Engineering Ethics and Societal Impact
ESE 301

State University of New York at Stony Brook
Spring 2025

Instructor: Donna Tumminello, BSEE, MBA
Associate Director, Intellectual Property Partners, Stony Brook University

Contact Information:
Voice: 632-4163
Department Office: 632-8770
Facsimile: 632-1505
E-mail: donna.tumminello@stonybrook.edu
Office: Melville Library, 5th Floor, Room N5002 Office of Technology Licensing and Industry Relations

Contact hours = 2 hours (2 credits)

Office Hours: Via Zoom Wednesday and Friday 5:00 PM – 6:00 PM (and upon request)

Join Zoom Meeting
ID: 98682915916
Passcode: 444664

Course Prerequisite: U3 or U4 standing; one D.E.C. E or SNW course

There are three forms of participation required:

- Lecture twice per week*
- Class projects/activities as assigned
- Mid-term / Final reports
    - These are group projects, groups are randomly assigned and are consistent for the entire semester.
    - All group members receive the same grade on the midterm and final papers.
    - For students who wish to work independently, you will receive a grade reduction of 15 points

***Mode of Delivery: Online lectures (asynchronous mode)**

All students are required to access Echo Lectures on BrightSpace. Class participation and midterm and final report assignments will be due on the date noted.

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, project management, reverse engineering, and ownership and enforcement of patents, copyrights, and trademarks.

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

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
Brightspace
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 are 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.

BASIC NEEDS
If you are concerned about resources related to your basic needs, including access to nutritious food and stable housing, please contact the Student Support Team. They will be able to listen to your story, connect you with possible resources, and provide stigma-free support. In addition, the Student Support Team developed a robust list of various basic needs and available resources for students on their website: https://www.stonybrook.edu/commcms/studentaffairs/studentsupport/Basic_Needs.php