Northeastern University
College of Engineering

INFO 6660 Business Ethics and Intellectual Property for Engineers

Course Information
Course Title: Business Ethics and IP
Course Number: INFO 6660
Credit Hour: 4
Course Format: On Ground

Instructor Information
Full Name: Nicholas Boivin
Email Address: n.boivin@northeastern.edu

Course Prerequisites
N/A

Course Description
Seeks to support successful engineering careers by offering students an applied understanding of ethical principles in the workplace and fundamentals of intellectual property and the American legal system. Seeks to increase students' awareness of the ethical implications of their work and to influence colleagues to think and act in a socially cognizant manner. Introduces ethical principles and codes of professional ethics; types of intellectual property (patents, trade secrets, trademarks, copyrights); and fundamentals of the American legal system (sources of American law, contracts, torts, intellectual property, antitrust). Offers students an opportunity to practice verbal communication and presentation skills; develop an applied understanding of the relationship and differences between legal liability and ethical behavior; and develop applied critical thinking, communication, and presentation skills.

Standard Learning Outcomes

Objectives:

This course raises awareness and understanding of intellectual property and the application of ethical standards in the world of information technology. The lectures, assignments and activities focus on developing understanding and skills to support successful engineering careers by focusing on an applied understanding of ethical principles and the fundamentals of intellectual property in the engineering workplace, while providing opportunities for students to develop written and verbal communication skills. This course will also develop applied critical thinking skills in students.

The course will be taught in a hybrid fashion, with the majority of in-class time spent on student interaction and course content provided both in-class and by accessing additional on-line lectures. In-class time will be a combination of in- class discussions and lectures.

Instructor:

Nick Boivin is a practicing patent attorney with over twenty years of experience advising clients in various intellectual property matters including obtaining, maintaining, evaluating and enforcing patents. In addition to teaching intellectual property law part-time as a member of the adjunct faculty at Northeastern University, he is also an on-line instructor for the World Intellectual Property Office in Geneva Switzerland. He holds a Law (J.D.) Degree from the University of Virginia School of Law, a Masters (M.A.) Degree from Princeton University and a Bachelor of Arts (B.A.) Degree in chemistry from Northwestern University.

Learning Approach:

The class will use a combination of on-line lectures, discussion, interaction with peers, online assessments (weekly quizzes, a midterm and final). Students listen to on-line lectures that introduce basic concepts of both intellectual property and
ethics, complete weekly assigned readings, apply these concepts during in-class guided discussions, and then complete weekly assessments (quizzes, exams).
In-class discussion provides students with opportunity to ask questions and to the apply the concepts from on-line lectures and readings. Students then take an assessment (weekly quizzes, midterm and final exam) that tests their knowledge of the concepts learned from the on-line lecture, readings and in-class discussion.

Throughout the course, students will attend weekly class discussions throughout the semester, listen to on-line lectures on intellectual property and/or ethics (ranging from about 1-3 hours per week) outside of class time, and complete weekly assigned readings. The on-lectures are designed to provide an introduction to and explanation of key concepts. The lecture notes for all on-line lectures are provided on blackboard, permitting students to follow along. The on- line format allows students to stop and re-listen to portions of lectures as needed.

The coursework includes lectures and reading, in-class discussion, analysis of case studies, homework quizzes and projects, all focused on acquiring and applying fundamental principles of ethics and intellectual property to real-world problems. Students will participate in class discussions, complete written assignments, quizzes and exams to measure applied learning.

The class will meet weekly during the University term. Overall, students should expect to spend an average of about 4-6 hours a week outside of class listening to on-line lectures, assigned readings and preparing for and completing assignments.

Course Outcomes:

The course calendar indicates the week-by-week listing of topics and readings. What appears below are the key “competencies” and knowledge components that all students will have an opportunity to acquire from this course:

- Familiarity with the basic structure of the US government and legal system with respect to intellectual property, including the branches and jurisdiction of US federal government
- Understanding the basic types of intellectual property (patents, trademarks, copyrights, and trade secrets), including the scope and duration of the rights conferred by each type of intellectual property

- Recognition of the differences between patents, trade secrets, trademarks and copyright intellectual property
- Familiarity with the process to obtain patents, trademarks, and copyrights
- Familiarity with measures used to protect trade secrets
- Understanding best practices for effective collaboration with patent counsel to obtain and assert US patents
- Understanding best practices for effective collaboration with patent
- counsel to identify and evaluate third party patent filings
- Appreciation for the different roles of obtaining intellectual property and identifying and respecting the intellectual property rights of others
- Students will learn and apply ethical principles and codes of professional ethics, types of intellectual property (including patents, trade secrets, trademarks and copyrights), and basics of the American legal system.
- Understanding the necessity of a well developed ethic for work and life.
- Familiarity with the three dominant theories in normative ethics
- Familiarity with the relevant spheres of ethical action in the business place
- Familiarity with the underlying issues of attempting a coherent ethical framework
- Appreciation for the role of ethics in areas where the law does not define illegal activity well or at all.

