SYLLABUS

### ISE 544: Management of Engineering Teams

(DRAFT)

Instructor: Lynne P. Cooper, Ph.D.

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Summer 2017: May 18 – June 27, 2017

Tuesdays & Thursdays 9:00am-12:30pm

**Course Sections:** 31704 (for DEN students) and 31504 (for on-campus students), 3 Units

**Prerequisite:** Graduate student standing in engineering or related discipline, or special approval by Instructor is required. No special engineering skills (beyond general problem solving ability) are required.

**Class Location:** USC Olin Hall of Engineering (OHE), Room 100B

**Office Hours:** Office Hours: GER 216C, 213-740-0867

* + - * On Campus: Tuesdays & Thursdays, 2:00-3:00 pm
      * Virtual Office Hours: by appointment only
      * May need to call for access if building locked
      * For emergencies only: 208-217-0308

**Teaching Assistant:** TBD

**Required Text Books:** *Five Dysfunctions of a Team: A Leadership Fable (L)*

Patrick Lencioni**,** Jossey-Bass, ISBN: 0-7879-6075-6

You are responsible for reading the whole book

*Feedback that works: How to Build and Deliver Your Message (W)*

Sloan R. Weitzel, Center for Creative Leadership, ISBN: 978-1932973716

You are responsible for reading the whole book

*12: The Elements of Great Managing (W&H)*

Rodd Wagner & James K. Harter

Gallup Press, ISBN: 978-1595629982

You are responsible for assigned chapters

Note: either physical or e-book versions are acceptable.

**General Note on Workload:**

As a rule of thumb, for a graduate level class the workload outside of class should be ~2 hours per unit. Therefore you are expected to spend ~6 hours each week for this course *outside of class*. Working on teams, especially when there is a mix of on-campus and DEN students, requires additional time to handle coordinating schedules, arranging meeting times, and gaining proficiency with virtual meeting tools. The team exercises and workload from traditional out-of-class activities (e.g., reading, quizzes, and individual assignments) have been scaled accordingly. I think of this class as a lecture with a “teamwork laboratory.”

**Note: because this is an accelerated summer session, it is absolutely critical that students allocate sufficient time to participate in required teamwork exercises outside of class. Each student is expected to commit to a 2 hour block of time between Thursday-Monday, as negotiated with their assigned team members. Every effort will be made to assign teams to ensure mutual availability, but students are expected to be flexible during the 6 weeks of class.**

This course provides a framework for understanding and improving the management of engineering teams. The course will explore the theoretical foundations of teamwork and leadership, along with the practical application of tools and techniques for use in work settings. Topics include team formation, dynamics, processes, organizational context, and measures of effectiveness. Special emphasis is placed on developing leadership skills for motivation, managing conflict effectively, and giving constructive criticism and feedback; as well as developing general communications skills to work effectively in a distributed, multi-cultural environment. The course will cover what to do, why it’s important, and how to do it, as depicted in the figure below:

What

…do I do as a manager?

…makes a good manager?

How

…do I do what needs to be done?

…do I help my people do their jobs?

Why

…are specific things important?

…do people behave the way they do?

Engineering

Context

Facilitation

Communications

Leadership

This course follows principles for action-based and reflection-based learning. Simply put, these state that you will have a better, more effective learning experience if you (1) actively apply what you learn, and (2) reflect on what you have learned and experienced. This class therefore requires students to work in teams throughout the semester. The sequence of team exercises and small projects emphasize teamwork in an engineering context. While you will be using your existing engineering skills – the focus of these exercises is to stretch and develop your teamwork “muscles” and the skills you need to be an effective manager of engineering teams. The projects have been scoped so that the required “taskwork” is relatively straight-forward so the team has sufficient time to focus on “teamwork.”

This course is a collaborative effort between students and the instructor. As such, students are encouraged to offer suggestions, communicate problems, and contribute to creating a learning experience that is valuable to them. My role is to facilitate your learning; your role is to actively learn. Let’s work together to make sure we all accomplish our goals for the semester. *Please note that you are allowed to be creative and think “outside the box” with respect to the assignments and structure of the class. Unless something is explicitly forbidden – it is fair game for modification, with the approval of the instructor. An important skill for a manager is to understand when & how to change the context to enable the team to work more effectively.*

**Course Components:**

* **Classroom Lecture**

Twice weekly lectures will discuss the relevant theories, methodologies, processes, tools, and practice of managing engineering teams. Reading assignments from required texts and supplemental reference resources will be given throughout the session. All students are encouraged to study these reading assignments as a “preview” for the lectures. A combination of power point slides and in-class lecture notes will be available on the DEN site for student review.

