

ISE 544 - Management of Engineering Teams

Fall 2012 M-W 6:40 -9:20 – RTH 105 - Draft Syllabus (8/30/12)

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Overview and Objectives

The objective of this course is to provide engineers who are working in team-based environments and/or are moving into technical management the necessary skills for effective performance. The course starts by setting the theoretical framework for the development of the team-based organization with its emphasis on integrated product development and processes, and provides the fundamentals of team effectiveness. Fundamentals of team dynamics with issues such as values, norms, idea generation, facilitation, leadership, decision making, motivation, coaching and communication will be presented. Finally, current performance management techniques as well as the latest trends in team-based organizations will also be addressed.

Required Reading

Sioukas, T. The Solution Path: A Step by Step Guide to Turning Workplace Problems into Solutions, Jossey-Bass, 2003.

Galbraith, J. Designing Complex Organizations, Addison-Wesley (integrated in the lectures).

A reader containing various articles is available at the bookstore or online.

Class powerpoint presentations

Recommended Reading

Galbraith, J. Designing Complex Organizations, Addison-Wesley

Robbins, DeCenzo, and Coulter, Introduction to Management, Pearson-Prentice Hall, 2010.

Parker, G. M. Cross-Functional Teams. San Francisco, Jossey-Bass, 2003.

Katzenbach, J.R. and Smith, D. K. The Wisdom of Teams. Harper Business, 2003.

Kelly, T. The Art of Innovation. Profile Business, 2002.

The instructor can recommend a list of additional reading materials and resources.

This syllabus might be revised as needed during the term.

Grading

Participation	10%
Case papers	20%
Projects and presentation	30%
Exam 1	20%
Exam 2	20%

Case Papers

The first case, MOD IV/Honeywell, is included in your reader, while the second case will be posted on the web site of the class. You are asked to analyze and diagnose the case and propose a plan of action. Your case should be up to 6 pages long, 12 pt, type, typewritten, double-spaced with maximum 1" margins. It should be organized with:

- a short introduction (one paragraph)
- your diagnosis/analysis
- the recommended action plan as it relates to specific questions, and
- the conclusion (one short paragraph)

Some guidelines for breaking down a case are included in the web-posted file named "*Procedures in Analyzing a Case*." You are expected to use and reference theories and models described in class. Please avoid repeating the facts of the case. Instead, focus on the analysis/diagnosis and rationale for the plan of action (specific questions are often asked.) Cases are graded by the Teaching Assistant. Grades are assigned by ranking. Cases are ranked based on the richness of analysis/diagnosis and the creativity of action plan.

Cases are due at the beginning of the class. They may be discussed after they are due. You are all expected to participate. You can turn in your case one session late for 50% of the credit. No credit will be given afterwards.

Group projects

Class projects are completed by groups. Ideally, groups consist of three to five members located at the same site with one or two team members from the live class. When a location has only one or two students and is far from other locations, teams complete projects virtually.

Group projects give you a chance to put your skills to the test. There are two projects: (1) the top 10 lessons of The Solution Path; and (2) a team building exercise for your group. In the first project, you get together with your team and complete an actual project. You then get a 360 evaluation from all team members, peers (other students in class), the class instructor, and the TA. With that 360 evaluation, you do an actual evaluation for your team and move on the second project, a team building project. I provide guidance as needed and some of the work takes place in class. *Hard (printed) copies of all project assignments are required.*

Project One: The top 10 management lessons from The Solution Path (TSP - 15 points)

Deliverables: Presentation (up to 12 slides max with 28 point font) and hard-copy of power-point file

Each presentation lasts up to 20 minutes including 5 minutes for questions and answers. Team members assign roles and responsibilities for the project. Then each team member reads The Solution Path, and collectively you conduct a brainstorming exercise with the following objective: Top 10 effective management lessons from The Solution Path. Lessons are simple points rather than multiple/composite point themes. After generating several lesson ideas, you prioritize them into the top 10 lesson ideas and develop an illustration around each one. Each lesson is depicted in one slide with a summary title, an actionable single point lesson stated in the affirmative, and simple point example (illustration) that showcases your lesson. The presentations include the following:

- Overall description of The Solution Path (1 slide)
- The top ten management effectiveness lessons and illustrations (examples) from The Solution Path (10 slides)
- Your team's role and responsibility matrix (1 slide)
- Appendix that includes your top 20 ideas, as well as, your prioritization votes
- Question and Answer

Project Two: Team building (TB- 15 points)

Deliverables: Presentation (up to 12 slides max with 28 point font) and hard-copy of power-point file

This project starts with a summary feedback from 360 evaluations. You look at them collectively (as a team) and then conduct a basic team evaluation (what went well/ areas of improvement). The next step is for you to collect data on your team and yourselves (individual personality tests and conflict types) and understand yourselves and others and determine what impacted your team performance. After summarizing and reviewing these data, you sit together as a team and conduct a brainstorming exercise with the objective: How can we improve our team effectiveness? You follow up with a prioritization exercise whereby you decide on: What are our top ten areas of improvement as a team? You end this exercise, with an action plan for tackling each of the top 3 (out of 10) areas of improvement. This is team building 101!

