

ISE 565/CEE 580  
LAW AND FINANCE FOR ENGINEERING INNOVATION  
COURSE INFORMATION  
FALL 2009

Instructor: Dana Sherman, Esq. (BA, JD, MBA, MBT, MPA)  
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Host Department: ISE (cross-listed as CEE 580)- 3 Units

Location: Thursday 6:30 to 9:10 p.m. OHE 100C

Office hours: Monday, Wednesday or Thursday 5:30 to 6:15 p.m or 9:15 to 9:45 p.m. by prior appointment only. Make an appointment or telephone me anytime (my office phone is forwarded if I'm not there). Email is very good as I often work late in the evening or weekend

Prerequisites: Graduate standing. Undergraduate students may enroll with permission of their advisor and the instructor. It is assumed the students have no prior course work in law, corporate finance or financial accounting

Text: Extensive handout materials will be distributed by the instructor on Blackboard. There is no assigned textbook. There may be supplemental books

Teaching Assistant: Soroya Taghavi [taghavi@usc.edu](mailto:taghavi@usc.edu)

Course Objectives:

The course is intended to provide students in engineering, the sciences and related fields with an examination of the primary legal, financial and accounting issues involved in the conduct of most business organizations, with a primary focus on companies engaged in manufacturing or engineering service operations. As future employees, it will assist the students in understanding the organizations they will seek to, and eventually, work for and their obligations and benefits as employees. As future engineering line-managers, the students will gain insight into the legal and financial issues which directly affect their operational decision making process. As future senior managers, the students will gain insight into the increasingly complex legal and financial issues that are at the core of any modern engineering or industrial enterprise. The course is intended to provide the basis for innovation in a business context, either for the entrepreneur or the entrepreneurial organization. The course is inter-disciplinary and will include topics in law,

finance, accounting and engineering management. It will also lay a foundation for future studies in specific areas of interest to engineers such as patent rights and protections. The class will also increase student awareness of ethical issues of concern to engineers in the business environment. The course is specifically intended to satisfy the requirements of USC Stevens as one of its graduate electives. The specific course objectives are:

- To identify, formulate and understand legal issues of business and engineering
- To understand principles of corporate finance and accounting for engineering organizations
- To understand employee issues regarding taxes, benefits and intellectual property, including trademarks and patents
- To understand the impact of legal and financial issues on management decision making
- To gain knowledge of contemporary legal and business issues affecting engineering innovation
- To understand the impact of engineering in a social and political context
- To participate as an engineering member on effective multi-disciplinary teams
- To understand professional ethical issues and responsibilities in engineering

#### Course Expectations:

This is a VERY demanding course. There will be about 50 pages of reading, a homework assignment and a quiz almost every class session. You should be prepared to devote the time necessary to take the course. The course material is cumulative and if you consistently fail to turn in homework on time, not only will you fall behind, but your point total (and hence your grade) will also suffer. This is really two courses...business law and basic finance in one. I am not trying to scare you but most of you are very busy and I want you to be able to devote the time necessary to the course.

#### Method of Instruction:

Lecture, class discussion and review of assignments conducted by the instructor will occupy the class period. Unless you are a DEN student, students are expected to attend class and be prepared to participate in class discussions and participation will count toward the course grade. The teaching assistant is responsible for administrative matters and will also hold office hours. There will be no separate discussion sections. A 10 minute break will occur midway through the class. The class is intended to be practical in its approach. Students, and especially DEN students are STRONGLY encouraged to bring to the attention of the instructor forms, contracts, procedures, problems or legal issues which the students deal with on a daily basis or which are found in newspapers or business publications.

#### Grading:

Midterms	30% (15% each)
Quiz/Assign.	30
Final	40 (cumulative)
	<hr style="width: 20%; margin: auto;"/> 100%

Grading is based upon 1000 possible points to be earned during the course. There is no “forced curve” and cooperative learning is encouraged on homework assignments. Thus, it is to your benefit to help each other as much as possible. Weekly and cumulative class scores will be frequently sent to each student. You are also encouraged to contact the instructor at any time if you are having problems completing the assignments or understanding the material. You should do so as early as possible during the semester and not wait until the week before the final exam.

Assignments:

Homework assignments are due at the beginning of class. Late assignments are accepted with a penalty of fifty percent of the actual score only if the answers are not previously discussed in class. Put your name on your homework assignment papers and your STUDENT NUMBER. You should turn in the original assignment but retain a copy for yourself to have in class for discussion. The instructor will attempt to return homework assignments within two weeks. If you have a question regarding the grading of homework, you should bring it to the attention of the instructor as soon as possible. Unclaimed papers will be discarded after four weeks.

Cooperation and Copying:

Cooperative learning is encouraged on homework assignments. Thus, it is to your benefit to help each other as much as possible. Scores will be posted on Blackboard and will be sent on a frequent basis by the course assistant. You are also encouraged to contact the instructor at any time if you are having problems completing the assignments or understanding the material.

