

University of Illinois - College of Engineering
Industrial and Enterprise Systems Engineering Dept.
SE 400 – Engineering Law
Fall 2026

Professor	Joe Barich Lecturer Department of Industrial and Enterprise Systems Engineering Attorney Barich IP Law Group Tel. (312) 620-2471 joebarich@barichip.com NB: A phone call is preferable to e-mail for complex matters.										
Class Schedule	Thursdays, 4:00 pm-6:20 pm 119 Materials Science & Engineering Building 14 Class meetings Office Hours immediately following class or by phone/appointment.										
Class Materials	<u>Required Reading</u> Coursepack Available at Illini Union Bookstore (IUB) Also available online at https://coursepacksetc.com/product-category/university-of-illinois/ Class Handouts/Links available at: www.joebarich.com or on Canvas <u>Recommended (but not required) Reading</u> <i>Legal Aspects of Engineering, Design, and Innovation</i>, by Cynthia M. Gayton (Kendall-Hunt Publishing, 10th Ed.). https://www.amazon.com/Legal-Aspects-Engineering-Design-Innovation/dp/1465295313/										
Grading	All grades¹ are based on the following: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th><th style="text-align: right;"><u>Percent of Final Grade</u></th></tr> </thead> <tbody> <tr> <td>First Exam</td><td style="text-align: right;">25%</td></tr> <tr> <td>Second Exam</td><td style="text-align: right;">25%</td></tr> <tr> <td>Third/Final Exam</td><td style="text-align: right;">25%</td></tr> <tr> <td>Quizzes</td><td style="text-align: right;">25%</td></tr> </tbody> </table>		<u>Percent of Final Grade</u>	First Exam	25%	Second Exam	25%	Third/Final Exam	25%	Quizzes	25%
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¹ For Graduate Students, please see Graduate Student Credit and Grading below.

More Detail With Regard To Class

In-Class Exams

Three Exams will take place during the semester. Each Exam will primarily focus on material from the weeks immediately preceding the exam, but material from any prior point in the semester is fair game.

Exams will be composed of multiple choice and true/false questions. The Exams are closed book, closed notes. Please remember to bring a pencil - #2 or mechanical – to fill out your scantron sheet for Exams #1 and #2. Exam #3 will be online via Canvas/Zoom.

In-Class Pop Quizzes

Five (5) Pop Quizzes will take place during the semester. The dates for the Pop Quizzes will NOT be announced in advance. The Pop Quizzes will each take about 30 minutes and may take place at any point during the class – at the start of class, in the middle of class, or at the end of class.

The Pop Quizzes serve several purposes: 1) Only those who are actually attending class will be able to take the quiz - consequently, students will be incentivized to attend class; 2) a Pop Quiz may take place immediately at the start of class and no extra time will be given to students who arrive late - consequently, students will be incentivized to get to class on time; and 3) a Pop Quiz may involve material from that day's class - consequently, students will be incentivized to pay attention and ask questions during class.

It will typically NOT be possible to take a Pop Quiz at a later date. Consequently, it is highly recommended that you attend class, get to class on time, and pay attention. Obviously, if you are incapacitated (jail, coma, sick with note from McKinley, for example) or otherwise involuntarily unable to attend class (death in the family, job interview, competing in an “away” University team gymnastics event or basketball game), then we can make other arrangements. However, having a big assignment due in another class, wanting to attend a fraternity event, cheer a sports competition, or leave early for a big weekend in Vegas are personal scheduling matters and not sufficient excuse for missing class or to clear an absence. (Please Note! Each semester we have people in the GE Senior Design Class that need to meet with their corporate sponsors – that counts as involuntary and we will schedule around it. Please let me know a week in advance so that we can schedule a time for you to take the quiz.)

The total scores on the top 4 of the 5 Pop Quizzes form your Quiz grade. However, if you do in fact take the 5th Quiz, then the points from that Quiz will count as extra credit, but you can't get more than 100% of the total Quiz points.

Example 1 - Took 4/5 Quizzes, got 85% on each one.