- Summary and overall description (1 slide – does not count)
- Presentation (up to 12 slides)
 - Team Evaluation (1-2 slides)
 - Data collection (Personality types and Conflict types) and Lessons Learned (2-3 slides one for each of the following)
 - Top 10 areas of improvement (3 slides)
 - Role and responsibility matrix updated
 - Action plan for the 3 most important areas of improvement (3 slides) (see TSP ch8)
- Appendix that includes your top 10 to 20 ideas, as well as, your prioritization votes

Distance education students in the region of Southern California are expected to come to class for at least one their presentations. There is no need for you to fax/email your presentation. Out of state/region students, who cannot come to class, are required to both email and fax their power-point presentation through the DEN system. They can then call during class to do their presentation.

Projects are graded by the instructor. Your reports, worth 15 points each, are graded and ranked. Grading is based on the completeness and quality of your projects (primarily) and report ranking (secondarily). Report ranking is based on: (1) creativity/ innovativeness; (2) professionalism; (3) depth of literature /methods /analysis; (4) quality of your solutions; and, when applicable, (5) likelihood of and steps for implementation (overall feasibility, budget, and action plan).

All team members need to contribute! Therefore, each student submits a **group member evaluation** whereby you evaluate your peers. This evaluation may increase or decrease your final project points. Moreover, you need to provide copies of the power-points on the day they are due. Failure to do so will result in a 50% loss of points on the respective project.

Failing to conduct presentation can result in a penalty of up to 20% of the total possible points.

Important: Please note that a good group project can only raise your individual final grade by one letter grade (e.g., if your individual grade places you at a B-, an excellent group project can only bring you to B).

Case studies/Project Report:

On-campus students must turn in their assignments at the beginning of the class on the date they are due. DEN students also submit their assignments via DEN systems prior to the beginning of the class on the date they are due. Please follow the instructions provided by the distance education office when you submit your cases.

You can turn in your cases up to one session late for 50% of the credit. Therefore, you must turn in your project reports on-time as the 50% penalty for late submission will seriously jeopardize your success in the class. No credit will be given afterwards.

Exams:

These are closed book exams limited to the materials that were reviewed in class. The second exam is not cumulative. Questions are brief and point specific and require very short answers that show your comprehension of concepts, definitions, approaches and tools covered.

Make-up exams are not offered. If you miss an exam, you **MUST** provide written documentation with a legitimate reason for your absence. Once that is done, your grade in the missed exam will be proportional to what you receive on the other test. Under no circumstances can you miss both exams. If you do, you will receive zero points for the midterm and final and, thus, jeopardize your grade in the class.

Participation

Participation constitutes 10% of your total points and is required by all students and is rewarded. Come or watch to class on time ready to discuss case studies, readings, papers, and to interact and exchange experiences. Webex participation counts for distance education students. Purposeful email and with class input also constitutes participation. For example, you can share points that have not been raised during class discussions.

Academic Integrity

The School of Engineering (or the Department of Industrial and Systems Engineering) 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 described in SCampus, and to expect those standards to be enforced in this course.

Schedule

The schedule is provided on the next page. Please note:

- SP stands for "The Solution Path"
- ch stands for chapter and R for reader

Powerpoint presentations on each class will be posted on the DEN website.

Please note that the syllabus may be revised during the term!!

SCHEDULE

Week, Topic, Activity, Assignment Reading

Session 1 (8/27)

Class overview
Why teams? Team stages

Syllabus

Session 2 (9/3)

Labor Day holiday

Session 3 (9/10)

Principles of organizing – Organizational Structures – Classical organization - Mechanistic and organic organizations
Groups formed and finalized

Reader – Lecture notes

Session 4 (9/17)

Contingency theory
Information processing model of organizational design - The roadmap from functional silos to the horizontal, team-based corporation

Designing Complex Organizations, Galbraith, R
Lecture notes

Session 5 (9/24)

Product development teams
Working effectively with individuals/teams
Personality testing

Product Development - Brown-Eisenhardt 1995, R
SP ch3 – lecture notes
SP – appendix

Session 6 (10/1)

Leadership, delegation and assigning responsibility, coaching
Collaborative strategy: Vision, mission, values, goals, norms
Case 1 due

“What Makes a Leader” Coleman 1998, R
Lecture notes
SP ch5, Lecture notes

Session 7 (10/8)

EXAM 1

Session 8 (10/15)

Fundamentals of group facilitation
Problem solving
Project work and progress reports

Notes and SP ch 3, 4, 7
SP ch1

Session 9 (10/22)

TSP Project presentations

TSP powerpoints due

Evaluations due

Second Project and Team Building

Class notes

Session 10 (10/27)

Cooperation and conflict resolution

Communication

Understanding multiple cultures and

Diversity in teams

Conflict styles testing

Handouts, SP ch3/ch6

Class notes and measurement instrument

Session 11 (11/5)

Motivation, Rewards, Incentives

Case 2 due

Class notes

Session 12 (11/12)

Performance Definition, Measurement,
Management

“How the Right Measures Help Teams Excel”,
Meyer 1994, R

Session 13 (11/19)

Innovation and creativity

Taking Action

Project work and progress reports

sp6 and notes

SP ch7

Session 14 (11/26)

Team Building Project presentations

Project powerpoints due

Evaluations due

Session 15 (12/3)

EXAM 2