Course title and number  ISEN 442
Term (e.g., Fall 200X)  Fall 2016
Meeting times and location  TBD

Course Description and Prerequisites
Role of people and organizations in the design and development of complex engineered systems and to provide engineers with the skills needed to effectively manage large-scale system development programs.
Prerequisite: ISEN 330

Learning Outcomes
At the end of the course, the student should be able to

- Use “hard” skills (systems engineering life cycle, strategic planning, project selection, organizational structure, decision-making, network scheduling techniques, and financial analysis) to manage systems effectively
- Use “soft” skills (effective leadership styles, motivation and psychological type, managing creative people, negotiation, and navigating informal networks) to manage people and organizations

Instructor Information

Name  TBD
Telephone number  TBD
Email address  TBD@tamu.edu
Office hours  TBD
Office location  TBD

Textbook and/or Resource Material

Grading Policies

Exams: 60% of grade
Project: 20% of grade
Case Studies: 20% of grade

Grading Scale:
90% - 100% A
80% - 89% B
70% - 79% C
60% - 69% D
<60% F

The above scale represents the minimum range necessary to achieve each grade, but the actual grades will likely be based on a curve determined by class average and standard deviation.

EXAMINATIONS

The four exams will cover both the assigned readings and the material presented in class. The exams will consist primarily of problems on specific topics and short essay questions focused on synthesizing concepts covered throughout the semester. The final exam must be taken by all students at the date and time specified by the University. According to the final exam schedule, it will be held on Day, Date, Start Time - End Time in the regular classroom.

PROJECT

Each student will submit and present a “slide deck” relating course concepts to his/her current or intended career. The emphasis will be on applying systems engineering and engineering management principles to actual situations that you are likely to encounter in the real world.

CASE STUDIES

Several individual and team-based case studies will be assigned on a sporadic basis either as homework or as in-class exercises. These case studies are intended to assist you in applying the principles and ideas learned in the course.

Attendance and Make-up Policies

Although attendance will not be formally included as part of your final grade, the exams will include certain topics covered only in class. In addition, some team casework will be completed during class time and will be included as part of the grade. As with a job in industry, you will be responsible for all work and all topics discussed regardless of your attendance. If you foresee an unavoidable absence,
you are strongly encouraged to discuss it with the instructor in advance.

If an examination is missed, you must have a written authorized excuse. If possible, notify the instructor in advance of the evaluation. Otherwise, do so within 2 days of your return to campus. Makeup evaluations will be administered in accordance with University Rules (Rule 7 at student-rules.tamu.edu).

### Course Topics, Calendar of Activities, Major Assignment Dates

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<tr>
<th>Week</th>
<th>Topic</th>
<th>Required Reading</th>
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<tbody>
<tr>
<td>1</td>
<td>Engineering management in a complex world; Formal organization and Informal Networks</td>
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<td>2</td>
<td>Organization Culture; Theories and Perspectives on Leadership</td>
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<td>3</td>
<td>Theories on Motivation; Psychological Type</td>
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<td>4</td>
<td>Managing Engineering Teams, Exam 1</td>
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<td>5</td>
<td>Introduction to Socio-Technical Systems; Systems Engineering Management</td>
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<td>6</td>
<td>Stakeholder Analysis and System requirements; Managing Complexity in Engineering Systems</td>
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<td>7</td>
<td>Decision-making in Systems Engineering; R&amp;D Investment in the Public and Private Sectors</td>
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<td>8</td>
<td>History of Large-Scale System Development Process, Exam 2</td>
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<td>9</td>
<td>Strategic Planning and Technological Forecasting; Project Selection: A Full Life Cycle Perspective</td>
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<td>10</td>
<td>Interest-Based Negotiation; Project organization</td>
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<td>11</td>
<td>Project Planning Tools; Dealing with Complexity in Project Planning</td>
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<td>12</td>
<td>Budgets, Earned Value, and Life Cycle Cost Analysis; Exam 3</td>
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<td>13</td>
<td>Financial Analysis and Accounting; Engineering Systems and Globalization</td>
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Other Pertinent Course Information

TEAMS
This course will involve working in teams, primarily on the assigned case studies. The teams will be formed during the first class day of the second week or after the roster is stable (no more add/drops). Teams will be formed by the instructor such that individuals may be working in concert with students that they do not know or do not know well. This policy is intended to prepare you for a basic reality of industry – that you will regularly work in teams not of your choosing. In general, the teams will consist of 4 to 6 individuals.

Americans with Disabilities Act (ADA)
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

Academic Integrity
For additional information please visit: http://aggiehonor.tamu.edu

"An Aggie does not lie, cheat, or steal, or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor System. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor System. For additional information please visit: http://student-rules.tamu.edu/; http://student-rules.tamu.edu/aggiecode; and http://student-rules.tamu.edu/rule20. The complete information of university regulations regarding the handling of academic misconducts (including the appeal process) can be found at http://aggiehonor.tamu.edu/.

I, <insert instructor name>, as the rest of the Industrial & Systems Engineering Faculty, uphold the Aggie Honor Code as an axiom of our academic excellence. We consider its sincere observance to be essential for membership in our department and Texas A&M. We extend you the trust conferred to those who faithfully adhere to our honor code. Abuse of this trust is intolerable, thus I will report and assign an extreme penalty to those who do not stand with us in preserving the integrity symbolized by the Aggie Honor Code, "An Aggie does not lie, cheat, or steal or tolerate those who do."

In this course the penalty for any violation of the Aggie Honor Code, as minimal as it may be, is F*.