CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

IME 402

COURSE OUTLINE

Course Information	**ABET Unit Classification** (4 Qtr Units)
Department: Industrial & Manufacturing Course Number: IME 402 Course Title: Ethical Considerations in Technology & Applied Science Revision Date: 11/2/2010 Revised by: P.R Rosenkrantz Compliant: Catalog 2010/11	Math: Basic Science: Engineering Topics: 4 *Contains significant design content:*(No) Other: Curriculum Designation: Required

I. Catalog Description

IME 402 Ethical Considerations in Technology & Applied Science (4) 4 lectures
Team taught by engineering and philosophy instructors. Explores ethics of engineers, scientists, and others involved with technology related to values, philosophy, ethical theory and practice, moral reasoning, morality in law and codes, professional standards and societies. Case studies. Available as an Interdisciplinary Synthesis course in GE Areas B and C.

II. Prerequisites and Corequisites

Completion of Area A and at least two relevant subareas of the Cal Poly Pomona General Education Program for all areas being integrated by this course is required, or equivalent. Relevant subareas include B1,B2,B3 and C1,C2,C3.

III. Textbook and/or other Required Material

Martin & Schinzinger *Introduction to Engineering Ethics, Second Edition,* 2009 (ISBN-10: 0072483113)

Nicomachean Ethics, Aristotle, Penquin, 2004, ISBN: 9780140449495

IV. Course Objectives

After completing this course the student will have:

1. Knowledge of ethical theories: classical, religious, moral
2. Awareness of moral dilemmas common in engineering practice and understanding of the need to act responsibly
3. Awareness of the engineer's responsibility for safety in his designs.
4. Awareness of his responsibility to his employer and the public
5. Strategies for dealing with moral dilemmas that may occur
6. Awareness of global, social, and environmental issues in ethical decision making

V. Expanded Course Description

1. Historical basis for ethical decision making from philosophical and professional perspectives
2. Ethics and Engineering
3. Conflicting Loyalties
4. Engineering as Social Experimentation
5. Codes of Ethics

6. Responsibility for Safety
7. Responsibility to Employers
8. Engineer/Employee Rights
9. Whistle-blowing
10. Global Issues
11. Environmental Issues

VI. Class/Laboratory Schedule

4 sessions per week: 50-minute lectures and case discussions.

VII. Contribution of Course to Professional Component

In professional practice the engineer is expected to possess and exercise ethical and moral standards as well as an understanding of the need for safety. This course is designed to bring these characteristics into focus and inculcate them in his/her background.

VIII. Evaluation of Students

The instructor evaluates outcomes using the following methods:
Objective:
The student is required to answer a series of questions submitted as papers designed to assess the success of the course in synthesizing the general education program;
Subjective:
The student is required to complete a paper in which he addresses the material from the course in applying the knowledge and understanding acquired in his lower-division studies.
The student grades are typically based on the following factors:
quizzes, homework, midterm exams, papers, class discussion, projects, and final exam

IX. Relationship of Course to Program Outcomes

	Program Outcomes (*)			
	Introduction	**Knowledge**	**Skill**	**Application/Ability**
Course Objective				
Apply Knowledge		**X**		
Prof. Ethics		**X**		
Communications		**X**		
Lifelong Learning		**X**		
Contemp. Issues				**X**
Global View		**X**		

*** Reference: IME Department Assessment Grid & Rubric**