4 Quizzes * 85 points = 340/400. You get 85% for your quiz score.

Example 2 - Took 5/5 Quizzes, got 85% on each one.

4 Quizzes * 85 points = 340/400. Add in 85 points from 5th quiz, so total quiz points become 425/400, but it is capped at 400/400 for total quiz score of 100%

Example 3 - Took 5/5 Quizzes, got 60% on each one.

4 Quizzes * 60 points = 240/400. Add in 60 points from 5th quiz, so total quiz points become 300/400 for a total quiz score of 75%.

Graduate Student Credit and Grading

As per ISE Department policy, graduate level classes are 4-credit-hour classes rather than 3-credit-hour classes. Consequently, graduate students must draft a paper of at least 10 pages in length on a legal topic approved by Professor Barich. (PLEASE NOTE: My “approval” is more about me working with you to help develop a topic that is of appropriate length and complexity for 10 pages. I am well aware that many engineers have not written papers of this type and can use help locking down their topic so that their paper turns out well).

The 10 pages must be double-spaced with 1-inch margins, and 12-point, Times New Roman font – and please don’t mess with the standard Microsoft Word settings to try and make it look longer. Only your actual writing counts toward the 10 page requirement – For example, any title page, index, graphics, large block quotations, or bibliography do not count toward the page count.

Paper Content – This is a legal paper, not an ethics paper so you need to discuss specific laws or cases. Also, this is a research paper, not a journalistic paper, so it can’t just be “reporting” the law or cases. Instead you need to identify a legal problem, propose a specific legal solution, and then explain/justify/defend your specific solution. For example, you could review some specific statutory language, identify a shortcoming (explaining why it is a shortcoming), propose a specific statutory fix (not just “someone should do something”, but “here is the explicit language change in the statute that I propose”), and then discuss how that will fix the problem and not produce any unwanted effects. You are identifying a problem and proposing a specific solution.

Paper Quality - You are a graduate student at a top university and your work quality should reflect that. Some aspects that may impact your grade include: the presence of misspellings or grammatical errors, the level of research/effort you put into your topic, and additional work beyond the minimum page length of 10 pages.

Paper Grading – Take the average of the three Exams and the Quiz score that is used for determining the final grade and subtract the Paper Score Subtraction (if any) to arrive at your final grade. The Paper Score Subtraction is 0% if the final paper actually does represent the quality work expected of a graduate student at a top university, but may be as large as 5% for unacceptable work or if no paper is submitted.

Paper topics must be approved by November 1st, but the earlier you can propose and I can approve your paper topic, the more writing time you will have. The final version of your paper must be turned in to me by noon on **Friday, December 4th**. Please note that papers not received by noon on **Friday, December 4th**, will incur a Paper Score Subtraction of 1% - and an additional 1% if not received by noon the next day, and so forth, not to exceed the maximum 5% Paper Score Subtraction. If no paper is received by noon on the 5th late day, then it will be understood that the student has decided not to submit the paper, and the maximum Paper Score Subtraction of 5% will be imposed.

In order to assist you in delivering high-quality work, you can submit ONE completed final draft (not a partial draft) of your paper to me for evaluation and feedback during the semester, but I will require 3 business days (not weekends) to respond with comments. Consequently, the deadline to submit a final draft to me for review will be noon on **Monday, November 30th**.

Final Grades

Average the scores from each of the three Exams and the Quiz score and compare it to the chart below. The chart indicates the minimum grade that you will receive.

100-95 = A
95-90 = A-
90-85 = B+
85-80 = B
80-75 = B-
75-70 = C+
70-65 = C
65-60 = C-
Less than 60 = D
Less than 50 = F

Advice To Help You Get A Better Grade – Take Notes By Hand

Study after study has repeatedly confirmed that students that take notes by hand outperform students who take notes using a laptop or other electronic device. Here are just a few articles written about the studies:

- <http://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away>
- <http://www.scientificamerican.com/article/a-learning-secret-don-t-take-notes-with-a-laptop/>
- <http://www.psychologicalscience.org/index.php/news/releases/take-notes-by-hand-for-better-long-term-comprehension.html>
- <https://www.usnews.com/news/education-news/articles/2018-07-27/study-cellphones-laptops-in-the-classroom-lead-to-lower-test-scores>

Consequently, I highly recommend that you take notes by hand. In this regard, I note that the Coursepack has been specifically designed to allow you to take notes by hand so as to help you get the best possible grade. I recommend that you use it.

