ESE #   301   Title: Engineering Ethics and Social Impact

Course Designation: Required /Elective

Text Books: Fleddermann: Engineering Ethics: Fourth Edition

Prerequisites: U3 or U4 standing

Coordinator: **Donna L. Tumminello, EE, MBA**

Goals: The study of ethical decisions confronting individuals and organizations in engineering and science. Related questions about moral conduct, character, ideals, and relationships of people and organizations involved in technical development are discussed. Ethics codes for engineers, computer scientists, and natural scientists are covered. Includes topics in patent law such as licensing, antitrust, misappropriation, espionage, electronic communication privacy, computer fraud and abuse, reverse engineering, ownership and enforcement, export controls

Objectives: Students develop an awareness of ethical challenges they will face during their careers and will be prepared to respond appropriately using moral decision making processes. Introduction to leadership and project management. Exposure to intellectual property law and valuation of intellectual property rights (IPR).

Topics Covered:

Professionalism and Codes of Ethics
Understanding Ethical Problems
Ethical Problem Solving Techniques
Risk, Safety, and Accidents
The Rights and Responsibilities of Engineers
Ethical Issues in Engineering Practice
Intellectual Property Patents
Intellectual Property Trademarks/Copyrights

Intellectual Property Law – Ownership/Enforcement
Intellectual Property Law – Licensing/Antitrust/Export Controls
Intellectual Property Valuation
Project Management - Teamwork
Project Management – Leadership Skills
Project Management – Negotiation Skills

Grading System: Class Assignments/Participation: 20%;
Mid-term Exam 40%, and Final Exam 40%.

Program Outcomes	**% contribution***

❑ (a) an ability to apply knowledge of mathematics, science and engineering
❑ (b1) an ability to design and conduct experiments
❑ (b2) an ability to analyze and interpret data
❑ (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
❑ (d) an ability to function on multi-disciplinary teams
❑ (e) an ability to identify, formulate, and solve engineering problems
❑ (f) an understanding of professional and ethical responsibility   50
❑ (g) an ability to communicate effectively   20
❑ (h) the broad education necessary to understand the impact of engineering   10
solutions in a global, economic, environmental, and societal context
❑ (i) a recognition of the need for, and an ability to engage in life-long learning   10
❑ (j) a knowledge of contemporary issues   10
❑ (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
❑ Any other outcomes and assessments?

Americans with Disabilities Act: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC(Educational Communications Center) Building, Room 128, (631)632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.http://studentaffairs.stonybrook.edu/dss/index.shtml.

Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology Management, Nursing, Social Welfare, Dental Medicine)

and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.