Tools used:

Students will achieve the course objectives by:

- Attending weekly in-class lectures and discussion discussions
- Listening to a weekly on-line lecture (about 2-3 hours each week outside of class, including time to review lecture notes),
- Completing assigned textbook and ethical case study readings (about 1-2 hours/week)
- Prepare for and take assigned assessments (weekly quizzes to test and apply knowledge of core course concepts, midterm exam, final exam)

Required Textbooks (2):

Ethics in Engineering by Mike W Martin and Roland Schinzinger 4th Edition, ISBN-13: 978-0072831153 ISBN-10: 0072831154 (“MARTIN”)

Ethics in Information Technology by George W. Reynolds 4th Edition, ISBN-13: 978-1111534127; ISBN-10: 1111534128 (“REYNOLDS”)

Attendance Policy:

In-class student participation, group discussion, on-line lectures, and instruction are essential to learning the course content.

Any absence from or lateness to in-person class must be reported to and approved by the Instructor in advance or within one (1) business day after the absence (or the student will be assessed a 0% for class participation for the missed course).

The Information Systems Department has a strict class attendance policy that applies to this class. **Any student who has two or more unexcused class absences will not receive an overall course grade of greater than B+. No exceptions** are allowed for this rule.

Unapproved lateness for, or early departure from, class will result in a proportional reduction in the class participation for the class (e.g., if a student misses 10% of a class without approval from an instructor, the student will have 10% deducted from their class participation from the class).

Grading (subject to Attendance Policy):

- 5% - Attendance and Participation
- 30% - Weekly online quizzes
- 20% - Midterm Examination
- 5% - End-of-Term Project
- 40% - Final Examination

The course grading will emphasize development of skills required in the modern workplace (e.g., critical thinking, verbal communication and clear writing). There will be a maximum of 500 points awarded to each student as described below.

Class Participation (5% or 25 points): Attendance and participation in class discussions is a critical portion of your grade. In-class participation will be graded based on attendance, arriving to class on time, demonstrated preparation for class, organization and the quality of comments stated in class. Students who do not participate at a minimal level in class can expect to receive no class participation credit. (A total of up to 2.5 points are awarded per week for each of 10 weeks of in-class lectures, excluding week 1 and weeks of mid-term and final review and examination.)

Online Quizzes (30% or 150 points): These will be a total of 10, once-weekly quizzes covering content from the previous lesson's lectures. The format will be multiple choice questions, open book/open note questions taken online through Blackboard. Students are to take the Quizzes "closed book" (without reference to any materials and without consulting with one another. (There are 10 quizzes with 15 points each, and one optional quiz that can replace a lower grade on one prior quiz.)

Mid-Term Examination (20% or 100 points): The mid-term examination will include multiple choice questions (including questions taken from the quizzes), and short answer questions. It will cover all the course content up to and including material tested in Week 7 (including material on quizzes 1-6).

End-of-Term Project (5% or 25 points): After the midterm examination, students will form self-selected teams of 2-5 students, each of which will complete and submit a series of 5 written exercises (EOTP#1-EOTP#5) applying course concepts to build an intellectual property and ethics compliance program for a hypothetical business enterprise, including: identifying relevant third party intellectual property (e.g., patent, trademark, and copyright searching, as well as best practices to respect third party trade secrets, and confidential information), writing an ethics policy addressing frequent applied ethics concerns (e.g., identifying and avoiding conflicts of interest), and protecting the intellectual property of your business enterprise (e.g., patents, trademarks, trade secrets, confidential information). All students in each team

will be equally assessed based on evaluation of a single submissions of work product from the entire team for each written exercise (10 points each).

