, and methods of analysis, both historical and contemporary, used in the humanities to interpret and evaluate enduring human concerns.

   Students will investigate the ethical implications of technology overall as it relates responsibilities in research both current and future, and whether traditional and historical ethical theory and analysis can accommodate the changes that technology presents to us.

3. Through oral and written work, students will demonstrate their ability to critically reflect on the formation of human goals and values.
This course will focus on biotechnology, medical technologies, environmental technologies, and informational technologies and its relationship to many human goals and values such as privacy, freedom, censorship, social understanding, human perfectionism, and environmental issues.

Application for General Education Credit  
for Lower Division Physical Science (Area B1)

Course title  Physics for Future Presidents  
Course number  PHYS 1410

Courses approved for general education credit must provide students with explicit instruction in the approved student learning outcomes. Please be as specific as possible in your explanations, describing topics, readings, assignments, activities and assessments that illustrate how the course supports students' acquisition of the learning outcomes. Remember, there may be no one on the review committees who has any knowledge of your discipline. Attach the course syllabus and any assignments and/or assessments needed to support your explanations.

Please use this template to address ALL of the following learning outcomes.

Purpose of Science GE: The goal of lower division general education in the natural sciences is to gain basic knowledge and learn key principles in the life and physical sciences as essential for an informed citizenry. In addition, students should recognize the experimental and empirical methodologies characteristic of science and understand the modern methods and tools used in scientific inquiry.

1. Students will demonstrate broad science content knowledge in the physical sciences such as the nature and structure of matter, Earth's place in the Universe, or the conservation of energy and matter.

This course will include a broad overview of fundamental core principles in physics (e.g. energy, conservation of energy, Newtonian mechanics, etc.) and their relation to current world issues. Topics, such as energy, radioactivity, fission/fusion, and medical imaging will be studied, with a particular emphasis on its relevance and relation in current events. There will be a particular emphasis on events occurring when the course is taking place in order to demonstrate the applicability of physics in our daily lives.

2. Students will demonstrate the application of quantitative skills (such as statistics, mathematics and the interpretation of numerical graphical data) to physical science problems.
Energy sources, energy conservation, etc. will be studied through order-of-magnitude estimates, calculations, and data analysis (including graphical representations of data). Reasonably accurate measurements can be made using order-of-magnitude estimates. For example, calculations comparing the various energy sources (e.g., fission energy vs. solar energy) will be carried out, along with estimates of energy efficiency. In addition, calculations regarding radioactivity will be conducted and used to understand various methods of medical imaging. Order-magnitude estimates and graphical representations of data will be used as evidentiary support in student-led discussions of current events.

3. Students will demonstrate a general understanding of the nature of science, the methods applied in scientific investigations, and the value of those methods in developing a rigorous understanding of the physical world. Students should be able to identify the difference between science and other fields of knowledge. Students should be able to distinguish science from pseudoscience.

A major theme in this course will be the use of data, calculations, and measurements to support or reject ideas and hypotheses. Students will objectively analyze current events through the use of scientifically accepted data and/or calculations. With a strong emphasis on using data and calculations to distinguish true from untrue statements, this course will have a strong emphasis understanding the processes involved in scientific investigations. By the end of the course, students will be able to ask “how can that be” and does this seem reasonable” in relation to current world issues.