

ISE 544 – Engineering Team Design (3 Units)
Spring Semester 2018
Wednesdays 6:40 pm - 9:20 pm
Room: OHE 120

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Objective: This course provides a framework for understanding and improving the effectiveness of engineering team management. The course will explore theory from disparate areas, including organizational behavior, engineering, and business management. Several aspects of teamwork will be examined, from team formation and team dynamics to collective intelligence and decision-making.

Text Books (Required):

1. Thompson, L. L., Making the Team: A Guide for Managers, Sixth Edition. Prentice Hall. ISBN-13: 978-0-13-448420-4 & ISBN-10: 0-13-448420-7
2. Lawrence Holpp, Managing teams, The McGraw-Hill Companies. ISBN 0-07-071865-2
3. Lencioni, P., The Five Dysfunctions of a Team: A Leadership Fable. 2002: Jossey-Bass. ISBN: 0787960756

Additional Readings (Optional):

1. Jim Collins Books, Articles, and Tools: www.jimcollins.com
2. Patrick Lencioni (2012), The Advantage; Why organizational health trumps everything else in business, *Jossey-Bass Publishers*
3. Patrick Lencioni (2006), Silos, Policies, and Turf Wars; a Leadership Fable about destroying the barriers that turn colleagues into competitors, *Jossey-Bass Publishers*
4. Richar Guzzo, Eduardo Salas, and associates (1995), Team Effectiveness and Decision Making in Organizations, *Jossey-Bass Publishers*
5. Howard Behar with Janet Goldstein (2007), It's Not about the Coffee; Leadership Principles from a Life at Starbucks, *The Penguin Group*
6. Malcolm Gladwell (2000), The Tipping Point; How Little Things Can Make a Big Difference, *Back Bay Books*
7. J. Richard Hackman and Greg R. Oldham (1976) Motivation through the Design of Work: Test of a Theory, *Organizational Behavior and Human Performance* 16, 250-279 (1976)
8. Margaret L. Wheatley (1999), Leadership and the New Science; Discovering Order in a Chaotic World, *Berrett-Kohler Publishers*
9. John Briggs and F. David Peat (1999), Seven Lessons of Chaos; Spiritual Wisdom from the Science of Change, *Harper Perennial*
10. Michael F. Barnsley (1993), Fractals Everywhere, *Morgan Kaufmann*

Course Material: Text Book, all topics discussed in lecture by the instructor, guest speaker (if any), other students, and the all related handouts.

* All written communications with the Instructor or the Teaching Assistant must be through emails. Emails must be short and to the point and they are normally answered in two business days. We will not answer the questions that students post on the DISCUSSION BOARD. This medium is for technical discussions among the students only.

Study Guidelines: The lectures and class discussions are not limited to reading assignments. Merely reading the text book does not guarantee students' successful completion of the course. The instructor's Class notes are not sufficient either and all students are responsible to take their own notes in the class and use them to study and elevate their understanding of the reading materials and the class discussions.

Performance Evaluation:

1. Class Participation & Workshops	100 (10%)
2. Case Studies	300 (30%)
3. Exams	300 (30%)
4. <u>Term Project</u>	<u>300 (30%)</u>
Total	1000 (100%)

1. **CLASS PARTICIPATION & WORKSHOPS:**

Class Participation	50 Points
<u>Workshops</u>	<u>50 Points</u>
Total Homework & Case Studies	100 Points

- ON-CAMPUS students are expected to attend and participate in as many class discussions as possible. While we do not take attendance in this course, students who will miss multiple sessions will also miss the opportunity to improve their learning through class participation and could deteriorate their class participation grade.
- DEN students can make comments on the lectures and class discussions, using the **discussion board**, under the appropriate lecture forum, **within one week of the lecture**. They are also encouraged to participate live in class discussions and will get credit for that. Text messaging through WebEx is not the most effective way of communication, but such comments will be addressed as practically as possible. DEN students who are able to physically join the class, are strongly encouraged (but not required) to do so.
- ALL STUDENTS TO AVOID USING THE DISCUSSION BOARD TO ASK QUESTIONS FROM THE INSTRUCTION TEAM OR TO DISCUSS PERSONAL/NON-COURSE RELATED TOPICS (EXCEPTION: THE WELCOME PAGE OF THE COURSE SITE IS DESIGNED FOR POSTING PERSONAL INFORMATION). ALL QUESTIONSS SHOULD BE EMAILED FIRST TO THE TEACHING ASSISTANT AND THEN, IF NOT RESPONDED TO IN A TIMELY MANNER, TO THE INSTRUCTOR.
- Most classes start with a Workshop in the form of a mini-project to prepare the class for the upcoming lecture, in a close-to-real-life environment. Members of the workshop teams will change randomly in different workshops, to provide the opportunity for the students to work with different people and for better evaluation (see below). At the end of each workshop, all team members will rank their teammates (on the scale of 1 to 3) using a worksheet provided to them, designed for that specific workshop. A student's earned ranking for each workshop will be prorated to the total workshop points (50 points) as the workshop grade and then the average of all workshops grades will constitute the student's final workshop grade (out of 50). Students who miss too many workshops (with the exception of some DEN students, as discussed below), will see the effect in their Class Participation points.

