

STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK

COURSE OUTLINE

SOET 377 – Engineering Ethics

Prepared By: Stephen E. Frempong

SCHOOL OF ENGINEERING TECHNOLOGY  
ENGINEERING SCIENCE & ELECTRICAL ENGINEERING  
TECHNOLOGY DEPARTMENT  
SPRING 2015

- A. TITLE : Engineering Ethics
- B. COURSE NUMBER: SOET 377
- C. CREDIT HOURS: 1
- D. WRITING INTENSIVE COURSE: YES
- E. WEEKS PER SEMESTER: 15
- F. SEMESTER OFFERED: FALL *or* SPRING
- G. HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY: 1 hour lecture per week
- H. CATALOG DESCRIPTION: This course extends the student analytical skills to moral deliberation. Topics covered include engineering code of ethics, responsibility in engineering, the social and value dimensions of technology, trust and reliability, engineers in organizations, engineers and environment, international engineering professionalism, global issues, respect for diversity, and cases.
- I. PRE-REQUISITES: Oral & Written Expression (ENGL 102) or permission of instructor.
- J. Institutional Student Learning Objectives (SLO)

(1) Communication (2) Critical Thinking (3) Professional Competence

| Course Objectives / ABET (SLO)  | Institutional SLO                        |
|---|--|
| An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature. | 1. Communication<br>2. Critical Thinking |
| An understanding of the need for and an ability to engage in self-directed continuing professional development.   | 3. Professional Competence               |
| An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;  | 1. Communication                         |
| A knowledge of the impact of engineering technology solutions in a societal and global context.   | 1. Communication<br>2. Critical Thinking |

K. TEXTS:

Charles E. Harris, Jr., Michael S. Pritchard, and Michael J. Rabins,  
Engineering Ethics - Concepts and Cases, 5<sup>th</sup> Edition, 20 Channel Center St.  
Boston, MA 02210: Wadsworth Cengage Learning, 2009.

L. EQUIPMENT: NONE

M. GRADING METHOD: A-F

N. MEASUREMENT CRITERIA/METHODS: class participation, term paper, case review, and presentation

O. DETAILED TOPICAL OUTLINE:

I. Why Professional Ethics

- What is a Profession?
- Engineering and Professionalism
- Two Models of Professionalism
- Three Types of Ethics or Morality
- The Negative Face of Engineering Ethics
- The Positive Face of Engineering Ethics

II. Responsibility in Engineering

- Engineering Standards
- The Standard of Care
- Responsible Oversight
- Blame-Responsibility and Causation
- Liability
- Design Standards

III. The Social and Value Dimensions of Technology

- Technology is Socially Embedded
- Technology Affects Society
- Social Affects Technology
- Technology and Social Policy
- Technology and Public Policy
- Evaluating Technology
- Critical Attitude Toward Technology

IV. Trust and Reliability

- Honesty
- Forms of Dishonesty
- Why is Dishonesty Wrong?
- Dishonesty on Campus
- Dishonesty in Research and Testing
- Confidentiality

- Intellectual Property
- Expert Witnessing
- Informing the Public
- Conflicts of Interest

#### V. Risk and Reliability in Engineering

- The Engineer's Approach to Risk
- The Public's Approach to Risk
- Communicating Risk and Public Policy
- Difficulties in Determining the Causes and Likelihood of Harm
- The Engineer's Liability for Risk
- Becoming a Responsible Engineer Regarding Risk

#### VI. Engineers in Organizations

- Avoiding Blind Spots
- Autonomy and Authority
- Groupthink
- Engineers and Managers
- Proper Engineering and Management Decisions
- Responsible Organizational disobedience
- Disobedience By Protest
- Employee and Employer

#### VII. Engineers and Environment

- Environmental Imperatives in Engineering Codes and the Law
- The Environmental Challenge
- Responding to the Environmental Challenge
- Environmental Stewardship and Engineering Professionalism

#### VIII. Engineering in the Global Context

- The Emergence of International Engineering Standards
- An International Concept of Engineering Professionalism
- Ethical Resources for Globalized Engineering
- Economic Underdevelopment: The Problem of Exploitation
- Paying for Special Treatment: The Problem of Bribery
- Paying for Deserved Services: The Problem of Extortion

#### IX. Cases