

INSTRUCTOR: Thomas Sputo, Ph.D., P.E.
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TEACHING ASSISTANT:

TEXTS: Hinze, Jimmy. *Construction Contracts*, 2nd Ed. McGraw-Hill, 2000.
Petroski, Henry. *To Engineer is Human*, Vintage Books, 1992.
ASCE. Standards of Professional Conduct for Civil Engineers, 2000.
(Download and print from ASCE web site www.asce.org/pdf/ethics_manual.pdf)
Class notes (Available through ASCE)

TIME: M, W, F 5th Period Mechanical Engineering Bldg, Room 211
Additionally, students will be required to meet for one 2-1/2 hour evening session during the second half of the semester to view the movie *The Fountainhead*.
Date and time to be determined.

COURSE OBJECTIVES:

- " Expose students to the basics of construction and contract law.
- " Introduce the students to ethical behavior and processes and application of ethics in the practice of engineering.
- " Expose students to safety issues, as related to engineering practice.
- " Introduce students to various topics related to consulting engineering practice, including licensing law, office finance, insurance and professional liability, and dispute resolution.

COURSE RULES

1. **Please be nice.** This course is very different from any other engineering course you will take at UF. As a class, you will only get out of this what you collectively put in. You have the opportunity to learn about engineering practice from a practicing engineer. Take advantage of this opportunity!
2. Attendance at lecture is mandatory. Attendance will be taken. Points will be based on the percentage of class sessions attended. For basis of computing grades, there will be no excused absences. **The instructor retains the right to reduce final letter grades for excessive absences, regardless of total points earned.**
3. Be on-time to class. The instructor will start class on-time. The instructor will endeavor to end class on-time, however, class is over when the instructor says it is over. Do not start closing books, etc., as a way of informing the instructor that you feel that class is over. The instructor takes **great offense** to this.

4. **Each lesson requires preparation by the student prior to the lecture. Read the assigned material from the textbook prior to the lecture.**
5. The textbooks and notes are required for all lectures.
6. Homework will be neatly typed in a 10 point font. Use margins of one inch on all 4 sides of paper. Number, staple and label all pages. **No exceptions.** All writing assignments will be graded on both content and grammar / spelling / punctuation / construction.
7. All quizzes are closed book and closed notes.
8. No make-up work will be allowed, except in cases of emergencies or civic responsibilities (jury duty, etc.), provided that the instructor is notified by e-mail in advance. Provisions for make-up work will be determined on a case-by-case basis.
9. Some class communication will be by means of e-mail. Check your e-mail regularly (at least daily). Keep the instructor and TA informed of any changes to your e-mail address. Failure on the part of the student to keep-up with e-mail communications is not excusable.

IMPORTANT UNIVERSITY INFORMATION

Academic Honesty:

All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a student at the University of Florida and to be honest in all work submitted and exams taken in this class and all others.

Accommodations for Students with Disabilities:

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

GRADING:

GRADING SCALE: (May be relaxed at the option of the instructor)

93 - 100	A
90 - 92.99	B+
85 - 89.99	B
83 - 84.99	C+
77 - 82.99	C
75 - 76.99	D+
70 - 74.99	D
00 - 69.99	E

Quizzes	50%	(4 in-class quizzes, including final exam/quiz) Dates to be announced / subject to change.
Homework	44%	(Includes writing projects. Variable values applied to homework assignments, based on scope of work)
Attendance	06%	

LESSON SCHEDULE (Subject to change)

LESSON	TOPIC	READING
1	Introduction to Course	
2	Introduction to the Construction Industry	Hinze, Ch. 1
3	Contracting Methods	Hinze, Ch. 2
4	Nature of Contracts	Hinze, Ch. 3
5	Nature of Contracts	Hinze, Ch. 3
6	Real Property	Hinze, Ch. 4
7	Agency	Hinze, Ch. 5
8	Forms of Organizations	Hinze, Ch. 6
9	Contract Disputes and Torts	Hinze, Ch. 7
10	Contract Disputes and Torts	Hinze, Ch. 7
11	Surety Bonds	Hinze, Ch. 8
12	Quiz #1 (Topics of Lessons 1-10)	
13	Acquiring Contractor Services	Hinze, Ch. 9
14	Acquiring Contractor Services	Hinze, Ch. 9
15	Construction Documents	Hinze, Ch. 10
16	Construction Documents	Hinze, Ch. 10
17	Unit Cost, Cost Plus, Lump Sum Contracts	Hinze, Ch. 11
18	Introduction to Ethics	Hinze, Ch. 21
19	Quiz #2 (Topics of Lessons 1-18, emphasis on 11-18)	
20	Application of Ethics	ASCE, Notes
21	Application of Ethics	ASCE, Notes
22	Changes	Hinze, Ch. 12
23	Changed Conditions	Hinze, Ch. 13
24	Matters of Time	Hinze, Ch. 14
25	Matters of Time	Hinze, Ch. 14
26	Payments	Hinze, Ch. 15
27	Warranty	Hinze, Ch. 16
28	Discussion of The Fountainhead and Ethical/ Professional Issues	
29	Quiz #3 (Topics of Lessons 1-27, emphasis on 19-28)	
30	Construction Insurance	Hinze, Ch. 17
31	Dispute Resolution	Hinze, Ch. 20
32	Construction Safety	Hinze, Ch. 22
33	Engineering Office Practice	Notes
34	Engineering Office Practice	Notes
35	Professional Licensing Law for Engineers	Notes

36	Professional Liability and Insurance	Notes
37	Financial Aspects of Consulting Engineering Practice	Notes
TBD	Final Exam (Entire Course, emphasis on 29-37)	

During the course of the semester, readings will be assigned from Petroski. These readings will be critically discussed in class, and short essays (homework) will be assigned on these topics. The contents of these readings and discussions are fair game for quizzes and exams.