- For the DEN students, Virtual Teams will be formed in which they will be able to discuss the mini-project with their Teammates and then present their findings through the WebEx. DEN students who can provide a good reason (different time-zones, work-hours conflict, etc.) for missing several workshops will be evaluated based the ones that they can and will not be penalized (see above). If a DEN student has a legitimate reason for not attending the workshops more than twice, an alternative assignment can request an alternative assignment.
2. **CASE STUDIES** consist of **5@60 Points Each real-life (or simulated) business cases**. You will be expected to read the case study **individually**, write a report on it, and be prepared to discuss the case in class, as time allows. DEN students may post their comments on the case study via DEN Discussion Board, after the Case Study final submittal deadline. The case studies **MAY NOT** be discussed before the FINAL submission deadline (including the grace period with penalty, see below). The CASE STUDIES due dates are shown in the attached schedule.

ALL CASE STUDIES MUST BE PERFORMED **INDIVIDUALLY**, NO “TEAMWORK” ALLOWED HERE! Students must attempt to use their intellect, analyze the case comprehensively, and answer the questions in their own words. In case of necessity, appropriate quotation is required. Merely repeating the lecture and text book materials without proper and direct connectivity to the case study will not earn **ANY** points. The Students, who miss the deadlines and submit homeworks and case studies up to one week late, will be graded based on 80% of that assignment’s total points. No assignment will be accepted afterwards.

3. **TWO EXAMS** will be given on with the following points distribution:

MIDTERM (Take-Home)	150
FINAL EXAM (Optional)	150
Total EXAMS	300

The exams will cover the material presented up to and including the preceding lecture. Points will be assigned to each section of the exam. Partial credit will be awarded according to work shown. No re-takes will be allowed. No make-up exam will be given.

4. Students start working on their **TERM PROJECT** after SESSION 3, the project criteria and its grading structure will be explained in SESSION 4 (a draft copy is attached to this syllabus, for reference only – subject to change). The teams will be challenged for their proposals in SESSION 5 and students get to “invest” in the other teams’ projects (details to be explained in session 4). Term project discussions are scheduled for the last 3 sessions of the class (April 11 to April 25). Teams (and individuals within teams) will be evaluated by the instructor based on the quality of their work, their ability to present and educate the audience, and their ability to rationalize and defend their conclusions. ALL members¹ of the presenting team must contribute to the discussion and to the Q&A. Ample time will be provided for Q&A.
5. **LINES OF COMMUNICATION:**

- All students **must** follow the communication protocol set forth by the Instruction team. Assignments that are supposed to be posted on the course site will NOT be graded if

¹ DEN students who are unable to participate in their team presentation due to justifiable restrictions (time zone difference, conflict with work-hours, etc.) must inform the instruction team by session 4 and get his approval and must provide recording of their presentation to a teammate to present. Any student’s absence in the final presentation without coordination with the instructor, and his approval, will significantly impact the student’s individual grade in term project.

submitted via other media (email, hardcopy, etc.), unless specifically and exceptionally agreed, in advance.

- Assignments must be submitted in the exact format instructed by the TA and/or the instructor. In cases of discrepancy, the instructor's guidelines supersede. Assignments that do not follow submittal guidelines (File type, naming structure, content format, etc.) will NOT be graded.
- All students are responsible for proper communication and for timely transfer of their assignment files. All students to make sure all their communication lines are open and they are able to properly upload their files, during the FIRST WEEK of the semester. In the exceptional case of possible glitch in the DEN system, IF IT CAN BE PROVEN, a student may submit the assignment by email. In this case, the "Date Created" attribute of the submitted file will be considered as the submittal date.
- All students are responsible to have proper training with the D2L system. If you need to schedule a training please contact DEN staff directly (or through the course TA) to arrange for a training session as soon as possible.

All due dates are provided in the next page: "Assignments & Due Dates". All students must take the exams on the exam dates and times. Exceptions only include special cases such as sickness, time zone difference (for DEN students), or such unavoidable circumstances. **PLEASE DO NOT SCHEDULE ANY TRIPS ON THE EXAM DATES. PERSONAL OR BUSINESS ENGAGEMENTS DO NOT JUSTIFY EXAM DATE & TIME CHANGES.**

Final Grades:

Course FINAL GRADES will be determined by the distribution of point totals for the class. "Natural groupings" will be used to assign letter grades. The highest scoring group will receive A's, the next group is the A-'s, and so on. A single point will not be the difference between any two letter grades. A "gap" must exist to create a grade boundary. If there are no gaps, everyone could get A's!

