Engineering Ethics and Societal Impact
ESE 301

State University of New York at Stony Brook
Fall 2020

Instructor: Donna Tumminello, BSEE, MBA
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Relations

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Office Hours: Monday and Friday 12:00 PM – 1:00 PM

Course Prerequisite: U3 or U4 standing

There are three forms of participation required:
- Lecture twice per week
- Class projects/activities as assigned
- Mid-term / Final reports

*Mode of Delivery: Online lectures (asynchronous mode)
All students are required to access Echo Lectures on Blackboard. Class participation and midterm and final report assignments will be due on the date noted.

Office hours (HW help/questions) will be held via Zoom or Google Hangouts and anytime upon request

Course Readings: "Engineering Ethics." Fourth Edition, Charles B. Fleddermann,
Prentice Hall, 2012, ISBN: 0-13-214521-9 (Fourth Edition or later)

Course Description:

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 law such as negotiation, antitrust, misappropriation, espionage, electronic communication privacy, computer fraud and abuse, reverse engineering, ownership and enforcement of patents and trademarks, and export controls.

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

Goals: To provide students with an understanding of engineering ethics and the impact of engineering on society through student discussions, writing and case studies.

Course Learning Outcomes: Upon completion of the course, students will have

- Knowledge of ethical decisions confronting individuals and organizations in engineering and science.
- Awareness of moral conduct, character, ideals, and relationships of people and organizations involved in technical development.
- Awareness of the societal impact of technology including practical knowledge relating to patent/copyright/trademark/confidentiality and infringement
- How engineers can play a role in societal issues involving technology that have gray areas.

Class/ Laboratory Schedule: 2 lecture hours per week
Topics Covered:

Week 1: Professionalism and Engineers Codes of Ethics
Week 2: Understanding Ethical Problems and Ethical Problem-Solving Techniques
Week 3: Risk, Safety, and Accidents
Week 4: The Rights and Responsibilities of Engineers
Week 5: Ethical and Legal Issues in Engineering Practice
Week 6: Team project management: Comparison of project alternatives, risk
           management, schedules, project costs and performance
Week 7: Team project management: Leadership skills and managing expectations

Week 8: Midterm group presentations – Ethics Case Study
Week 9: Midterm group presentations – Ethics Case Study
Week 10: Intellectual Property Patents
Week 11: Intellectual Property Trademarks/Copyrights
Week 12: Intellectual Property Law – Ownership and Enforcement
Week 13: Intellectual Property Law – Licensing/Antitrust/Export Controls
Week 14: Final group presentations – IP Infringement Case Study
Week 15: Final group presentations – IP Infringement Case Study

Class/laboratory Schedule: 2 lecture hours per week

Course Learning Outcomes: Upon completion of the course, students will have

- understanding of professional and ethical responsibility
- ability to communicate effectively
- broad education
- knowledge of contemporary issues
- ability to use techniques, skills, and tools in engineering practice

COURSE REQUIREMENTS:

Late Assignment Policy

Assignments are due at the beginning of class. Any assignment turned in more than ten minutes after the start of class will be considered one day late.

Each calendar day counts as one late day. For example, if an assignment is due Thursday at 8:30am, you may turn it in to Prof. Tumminello by 8:30am on Friday with one late day.

Each late day will result in a 10-point grade reduction.

GRADING:

Grades will be calculated as follows:

Homework Assignments and Class Participation	20%
Midterm Paper/Presentation	40%
Final Paper/Presentation	40%

CLASS RESOURCES:
Library resources
Blackboard
Writing Center
Career Center

DISABILITY SUPPORT SERVICES (DSS) STATEMENT:
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.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities.

ACADEMIC INTEGRITY STATEMENT:
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:
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.