Electronic Device Usage Policy

No Audio, Photographic, or Video Recording Allowed

No electronic audio, photographic, or video recording is allowed in class without my prior written permission. Any recording is a violation of the University Student Code and may subject you to discipline. There are at least three reasons for this: first, we want to provide an encouraging environment for student questions and discussion; second, we want students and the instructor to have control over the use of their respective images and expressions; and third, we will be reviewing Quiz and Exam questions in class and I don't want people to form a "question bank" for subsequent classes – which both impairs real learning and is a Student Code violation.

No Distracting Others

No texting, Instant Messaging, taking a call, or other communication should take place in class. If you receive an urgent communication that you absolutely have to respond to at that moment, please excuse yourself from class and go into the hall to respond.

Also, please don't text or message with other students in the class during class. It is both transparent to me and distracting to all involved and the rest of the class.

Finally, if you are using a laptop or other electronic device, please recall that everyone behind you can see what is on your laptop's screen. Please don't access sites that may be distracting to you or to the people behind you.

The Goal Of This Class

The purpose of this class is to provide soon-to-be engineers with an introductory understanding of the legal framework under which they will work. That is, all engineering is performed under the constraints imposed by our society's laws and must take those laws into account.

More specifically, I have designed the course with the following goals in mind:

- 1) Give you a greater understanding of your and your company's position relative to the law so that you can act and talk more intelligently on the subject and be a better asset for your company.
- 2) Highlight a few areas that often trip up people in industry so that you can avoid the pitfalls or raise a concern if your company seems like it might have some exposure.
- 3) Help you know when your company has a potential or actual legal problem and should call a lawyer.

Please note that this is merely an introductory class. This class will not make you a lawyer. You are advised to seek legal representation if and when you or your company encounters a legal issue.

Additionally, this is an educational class, not legal representation. Consequently, nothing in the class materials, lectures, office hours, or any other materials or communication is to be taken as providing any legal advice whatsoever with regard to any real-life situation. Further, although I am a practicing attorney, nothing in the materials, lectures, office hours, or any other materials or communications should be construed to create an attorney-client relationship of any sort.

Substance of the Class

Substantively, the class is divided into three sections, 1) Basics of the legal system including sources of law and enforcing laws and agreements in court, 2) Contracts and Torts, and 3) Intellectual Property. Each of the three sections will be the primary focus of one of the In-Class Exams described above.

An overall outline of the course appears on the subsequent pages.

- I. Basics of the Legal System
 - A. Sources of Law
 - 1. Constitutional Law
 - 2. Federal Statutes
 - 3. Treaties
 - 4. State Constitution
 - 5. State Laws
 - 6. Agencies – Federal and State
 - 7. Professional Licensing
 - 8. Standards Setting Bodies
 - 9. Company Policy
 - B. The Court System – Enforcing Laws and Agreements
 - 1. Structure of the Court System
 - a. Federal
 - b. State
 - 2. Anatomy of a Lawsuit
 - 3. Complaint
 - 4. Jurisdiction and Venue
 - 5. Answer
 - 6. Discovery
 - 7. Settlement
 - 8. Trial
 - 9. Appeal
 - 10. Injunctions
- II. Contracts
 - A. Introduction to Contracts
 - B. Parties
 - C. Offer and Acceptance
 - D. Mistake, Misrepresentation, and Fraud
 - E. Duress and Undue Influence
 - F. Consideration
 - G. Enforceability
 - 1. Statute of Frauds
 - 2. Lawful Subject Matter
 - H. Performance, Breach, and Remedies
 - I. Warranties
- III. Torts
 - A. Intentional Torts
 - B. Negligence
 - C. Fraud
 - D. False Advertising
 - E. Products Liability

