CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREAS_____HUMANITIES, SCIENCES

---

1. **Catalog Description of the Course.** *[Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ___ units); time distribution (Lecture ___ hours, laboratory ___ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]*

   ENGL 338 SCIENCE AND CONSCIENCE (3)
   Prerequisite: upper-division standing.
   This course is a team-taught interdisciplinary course that examines various ethical issues within the sciences, using several case studies. The scientific, historical and social aspects of each case study will be examined from different perspectives. Students will learn scientific concepts which will facilitate an informed understanding of the ethical issues involved. Same as PHYS 338.
   GenEd: B1, C2

   ENGL 338 SCIENCE AND CONSCIENCE (3)
   Prerequisite: upper-division standing.
   This course is a team-taught interdisciplinary course that examines various ethical issues within the sciences, using several case studies. The scientific, historical and social aspects of each case study will be examined from different perspectives. Students will learn scientific concepts which will facilitate an informed understanding of the ethical issues involved. Same as ENGL 338.
   GenEd: B1, C2

2. **Mode of Instruction.**

	Units	**Hours per Unit**	**Benchmark Enrollment**
Lecture	___3_____	_____1___	_____25___
Seminar	_____	_____	_____
Laboratory	_____	_____	_____
Activity	_____	_____	_____

3. **Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

   This is an upper-division interdisciplinary GE course which brings together the methodologies of literature/cultural studies and science in order to show students how two different disciplines grapple with the same issue. The course will bring together disparate disciplines to enable students to encounter vital issues of the 21st century.

   Through this course, students will be able to
   - analyze, synthesize, evaluate and interpret information and ideas
   - construct and support hypotheses and arguments
   - distinguish among knowledge, values, beliefs and opinions
   - recognize fallacies and inconsistencies
   - explain the scientific principles and concepts underpinning specific new technologies
   - interpret graphs, tables and diagrams
   - integrate knowledge and experience to arrive at creative solutions
   - make decisions based on an informed understanding of the moral and ethical issues involved
   - employ and expand the imagination
   - appreciate the value of considering issues from a variety of different disciplinary points of view
   - practice textual interpretation
   - develop critical writing skills

The course is not designed to satisfy the University Writing or Language requirements, although it will include substantial components of writing and oral presentation.

4. Is this a General Education Course **YES** **NO**
If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	**X**
C (Fine Arts, Literature, Languages & Cultures)	**X**
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

5. Course Content in Outline Form. *[Be as brief as possible, but use as much space as necessary]*

The course will pose ethical questions that come out of current debates about various scientific issues. They will include: what is the responsibility of the scientist when developing new technologies? What are the possible consequences of developing these technologies? Who decides what policies should be set? How does the growing "expertise" required to work in ever-narrowing fields affect the ability of society as a whole to evaluate questions of science and technology?

These questions and others form the umbrella under which two (or three) case studies will be examined. The historical, scientific and social aspects of each case will be examined from different perspectives, and scenarios proposed and analyzed. Case studies might include: the nuclear predicament, the use of radiation in medicine, robotics/AI, cloning, the use of animals in medical research. In each case, the scientific principles and concepts itself will be presented and discussed and students will read literary texts which relate to the issue.

6. References. *[Provide 3 - 5 references on which this course is based and/or support it.]*

Journals of particular relevance include Scientific American, Nature, Science and Physics Today.

For the case study: the nuclear dilemma

Richard Rhodes. The Making of the Hydrogen Bomb. Simon and Scuster, 1986.
Kai Bird and Lawrence Lifschultz, eds. Hiroshima's Shadow: Writings on the Denial of History and the Smithsonian Controversy. The Phamphleteer's Press, 1998.
Miller, Walter A Canticle for Leibowitz
Miller, Waltr and Martin Greenberg, Editors, Beyond Armageddon: Twenty-One Sermons to the Dead
Caldicott, Helen, Missile Envy: The Arms Race and Nuclear War
Hersey, John, Hiroshima
Erhlich, Paul, Carl Sagan, et al. The Cold and the Dark: The World After Nuclear War
Rhodes, Richard, Dark Sun: The Making of the Hydrogen Bomb
Bohr, Nils, essays
Sakharov, Andrei essays
Teller, Edward, "Science and Morality" (Science 280:5367, May 1998, 1200-1201)

For the case study: robotics/AI

Lem, Stanislaw, "The Washing Machine Tragedy" from Memoirs of a Space Traveller
Asimov, Isaac, "The Bicentennial Man"
Brooks, Rodney, Flesh and Machines: How Robots Will Change Us
Gibson, William, Neuromancer

For the case study: cloning/genomics

Cherryh, C. J., Cyteen
Wilhelm, Kate, Where Late the Sweet Birds Sang
Brinn, David, Glory Season
Chase, John, The Genesis Code
Goonon, Kathleeen Ann, The Bones of Time
Pence, Gregory, Who's Afraid of Human Cloning?
Kolata, Gina, Clone: The Road to Dolly and the Path Beyond
Silver, Lee, Remaking Eden: Cloning and Beyond in a Brave New World
Reiss, Michael and Roger Straugh, Improving Nature? The Science and Ethics of Genetic Engineering

Heyd, David, Genethics: Moral Issues in the Creation of People
Allen, Arthur, "Cloning Trevor," Atlantic Monthly, June, 2002

7. List Faculty Qualified to Teach This Course.

Dr. Renny Christopher
Dr. Geoff Dougherty

8. Frequency.

a. Projected semesters to be offered: Fall _X____ Spring _____ Summer _____

9. New Resources Required.

a. Computer (data processing), audio visual, broadcasting needs, other equipment

None

b. Library needs

The works listed above in 6.

c. Facility/space needs

None

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

_____Geoff Dougherty/Renny Christopher_____12-16-02_____
Proposer of Course Date