All students are encouraged to bring their computers to class and participate in a live chat. The TA and/or instructor will monitor the chat throughout the lecture. The background chat provides a way for students to share information in real time, post questions and insights for later discussion, and connect with their fellow students. In the past, the chat interaction between the DEN students and in-class students has lead to a lively, dynamic and much more enjoyable learning environment for everyone.

Off-campus students are encouraged to watch the live web castings of classroom lectures whenever possible through the DEN systems (e.g., WebEx). Live lectures are recorded for later review by all students. Off-campus students can connect by audio via the DEN system, or participate in background chat via WebEx. For technical questions regarding remote lecture/question participations, off-campus students should consult with DEN technical staff directly. While all students are encouraged to participate in the “live” class, real-time attendance is not required.

* **Discussion Board**

A course Discussion Board will be used to post questions and answers about assignments, readings, or other items of interest to the class. Students are also encouraged (but not required) to submit discussion questions that go beyond the material covered in class, e.g., relate in-class topics to personal work experiences, post an interesting article. The discussion board will NOT be graded, however, meaningful participation in the discussion board may be taken into consideration for extra credit or rounding up to cross a grade threshold.

* **Quizzes [100 points]**

Quizzes are designed to reinforce vocabulary and concepts discussed in class and in the mandatory readings. Quizzes will be posted following class and due by 8:00am the day following the next class, i.e., Friday morning (see Course Schedule). Quizzes are **open book, open notes, have a 15-minute time limitation, and will be given on-line.** They must be done individually (collaboration not allowed).

* **Individual Assignments [300 points]**

Individual Assignments will consist of: (1) work that specifically prepares the individual student for the upcoming Team Exercise, and/or (2) short answer reflection-type questions that ask the student to relate the student’s team experiences to concepts discussed in class.

* **Team Exercises [300 points]**

The team exercises are the equivalent of laboratory assignments; they provide you an opportunity to observe teamwork in practice and to test out your teamwork skills. The exercises themselves have been crafted to exercise teamwork/engineering management skills and to fit into the 2-hours/week of team-time expected each week (additional individual work time may be required to complete the task). You will receive instructions and guidelines for each exercise that sets the expectations and describes the product to be produced. All team members are expected to contribute their fair share and will receive the same grade on team projects.

Team Meetings: Time/location are at the discretion of the team, with the constraint that they must happen between assignment on Thursday and due date on Tuesday.

* **Team Member Evaluations & Team Participation [100 points]**

Students are expected to be an engaged, active, and productive member of the teams they are assigned to. Each team member is responsible for evaluating the task performance and team behavior of their fellow team members using a basic form that will be discussed in class. Students will be graded on the quality of the evaluations they write for their team members (fair, thoughtful, specifics to justify their ratings). Separately, a team participation grade will be assigned based on the evaluations received for each student.

Warning: Students who habitually fail to participate in team meetings and/or team projects will be heavily penalized.

* **Take-Home Final Exam [200 points]**

The take-home final exam will be distributed following class on June 22nd and is due at 11:59pm on June 27th. Due to time constraints on when grades are due to the University, late exams will NOT be accepted.

**Course Website:**

Students’ learning of this course is supplemented by a specially designed course website on the DEN D2L instruction system (<http://www.uscden.net>). All registered students have access to this website. The course website structure is implemented to support the specific organization of the course instruction as described in this syllabus. All students should browse around the entire site to familiarize themselves with various areas and functions of this course website.

The course website will contain the following information:

* News -- important announcements of this course (check it frequently); should be on your course home page
* Course Documents – Syllabus, required readings, and links to external resources
* Organized by Assignment:
  + Description of/Instructions for Exercises, Assignments, and Evaluations
  + Evaluation guideline
  + File template (as appropriate)
  + Either Dropbox, Discussion Board, or Quiz for submitting assignments
  + Discussion Board specific to the project
* Organized by week:
  + Course Lectures -- video files of each lecture
  + Course Presentation Package
  + Any Lecture-generated material
  + Chat transcript
  + Weekly discussion board
  + Quiz (as appropriate)
* Reference Materials – Readings and urls relevant to the class, but NOT REQUIRED.
* Team Spaces – organized based on team assignments. Only members of the team and instructional staff have access to a team’s assigned space.

**Assignment Submission Policy:**

Specific submission instructions will be provided for each assignment, including file-naming conventions. Late assignments will be accepted only with permission of the instructor and will incur a penalty (which can be waived by the instructor when there are extenuating circumstances, e.g., medical emergencies, work-related travel).

**Course Grading:**

Assignments are worth the following points with following grade assignments:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Assignment | Points |  | A | ≥ 960 points |
| Team Exercises | 300 |  | A- | ≥ 930 points |
| Individual Assignments | 300 |  | B+ | ≥ 900 points |
| Quizzes | 100 |  | B | ≥ 870 points |
| Team Member Evaluations & Team Participation | 100 |  | B- | ≥ 850 points |
| Final | 200 |  | C  (or worse) | <850 points |
| Total | 1000 |  |  |  |

**These are hard cut-offs. Final class grade will be based on the total points you have earned – no rounding up.**

## Statement on Academic Conduct and Support Systems

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## Academic Conduct

## Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences.  Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* [https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions](https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/).  Other forms of academic dishonesty are equally unacceptable.  See additional information in *SCampus* and university policies on scientific misconduct, [http://policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct/).