Final Examination (40% or 200 points): The Final Examination will include an in- class exam that will include multiple choice, short answer, and/or essay questions. About half of the examination will cover intellectual property topics, with the remaining portion of the examination covering applied ethics. The final examination will be a cumulative exam covering all of the course content (including all in-class discussions, on-line lectures, and all assigned readings in textbooks and ethics case studies), and will occur during our allotted final exam period.

Weekly Assignments and Assessments

Assignment	Lectures	Reading	Assessment
1	• **In-Class Lecture 1** (8-Jan) • Online **IP Lecture 1**: Basics of US legal system and intellectual property (2.25hrs) • Online **Ethics Lecture 1**: Introduction to Ethics (1.25hr)	• None	**Quiz 1** (15 points, 22-January)
2	• **In-Class Lecture 2**: (15-Jan) Confidentiality and Trade Secrets • Online **IP Lecture 2**: Origin of Intellectual Property and Basics of the US government and legal system (3.25hrs)	• MARTIN Chapter 1 (Ethics and Professionalism) • REYNOLDS Chapter 1 (Overview of Ethics) • NSPE Case Study 15-7 (confidentiality) • NSPE Case Study 9-2 (improper conduct)	
3	• **In-Class Lecture 3:** (22-Jan) Trademark and Copyright • Online **IP Lecture 3:** Basics of Confidentiality and Trade Secrets (1.75hrs)	• MARTIN Chapter 2 (Moral Reasoning and Codes of Ethics) • NSPE Case Study 10-2 (additional job) • NSPE Case Study 11-7 (professional reference) • NSPE Case Study 8-11 (unauthorized software)	**Quiz 2** (15 points, 29-January)
Assignment	**Lectures**	**Reading**	**Assessment**
4	• **In-Class Lecture 4**: Normative Ethical Theories/ Codes (29- Jan) • Online **IP Lecture 4**: Basics of Trademark and Copyright law (1.25 hrs) • Online **IP Lecture 5**: Basics of Patent Law (1.50 hrs)	• REYNOLDS Chapter 6 (Intellectual Property) • NSPE Case Study 12-7 (web portal advice) • NSPE Case Study 10-3 (door prize) • NSPE Case Study 12-4 (advertising)	**Quiz 3** (15 points, 5-February)

5	• **In-Class Lecture 5**: Patents (5-Feb) • Online **Ethics Lecture 2**: Introduction to Normative Ethics (0.5 hr) • Online **Ethics Lecture** 3: Virtue Ethics (0.5 hr) • Online **Ethics Lecture 4**: Deontology (0.5 hr) • Online **Ethics Lecture 5**: Utilitarianism (0.5 hr)	• MARTIN Chapter 3 (Moral Frameworks) • REYNOLDS Chapter 3 (Computer & Internet Crime) • NSPE Case Study 12-10 (advertising) • NSPE Case Study 12-1 (reporting) • NSPE Case Study 12-9 (gifts and marketing)	**Quiz 4** (15 points, 12-February)
6	• **In-Class Lecture 6**: Patents (searching, filing) (12-Feb) • Online **Ethics Lecture 6**: Normative Theories (1hr) • Online **IP Lecture 6**: Best Practices for Evaluating Patentability (1hr)	• REYNOLDS Chapter 5 (Freedom of Expression) • NSPE Case Study 16-6 (advertising) • NSPE Case Study 9-7 (conflict of interests) • NSPE Case Study 15-6 (licensure)	**Quiz 5** (15 points, 19-February)
7	• **In-Class Lecture 6**: Review for Midterm (19-Feb)	• Software Engineer Code of Ethics	**Midterm**
MIDTERM Examination (Weeks 1-6) (125 points, 6:00-9:30 pm, 26-February)			
Spring Break (no class) (3-March)			

Assignment	Lectures	Reading	Assessment
8	• In-Class: Review Midterm and 1st Half of Course (12-March) • Online **IP Lecture 7**: avoiding patent pitfalls (1.25 hr) • Online **Ethics Lecture 7**: Introduction to Meta-Ethics (0.5 hr)	• MARTIN Chapter 7 (Honesty) • NEU Ethical Code • REYNOLDS Chapter 2 (Ethics for IT workers and IT users) • NSPE Case Study 8-1 (software security) • NSPE Case Study 3-5 (product promotion)	**Quiz 6** (15 points, 19-March)

