The study of ethical issues facing engineers and engineering related organizations and the societal impact of technology. Decisions involving moral conduct, character, ideals and relationships of people and organizations involved in technology. The interaction of engineers, their technology, the society and the environment is examined using case studies. Introduction to patents and patent infringement using case studies.

Course Designation: Required Course

Credit Hours: 3


Prerequisite(s): D.E.C. category E course or SNW course

Coordinator: Donna L. Tumminello

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.

Topics Covered:
Week 1.  Professionalism and Codes of Ethics  
Week 2.  Understanding Ethical Problems  
Week 3.  Ethical Problem Solving Techniques  
Week 4.  Risk, Safety, and Accidents  
Week 5.  The Rights and Responsibilities of Engineers  
Week 6.  Ethical Issues in Engineering Practice – Midterm Case Analysis Due  
Week 7.  Intellectual Property Patents  
Week 8.  Intellectual Property Trademarks/Copyrights  
Week 10. Intellectual Property Law – Licensing/Antitrust/Export Controls  
Week 11. Intellectual Property Infringement  
Week 12. Project Management - Teamwork  
Week 13. Project Management – Leadership Skills  
Week 14. Project Management – Final Case Analysis Due

Class/laboratory Schedule:  3.0 lecture hours per week

**Student Outcomes**

On the following "3 a-k" list, please check those topics which are covered within the course:
- (a) ability to apply knowledge of math, engineering, and science
- (b1) ability to design and conduct experiments
- (b2) ability to analyze and interpret data
- (c) ability to design system, component or process to meet needs
- (d) ability to function on multi-disciplinary teams
- (e) ability to identify, formulate, and solve engineering problems

X (f) understanding of professional and ethical responsibility  
X (g) ability to communicate effectively  
X (h) broad education  
- (i) recognition of need an ability to engage in life-long learning  
X (j) knowledge of contemporary issues  
X (k) ability to use techniques, skills, and tools in engineering practice  
- (l) an ability to communicate and/or collaborate effectively online

* Assume that the total contribution of any course will be 100%. Use the right hand column to indicate the approximate percent that the left hand columns contribute to the overall course.

**Document Prepared by:** Donna Tumminello  
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