There is a difference between working with others on an assignment or project and simply copying the work done by another student. I assure you that I have had enough experience to be able to tell the difference. For a first offense, all the students involved will receive negative (not zero) the possible points on the assignment. For a second offense, students will be referred for disciplinary action as described in the SCampus Student Guidebook.

Quizzes and Examinations:

There will be a class quiz and/or assignment due at almost every class. The quiz each week will be based primarily upon two subjects: the lecture from the previous week and the reading assignment for that week. Thus, you are expected to have read the weekly assignment prior to the start of class. There is **no** make-up of missed quizzes but quizzes by the in-class

students may be taken in advance of class with prior arrangements. Quiz and examination exercises are not cooperative.

Examinations are open book, and open note but closed mouth, but you should not rely too heavily on this as time is limited. You may not share books or notes. Calculators may be used and laptop computers may be used for archival of course documents but internet access or external programs such as dictionaries may not be used. The final examination will be cumulative. DEN students in proximity to the campus should be personally present for the final exam. Remote DEN students will take exams at a proctored location.

The format of the examinations will all be on scan-tron forms/ true-false or multiple choice or matching. While this may be criticized for not allowing partial credit, I have found that there is an extremely high correlation between students who do well on essay type exams and those that do well on objective tests. The very large number of questions that will be given during the semester also reduces to near zero the chance that guessing will have a significant impact on the final total points.

#### Other Course Requirements:

Extra credit point opportunities may arise during the semester. These points will be added to your score **after** the letter grade cutoffs are established (they really are extra credit). The maximum extra credit points available will be an additional 5% of the total possible points.

There will be a “company analysis” as a final assignment. This is something more than a regular homework assignment and something less than a “term paper.” It is not an individual assignment.

#### Attendance:

Attendance by on-campus students is mandatory. Participation is considered when deciding final course grades. Occasionally, a student will have a personal or family medical or other emergency, will have the necessity to travel for work related business, or will be compelled to miss a class due to a significant university sponsored event in which the student will participate. Contact the instructor or teaching assistant as soon as the possible conflict is known and arrangements will be made to the extent possible to allow the student to timely turn in homework assignments or take a quiz before the

After more than 25 years of teaching, I will advise you that you can expect the class to be very competitive and that the best grades consistently go to the students who “attend” each class and do the homework assignments timely.

### Instructional Philosophy:

I would like to make two important points with regard to the course. First, the goal of the course is **not** about your grade. My goal in the course is to make it possible for you to learn at least as much of the subject matter as I present and as much as you want to. There is only one purpose of the quizzes and assignments and tests which is to help you learn the material and then evaluate your understanding so you can improve. If you need help with the homework, discuss it with another student or the teaching assistant. If you don't understand the material, don't worry and wander around the intellectual darkness...ask the instructor. Learning is not about competing with others, it is about doing the best you can.

Second, grading is inherently unfair. It does not measure effort. It does not measure worthiness, need or desire. It does not measure the amount of your improvement. It only measures either (a) final performance relative to a fixed standard or (b) final performance relative to others in the class. The grade is not the goal, the grade is only an outcome. Most of you will not understand this, but the grade is not important. You are IN graduate school. Your present or future employer is not going to ask you what your grade was in ISE 565. Instead, you will be asked to determine the cost of a product, for instance. It is not your grade that will determine if you can do this, it is your knowledge of the subject. But I assure you, if you get a good grade, it will reflect a knowledge of the material.

### DEN:

DEN students will NOT have to arrange proctoring except for the final exam. The quizzes and examinations will be posted a few days prior to the class and must be completed by the start of the lecture. DEN students may contact the instructor by email or by telephone with any questions about the material. Administrative/access matters are the responsibility of the teaching assistant. The DEN students are NOT graded on the same scale as the in-class students since there are sometimes slightly different requirements.

We will set up the discussion board feature of Blackboard. I do not moderate the discussions, but I do monitor them from time to time.

DEN students and on-campus students have access to course webcasts at the DEN website. DEN students may watch webcasts of the lectures as they occur or subsequently, or both. On campus students will automatically have access to DEN. On campus students may review lectures only after they occur. For general technical problems with the course website,

contact DEN Web Support at 213-821-1321 or email at [webclass@den.usc.edu](mailto:webclass@den.usc.edu). For general administrative questions relating to DEN call 213-740-4488 or email [denadmin@usc.edu](mailto:denadmin@usc.edu).

For the first time this semester I have asked DEN to remove any restrictions on downloading the lectures to either a Windows or Mac platform.

For the DEN students, many of you are in the Los Angeles area and some of you are not more than an hour from campus, even in traffic. MANY of the DEN students in class have attended the class sessions personally whenever possible and have relied upon DEN only if necessary. Almost uniformly, the DEN students have told me that they prefer attending in person rather than watching the tapes. I will have the webex enabled only if requested. I am happy to do so but I have arranged it in the past with only limited participation.