		• NSPE Case Study 16-12 (competitor) • NSPE Case Study 96-4 (software testing)	
9	• In-Class Lecture 7: Invention Capture (19-March) • Online Ethics Lecture 8: Moral Dilemmas (0.75 hr) • Online IP Lecture 8: Best Practices for Obtaining a Patent (1.25 hr)	• MARTIN Chapter 6 (Workplace Responsibilities and Rights) • REYNOLDS Chapter 7 (Software Development) • NSPE Case Study 10-12 (faculty promotion) • NSPE Case Study 13-6 (conference presentation) • NSPE Case Study 8-5 (disclosure)	**Quiz 7** **(15 points, 26-March) EOTP #1** **(10 points)**
10	• In-Class Lecture 8: Global Patent Procurement (26-March) • Online IP Lecture 9: Evaluating Third Party Intellectual Property Rights (1hrs) • Online Ethics Lecture 9: Ethical Intuitionism and Moral Testimony (0.5 hr)	• MARTIN Chapter 4.2 (Responsible Engineering) • REYNOLDS Chapter 9 (Social Networking) • NSPE Case Study 71-6 (nominal ownership) • NSPE Case Study 16-4 (service agreements) • NSPE Case Study 96-10 (professional comments)	**Quiz 8** **(15 points, 2-April)** **EOTP #2** **(10 points)**
11	• In-Class Lecture 9: Respecting Third Party IP Rights (2-April) • Online IP Lecture 10: Enforcing Patents, Consequences of Intellectual Property Infringement (1 hr) • Online Ethics Lecture 10: Moral Relativism and Moral Skepticism (0.75 hr)	• MARTIN Chapter 8.2 (Ethical Frameworks) • MARTIN Chapter 9.2 (Computer Ethics & Internet) • REYNOLDS Chapter 10 (Ethics of IT Organizations) • NSPE Case Study 2-6 (joint venture) • NSPE Case Study 2-4 (contractor loan)	**Quiz 9** **(15 points, 9-April)** **EOTP #3** **(10 points)**

12	• In-Class Lecture 10: IP	• MARTIN Chapter 5 (Commitment to Safety) • REYNOLDS Chapter 4 (Privacy) • NSPE Case Study 11-8 (awareness of impropriety) • NSPE Case Study 15-9 (recommendation) • NSPE Case Study 12-2 (performance)	**Quiz 10**
	enforcement (9-April)		**(15 points,**
13	• In-Class: Review for Final Examination (16-April) • All lectures, weeks 1-12	• REYNOLDS Chapter 8 (Productivity and QOL) • All reading, Weeks 1-12	**Optional Quiz 11** **15 points, 23-April) EOTP #5 (10 points)**
14	**FINAL Examination** (Assignments 1-13) (200 points, 6:00-9:30 pm, 23-April)		

End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is very important to the College of Professional Studies. Your comments will make a difference in the future planning and presentation of our curriculum.

At the end of this course, please take the time to complete the evaluation survey at **https://neu.evaluationkit.com**. Your survey responses are **completely anonymous and confidential**. For courses 6 weeks in length or shorter, surveys will be open one week prior to the end of the courses; for courses greater than 6 weeks in length, surveys will be open for two weeks. An email will be sent to your HuskyMail account notifying you when surveys are available.

Academic Integrity

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

Go to http://www.northeastern.edu/osccr/academic-integrity-policy/ to access the full academic integrity policy.

Student Accommodations

Northeastern University and the Disability Resource Center (DRC) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that demonstrates a current substantially limiting disability.

For more information, visit http://www.northeastern.edu/drc/getting-started-with-the-drc/.

Library Services

The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for Education specific resources, visit http://subjectguides.lib.neu.edu/edresearch.

24/7 Blackboard Technical Help

For immediate technical support for Blackboard, call 617-373-4357 or emailhelp@northeastern.edu

Within Blackboard, open a support case via the red support button on the right side of the screen, click Create Case

myNortheastern, e-mail, and basic technical support
Visit the Information Technology Services (ITS) Support Portal
Email: help@northeastern.edu
ITS Customer Service Desk: 617-373-4357

Diversity and Inclusion

Northeastern University is committed to equal opportunity, affirmative action, diversity and social justice while building a climate of inclusion on and beyond campus. In the classroom, member of the University community

work to cultivate an inclusive environment that denounces discrimination through innovation, collaboration and an awareness of global perspectives on social justice.

Please visit http://www.northeastern.edu/oidi/ for complete information on Diversity and Inclusion

TITLE IX

Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty and staff.

In case of an emergency, please call 911.

Please visit www.northeastern.edu/titleix for a complete list of reporting options and resources both on- and off-campus.