Agenda Item #02-32r
Effective Fall 2003
Effective Fall 2016, with revisions

REVISED COURSE PROPOSAL
GEO/AET 2300G

1. Catalog description

a) Course Number: GEO/AET 2300G
b) Title: Science and Technology: A Promise or a Threat
c) Meeting times and credit: (3-0-3)
d) Term(s) to be offered: F, S, SU
e) Short title: Science and Tech
f) Course description: This course will focus on the methods and development of scientific discoveries, their technological applications and the impact of these activities on cultural, social, political, economic, and religious values. The influence of society on scientific research and technological development will be studied as well.
g) Prerequisites: None

2. **Objectives and Evaluation of the Course**

a) Upon completion of GEO/AET 2300G students will:

Demonstrate an understanding of the characteristic processes of science and technology.

Demonstrate an understanding of the root functions of science and technology.

Demonstrate an appreciation for the rich history of science and technology.

Demonstrate an understanding of the symbiotic relationship between science and technology.

Identify and articulate theories and models that help explain how the forces of science and technology shape culture.

Demonstrate an understanding of ethical issues precipitated by scientific and technological advancement.

Demonstrate an understanding of the public and private influence agents that affect the direction of science and technology.

b) General Education Learning Objectives:

To demonstrate an understanding of current scientific research and its possible technological applications, students will write 2-3 essays and give relevant examples illustrating the ethical, social and legal implications for different members of society (writing, critical thinking)

To demonstrate an understanding of differences between two civilizations, students will write a 2-3 page paper comparing the cultural, religious and scientific views of each civilization (writing, critical thinking)

To develop logical approaches regarding the role of citizens living in a nuclear society, students will discuss points of concern regarding nuclear waste disposal site locations and be able to list alternative solutions to problems (critical thinking).

To develop a practical approach to the scientific research/technological applications and perceived ethical and social implications, students will write a one-page paper describing their position (pro or con) on selected scientific research/technological applications (writing, critical thinking).

To clarify the areas of conflict between science and technology and religion, students will write an essay explaining their own conflict (writing, critical thinking).

To demonstrate by means of short essays the advantages and disadvantages of a particular scientific discovery and its technological applications (writing, critical thinking).

To demonstrate through class discussions how scientific literacy (or illiteracy) impacts society's use and misuse of scientific discoveries and technological development.

c) Methods of Evaluation:

One comprehensive paper and several authentic short essays will determine students' writing and critical thinking abilities. Class presentations and discussions will indicate students' literacy skills as well as reasoning and critical thinking abilities. The aim of the course Science and Technology–A Promise or a Threat is to involve students in debates concerning applications of scientific and technological discoveries and their ethical and legal implications. As such, this requires participation of citizens in developing consensus as to how these discoveries are implemented. Discussing such issues will greatly enhance students' citizenship outlook. The course also provides a listserv, where students freely debate and discuss the course's relevant issues. The comprehensive paper, short essays, class presentations, two tests, several short quizzes, and class discussions will determine the extent to which students have accomplished the course's learning objectives. The final course grade will be determined by the sum of four grades for a total of 100 percent as follows:

Midterm test	(25%)
Final test	(25%)
Paper	(25%)
Short essays and quizzes	(25%)

d) Graduate Level: NA

e) Writing Course: This is a writing intensive course.

3. Outline of the Course

	Weeks
PART 1: Foundations	
Introduction Purpose and Philosophy Role of Science and Technology in Modern Society	1
The Study of Science and Technology Defining Science & Technology	1
History of Science and Technology Scientific Revolution Industrial Revolution Convergence of Science and Technology	2
Contemporary Science and Technology Contexts of Science & Technology	1
Theories of Science and Technology in Society	1
PART II Influence of S&T on Modern Society	
Impact of Science and Technology on Social Institutions	1
Impact of Science and Technology on Social Groups	1
Impact of Science and Technology on World Views and Human Values	1
Science and Technology Precipitated Ethical Conflicts	1
The Influence of Science and Technology on the Fine Arts	1
Part III: Influence of Modern Society on S&T	
Science, Technology and International Relations	1
Influence Agents, Types and Effects	1
Social Control of Science and Technology	1
Science, Technology, and the Future	1

b) Nontraditional Format: How will contact with students, participation in discussion, and/or research mentoring be managed?

The reading and written assignments, as listed in the on-line syllabus, are directly related to the stated objectives. Three Internet tools are used to deliver this course, WebCT, Course web page, and email listserv. WebCT is used for discussion related to the assigned readings, to administer exams to evaluate the student learning as related to the stated objectives, and to record and communicate grades for both written assignments, discussions, and exams. The course web page contains the syllabus.

How will security issues, including academic integrity, be addressed?

Students are issued secure user Ids and Passwords for access to the course and exams. Exam questions are randomly selected from a pool of questions. Conceivably every student will have a unique exam.

4. Rationale

a) Purpose and need: The course will be placed in the Scientific Awareness-physical science non- laboratory segment of General Education**.** In order to articulate methods and development of scientific inquiries and principles and their impact on society, examples of current scientific research and its technological applications will be discussed and debated.

b) Justification of the level of the course and a list of all prerequisites: This course is intended to be an overview of the history and characteristics of science and technology and their impact on society and its institutions. Its purpose is to prepare students to recognize the influence of science and technology on society from the historic and contemporary perspective. As an overview course it is best suited for sophomore level students.

c) Similarity to existing courses and/or effect upon programs in other departments: None

d) Impact on Program: Offered as a scientific awareness non-laboratory general education course.

5. Implementation

a) Faculty members to whom the course may be assigned: Faculty members in the Department of Geology/Geography and the School of Technology.

b) Additional Costs to Students: None

c) Texts and supplementary materials to be used:

McGinn, Robert E. (1991). Science, Technology, and Society. Englewood Cliffs, NJ : Prentice Hall.

Teich, Albert H. (1997). Technology and the Future, 7th Edition, New York: St. Martin's Press

d) Term to be first offered: Fall 2003

6. Community College Transfer: A community college course may be judged equivalent to this course.

7. Date approved by the Dept. of Geology/Geography	11/6/2002
8. Date approved by the COS Curriculum Committee	11/22/2002
9. Date approved by the School of Technology	12/5/2002
10. Date approved by the Lumpkin College of Business & Applied Sciences Curriculum Committee	12/18/02
11.Date approved by CAA	