## Discrimination, sexual assault, and harassment are not tolerated by the university.  You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu> or to the *Department of Public Safety* <http://adminopsnet.usc.edu/department/department-public-safety>.  This is important for the safety of the whole USC community.  Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person.  *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu> describes reporting options and other resources.

## Support Systems

## A number of USC’s schools provide support for students who need help with scholarly writing.  Check with your advisor or program staff to find out more.  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.  *The Office of Disability Services and Programs* <http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html> provides certification for students with disabilities and helps arrange the relevant accommodations.  If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* [*http://emergency.usc.edu*](http://emergency.usc.edu)will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

## Course Schedule:

*The Instructor reserves the right to change this schedule and topics during the semester.*

| **Class #** | **Date** | **Due** | **Mandatory/***Recommended*  **Reading for this class** | **Topic** | **Work assigned**  **(for next class/es)** |
| --- | --- | --- | --- | --- | --- |
| 1 | 5/18 | Student Profile  Availability | **SYLLABUS**  **Bens (2007) - Facilitation**  *W&H: Intro (pp. ix-xviii);* | - Overview: roadmap for course  - Expectations/Outcomes  - Intro to the main models  - “The Boss” & “Team Player”  - Facilitation  - Personality (Myers-Brigg) | Myers-Brigg Test |
| 2 | 5/23 |  | **Cohen & Bailey** (p 239-245 and 281-284)  *“Apollo 13”*  **W&H: 2nd, 4th, 8th Elements** | **Team Assignments**  Cohen & Bailey Model  - Types of Teams  - Team Effectiveness Outcomes  - Environmental Factors  - Organizational Factors  - Team Composition, Diversity | Individual Assignment #1  **Last day to Drop Class w/Refund: 5/24** |
| 3 | 5/25 | Quiz-1  Indiv-1 | **W&H: 7th, 11th Elements**  **Brett, Behfar & Kern (2006)** | Cohen & Bailey Model  - Group Processes  - Group Psychosocial Traits  - Rules & Norms  Setting Performance Expectations  Cultural Issues in Communication | Exercise #1 – Team Plan |
| 4 | 5/30 | Exercise-1 | **Weitzel: pp. 6-30**  *“Conference Travel”*  **W&H: 1st, 3rd, 9th Elements** | Behavioral vs. Performance Feedback  Effective Feedback (SBI)  Cooper Communication Model | Individual Assignment #2 |
| 5 | 6/1 | Quiz-2  Indiv-2 | **Group Development: Articles 1 & 2**  *Gersick (1998)*  *Tuckman (1965)* | Models of Team Development  Team Dynamics | Exercise #2 – Globe Trotting |
| 6 | 6/6 | Exercise-2 | **Globe Trotting Videos**  **W&H: 6th, 10th, 11th Elements Conger (2011)**  **Nichols/Harvey**  *Elron & Vigoda (2003)*  *Keeney (2009)* | Decision Making in Teams  Fundamental Attribution Error  Motivation, Persuasion | Individual Assignment #3 |
| 7 | 6/8 | Quiz-3  Indiv-3 | **5 Dysfunctions of Teams**  *Detert & Edmondson (2006)*    *Note: Potential Pre-recorded Lecture* | Trust & Conflict  Psychological Safety | Exercise #3 – Super Quiz |
| 8 | 6/13 | Exercise-3 | *Pelled & Adler (1994)*  *Jehn & Mannix (2001)*  *Griffith, Mannix & Neale (2003)* | Conflict  Managing Conflict  Conflict Management Styles | Individual Assignment #4 |
| 9 | 6/15 | Quiz-4  Indiv-4 | **Weeks (2011)**  **Tannen (2011)** | Conversational Dynamics  Communication Challenges  Crucial Conversations | Exercise #4 – Design Challenge  **Last day to Drop Class w/a “W”: 6/19** |
| 10 | 6/20 |  | *Milgram (1963) Esser (1998)*  *Hodges & Geyer (2006)*  *Darley & Batson (1973)*  *Darley & Latane (1968)* | Human Dysfunctional Behavior |  |
| 11 | 6/22 | Exercise-4 | **Exercise 4 Presentations**  **Suters (1992)**  **Hill (2007)** | Team Member Evaluations  Managing Teams – Wrap-up | Take-home final |
| 12 | 6/27 | Final Exam & Team Member Peer Evaluations due |  |  |  |