IV. Intellectual Property

A. Overview and Theory of Intellectual Property

1. US Rights
2. Foreign Rights
3. Function vs. Expression

B. Patents

1. The Patenting Process
2. Review of Sample Patents
3. Patentable Subject Matter
4. Novelty
5. Non-Obviousness
6. 35 U.S.C. Sec. 112
7. Claim Types
8. Novelty vs. Infringement Analysis
9. Design Patents

C. Copyrights

D. Trademarks

V. Engineering Work In A Legal Context

Syllabus

Class #	Date	Read Before Class	Class Topic
1	Aug 27	Gayton, Chapter 3 Materials at: www.joebarich.com	I. Basics of the Legal System A. Sources of Law 1. Constitutional Law 2. Federal Statutes 3. Treaties 4. State Constitution 5. State Laws
2	Sep 3	Gayton, Chapters 3 Materials at: www.joebarich.com	I. Basics of the Legal System A. Sources of Law 6. Agencies – Federal and State 7. Professional Licensing 8. Standards Setting Bodies 9. Company Policy
3	Sep 10	Gayton, Chapter 3-4 Materials at: www.joebarich.com	I. Basics of the Legal System B. The Court System – Enforcing Laws and Agreements 1. Structure of the Court System a. Federal b. State 2. Anatomy of a Lawsuit 3. Complaint 4. Jurisdiction and Venue
4	Sep 17	Gayton, Chapter 4 Materials at: www.joebarich.com	I. Basics of the Legal System B. The Court System – Enforcing Laws and Agreements 5. Answer 6. Discovery 7. Settlement 8. Trial 9. Appeal 10. Injunctions Questions Before Exam

5	Sep 24	Gayton, Chapters 5, 6, 7, 8, 9 Materials at: www.joebarich.com	II. Contracts A. Introduction to Contracts B. Parties C. Offer and Acceptance
		EXAM #1 – Second Half of Class	EXAM #1 – Focus on Class 1-4 materials
6	Oct 1	Review Exam #1 Gayton, Chapters 10, 11, 13, 14 Materials at: www.joebarich.com	II. Contracts D. Mistake, Misrepresentation, and Fraud E. Duress and Undue Influence F. Consideration G. Enforceability 1. Statute of Frauds 2. Lawful Subject Matter H. Performance, Breach, and Remedies
7	Oct 8	Gayton, Chapters 15, 25 Materials at: www.joebarich.com	II. Contracts I. Warranties III. Torts A. Intentional Torts
8	Oct 15	Gayton, Chapter 25 Materials at: www.joebarich.com	III. Torts B. Negligence C. Fraud D. False Advertising
9	Oct 22	Gayton, Chapter 26 Materials at: www.joebarich.com	III. Torts E. Products Liability Questions Before Exam

10	Oct 29	Gayton, Chapter 20 Materials at: www.joebarich.com	IV. Intellectual Property A. Overview and Theory of Intellectual Property 1. US Rights 2. Foreign Rights 3. Function vs. Expression
		EXAM #2 – Second Half of Class	EXAM #2 – Focus on Class 5-9 materials
11	Nov 5	Review Exam #2 Gayton, Chapter 21 Materials at: www.joebarich.com	IV. Intellectual Property B. Patents 1. The Patenting Process 2. Review of Sample Patents 3. Patentable Subject Matter 4. Novelty 5. Non-Obviousness 6. 35 U.S.C. Sec. 112
12	Nov 12	Gayton, Chapter 21, 23 Materials at: www.joebarich.com	IV. Intellectual Property B. Patents 7. Claim Types 8. Novelty vs. Infringement Analysis 9. Design Patents
13	Nov 19	Gayton, Chapter 22 Materials at: www.joebarich.com	IV. Intellectual Property C. Copyrights D. Trademarks Questions Before Exam
	Nov 26	FALL BREAK- NO CLASS	
14	Dec 3	Materials at: www.joebarich.com	V. Engineering Work In A Legal Context Questions Before Exam
	Dec 11	EXAM #3 – Focus on Class 10-14 materials	Online Exam via Canvas and Zoom Friday, December 11 th at 4pm