Some students have had problems using the DEN testing feature. In order to assure smooth operation, PLEASE FOLLOW THESE INSTRUCTIONS:

1) Use Mozilla Firefox as web browser. You may download Firefox for free here: <http://www.mozilla.com/en-US/firefox/>

2) Run the latest Java software. Download Java for free here: <http://java.com/en/>

3) Disable pop-up blockers, or, at least, allow pop-ups from the domain <http://www.uscden.net>.

4) Save your work every five minutes to prevent loss of data due to poor connectivity or a timed-out connection.

5) Log-out and log back in to the exam if you encounter connectivity problems. BUT REMEMBER, THE TIMER CONTINUES TO RUN ONCE YOU HAVE STARTED (EVEN WHEN YOU LOG OUT).

#### Personal Conflicts:

Occasionally, a student will have a personal, family, medical or other emergency, will have the necessity to travel for work related business, or will be compelled to miss a class due to a significant university sponsored event in which the student will participate. Contact the instructor as soon as the conflict is known and arrangements will be made to the extent possible to allow the student to timely turn in homework assignments.

Additional Important Information: (The “legal” stuff...what else would you expect)

*Academic Integrity*

The Viterbi School adheres to the University’s policies and procedures governing academic integrity as described in *Scampus*. Students are expected to be aware of and to observe the academic integrity standards applicable to all students and will be enforced in this course.

*Disability Services*

Any student requesting academic accommodations based upon a disability is required to register with the Disability Services and Programs Office (DSPO) each semester. A letter of verification for approved accommodations can be obtained from DSPO and should be promptly delivered to the instructor. DSPO is located in STU 301 and the telephone is 213-740-0776.

*Religious Observances*

On occasion a class session may conflict with a special day of religious observance. If you advise me in advance, reasonable accommodation will be made.

COURSE CALENDAR  
(Subject to Revision)

Date

Topic

Reading

Aug 27	Course Introduction and Introduction to Legal Principles  Civil law and common law, procedural law and substantive law, statues, cases, opinions, the legislative and judicial processes	H/O
Sep 03	Contract Principles  Contract Creation, Interpretation and Enforcement <i>Homework on Legal Principles Due</i>	H/O
Sep 10	Tort Principles  Intentional, Negligence and Strict Liability Torts, Insurance, Bonds, Indemnity and Risk Transfer <i>Homework on Contracts Due</i>	H/O
Sep 17	Business Forms for Engineering Innovation  Agency, Proprietorships, Partnerships <i>Homework on Torts Due</i>	H/O
Sep 24	Corporations  formation, management, liability and taxation issues, public and private corporations, non-profit and professional corporations <i>Homework on Agency and Partnerships Due</i>	H/O
Oct 01	Capital Markets for Engineering Innovation  Midterm 1 (½ class session) Stocks, Bonds, Mutual Funds, Options, Exchanges <i>Homework on Corporations Due</i>	H/O
Oct 08	Capital Markets Continued; Borrowing and Lending  Secured and Unsecured Transactions, Notes, Leases and Installment Sales <i>Homework on Capital Markets Due</i>	H/O
Oct 15	Accounting Principles and Balance Sheets	H/O

	Cash and Accrual Accounting; Depreciation and Amortization; Cost, Price and Value; Historical Costs; Balance Sheets, Current and Long-term assets <i>Homework on Capital Markets #2 Due</i>	
Oct 22	Accounting Principles Continued	H/O
	Balance Sheets, Income Statements, Cash Flow Statements, Financial Ratios, <i>Homework on Accounting Principles Due</i>	
Oct 29	Business Taxation for Entrepreneurial Organizations	H/O
	personal and corporate taxation, partnership and corporate income taxes, capital gains and losses, property taxes, sales taxes, REITS <i>Homework on Accounting Due</i>	
Nov 05	The Regulatory Environment for Engineers	H/O
	Administrative law, Federal Trade Commission, Securities and Exchange Commission,	
	OR	
	Money and Banking	
	Commercial paper, letters of credit, foreign exchange, financial futures	
	MIDTERM 2 (½ class) <i>Homework on Taxation Due</i>	
Nov 12	Employment Law for Engineering Managers	H/O
	Agency and employment, independent contractors, wage and hour laws, confidentiality, privacy, discrimination, union organizing and collective bargaining, workers compensation and unemployment, harassment, privacy, benefit plans, Health Savings Accounts, IRAs	
Nov 19	Ethics, Anti-Trust and Unfair Competition	H/O
	Monopoly, tying arrangements, price fixing, common law and statutory unfair business competition	

Nov 26      Thanksgiving

Dec 03      Intellectual Property Rights and Protections for Engineering Ideas      H/O

Patents, copyrights, trademarks, trade secrets.  
proprietary information, e-commerce

Dec XX      Final Exam Review Session

Dec 10      Final Exam

H/O means H/O materials