Additionally, guest speakers will be invited during the semester. The content of their presentations is fair game for any quiz or homework.

This short paper by Professor Yao from Texas Tech is a pretty good summary of my thoughts and philosophy on grades. I could not have said it better than this.

Sputo

ON GRADES AND GRADING

by James T. P. Yao for his students and interested colleagues

The grade in a given course is a measure of the student's performance in that endeavor. The overall grade point averages are indeed important considerations for all students. When I was a student at the University of Illinois in Urbana-Champaign, I did care about my grades at that time. However, I never complained about any of my grades though, at times, I felt that the grade I received in a particular course might not be fair. The fact is, on the average, the overall grade point average did reflect the knowledge gained and the effort that I put into my college education. There were courses for which I thought that I deserved a better grade than the one on my record. On the other hand, I also had grades that were better than what I expected and/or deserved. In the long run, they all averaged out at the end of my college career. Most importantly, I learned from each professor and from each course that I had.

A few years after I graduated, I forgot all my grades. No one has ever asked for my grades just a few years after I graduated from college. To date, however, I have kept all the basic knowledge that I gained from my college education. Especially, the method of learning new things on my own has been useful. If the students aim at learning as much as they can from each course and each professor, the good grades will come as a result of their diligent work, on the average. On the other hand, if the students waste their time arguing about their grades, they will lose time for studying new lessons and thus hurt their future grades.

As a teacher, I try very hard to be fair and consistent in grading student papers. The student will get a perfect score if he/she gives a correct answer. If the answer is not correct, the teacher is the one who judges how serious the error is and assigns a partial score accordingly. As a student, I had several professors who did not give partial scores. The reason was that, the engineering system could fail with the wrong answer, no matter how close the answer is to the correct one (e.g., exactly the same number but with a wrong sign). I do not agree with that policy but respect their judgement in those courses. In any event, partial scores are subjective depending on the experience and viewpoints of the individual teachers. It is counter-productive to argue about it.

Please be careful in doing your homework, tests, and other assignments. People's lives and properties will depend on your work someday in the near future. Try to learn as much as you can while you are in school. Communicate with your teachers and classmates frequently, and concentrate on the learning process. With knowledge, you will become a successful and proud engineer soon. **HAVE KNOWLEDGE, WILL SUCCEED!**

OCCAM'S RAZOR

by John H. Lienhard
The University of Houston

There is a wonderful old Shaker tune,

'Tis a gift to be simple, 'tis a gift to be free;
'Tis a gift to come down where you ought to be

Those lines should make up the first chapter in any book on engineering design. But how do we find the natural threads of simplicity that run through the world around us?

Simplicity in design was a lesson I fell into when the Army drafted me -- after I'd finished college. They assigned me to the Signal Corps Engineering Labs and put me to work designing research equipment. There I met a fine designer, Jules Soled, a person who could clearly teach me things. So I said to him, "Teach me, and I'll work for you." He taught me many things I hadn't learned in school, and his central lesson was always this:

Do a first design. Then attack it. Your first design will be elegant and complicated, but it'll always work better when you get rid of complication. In a really good design you eventually make the very design itself unnecessary. And that is very hard to do because we like complication.

That idea is really quite old. The towering 14th-century philosopher William of Occam put it this way: "Multiplicity ought not to be posited without necessity." William was telling us **we should make no more assumptions than we really need to explain anything -- the simplest explanation is best.** We call that idea Occam's Razor because it helps slice away the junk in our thinking.

Look at the safety razor. For years designers fought with the problem of loading, mounting, and unloading a blade in a holder. If you're old enough, you'll remember Schick's "push-pull, click-click" advertisement for its mechanism. Keeping the action workable, and the blade solidly in place, was a big problem. Then some bright person applied Occam's razor to the razor-mounting problem. That designer realized you could simply mold the blade right into the plastic packaging. Now who buys replaceable razor blades? Instead, the blades are set, very solidly and with great precision, right into a cheap throwaway piece of plastic. We've designed blade-holding mechanisms out of existence. That's what Soled meant when he said that good design makes the design itself unnecessary.

But to take that last step -- to walk the plank from a clever design to no design at all -- takes nerve as well as imagination. **We're so tempted to look smart by mastering complication instead of simplicity.** If we go back to our Shaker tune,

'Tis a gift to be simple, 'tis a gift to be free;

the second line says:

'Tis a gift to come down where you ought to be

Good design exacts a price from our egos, but it really is a gift -- it really is freedom -- to find the simplicity in things and finally to reduce an engineering design down to where it ought to be.