THE GRADING PROCESS WILL BE EXPLAINED IN DETAILS IN THE SECOND LECTURE. STUDENTS ARE RESPONSIBLE TO UNDERSTAND THE PROCESS CLEARLY AS THEIR ACTUAL PERFORMANCE MAY DIFFER FROM THEIR PERCEIVED PERFORMANCE WHICH IS CONVENTIONALLY BASED ON PERCENTAGES ONLY.

THIS IS A QUALITATIVE MANAGEMENT COURSE AND STUDENTS PERFORMANCE ASSESSMENT IS SUBJECT TO THE INSTRUCTOR'S JUDGEMENT. EACH STUDENT'S PERFORMANCE DATA (**TACIT INFORMATION**) COMBINED WITH THE INSTRUCTOR'S INTUITIVE ASSESSMENT OF HIS/HER LEVEL OF EFFORT AND LEARNING EXPERIENCE (**IMPLICIT INFORMATION**) WILL DETERMINE THAT STUDENT'S OVERALL GRADE. ULTIMATELY, THE INSTRUCTOR WILL BE THE SOLE JUDGE OF ALL STUDENTS' INCREMENTAL AND FINAL GPA'S.

Assignments and Due Dates:

Session	DATE	TOPIC	ASSIGNMENTS DISTRIBUTION	ASSIGNMENTS DUE	READING ASSIGNMENT	
1	Jan. 10	Introduction: INDIVIDUALS Versus TEAMS Introduction to Virtual Teams			Handout Thompson Ch.1 Thompson Ch.12 (Brief)	
2	Jan. 17	Team Design Team performance Initial Teams Formation	Case #1		Thompson Ch.s 2 & 5 Holpp Ch.1	
3	Jan. 24	Teamwork Culture Finalized Teams Formation Explain Term Project Criteria	Project Proposals due in 2 weeks		Thompson Ch. 4 Holpp Ch.2	
4	Jan. 31	Communication & Collective Intelligence	Case #2	Case #1 (60 points)	Thompson Ch. 6 Holpp Ch. 4	
5	Feb. 07	Competition & cooperation The Shark Tank Experience!		Project Proposals	Thompson Ch. 10 Holpp Ch.10	
6	Feb. 14	Cohesion & Conflict	Case #3	Case #2 (60 points)	Thompson Ch. 8 Holpp Ch.10	
7	Feb. 21	Human Resource Practices	Take-Home Midterm Case #4		Thompson Appendix 1 Holpp Ch.12, Handout	
8	Feb. 28	Team Leadership		Case #3 (60 points)	Thompson Ch. 3 Holpp Chs 7&8, 9&11	
9	Mar. 07	Decision making & Problem Solving	Case #5		Thompson Ch. 7 Holpp Ch. 8	
N/A	Mar. 14	SPRING BREAK NO CLASS				
10	Mar. 21	Creativity		Take-Home Midterm	Thompson Ch. 9 Holpp Ch. 8	
11	Mar. 28	Virtual Teamwork & Multi-Cultural Teams		Case #4 (60 points)	Thompson Chs. 12 & 13	
12	Apr. 04	DEN Discussion Open Discussion & Conclusion				
13	Apr. 11	Term Project Discussion (TEAMS 1-4)		Case #5 (60 points)		
14	Apr. 18	Term Project Discussion (TEAMS 5-8)				
15	Apr. 25	Term Project Discussion (TEAMS 9-12)				
	May 02	Final Exam – Optional 7:00 pm – 9:00 pm (100 Points)	In Accordance with USC Final Examinations Schedule Guideline: https://classes.usc.edu/term-20181/finals/			

Outreach DEN Students

This course is conducted in outreach format, meaning, it is available to off-campus students via video recording and streaming. Students in on-campus or off-campus receive the same instruction and perform the same tasks.

Language Support Systems

USC provides support for students who need help with scholarly writing. Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students.

Emergency Services

If an officially declared emergency makes travel to campus infeasible, USC Emergency Information <http://emergency.usc.edu> will provide safety and other updates, including ways in which instruction will be continued by means of D2L, blackboard, teleconferencing, and other technology.

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the professor(s) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Academic Integrity

USC seeks to maintain an optimal learning environment. The Department of Industrial and Systems Engineering adheres to the University's policies and procedures governing academic integrity as described in Scampus, the Student Guidebook. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. Scampus, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at <http://www.usc.edu/student-affairs/SJACS>. All students are expected to understand and abide by these principles, as they will be strictly enforced throughout the semester. Note: This syllabus is subject to change.