

Syllabus - EAS590: Case Studies in Engineering Management

Instructor:	Dr. Robert E. Barnes Engineering Dean's Office	Term:	Spring 2009
Office Hours:	Wed. 5 to 5:30 p.m., and Wed. 8:45 – 9:15 p.m., call ahead; other times by appointment	Time:	Wed., 6 to 8:40 p.m.
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DESCRIPTION - This is a case-oriented course that examines the role of the engineering manager as a strategic planner, policy maker, and problem solver. Six cases are presented for discussion, analysis, and report. Engineering and engineering management methods are applied to each case.

OBJECTIVE - The objective of this course is to promote the understanding of an engineer's role as manager. Engineering management functions and associated skills and knowledge are emphasized. Issues and problems are discussed.

FORMAT - Selected experts (or tapes of them) are invited to class to share their on-the-job experience and/or knowledge of specific engineering management topics. Each topic takes two consecutive sessions. Typically, during evening one, background information on the topic is presented. At the end of the first night, a problem is posed. Students, working in-groups, formulate their solutions before session two. The student groups then present their findings and hand in their written reports during evening two.

CLASS POLICY - Students are expected to -- 1) attend all classes, 2) come prepared to discuss the evening's topic, and 3) carry out all assignments. Attendance will be taken at each class.

BACKGROUND INFORMATION - Reading about the case topics is highly encouraged and references are required (see later section on "ASSIGNMENTS"). Selected readings are provided for each case.

Four general background books are:

1. **Engineering Management: Challenges In The New Millennium**, C.M. Chang, Pearson – Prentice Hall, Upper Saddle River, New Jersey, 2005.
2. **Handbook of Engineering Management**, John Ullmann - Editor, Donald A. Christman and Bert Holtje - Associate Editors, John Wiley and Sons, New York, 1986.
3. **Engineering Management**, Robert E. Shannon, John Wiley and Sons, New York, 1980.
4. **The Management of Engineering**, F. Lawrence Bennett, P.E., John Wiley and Sons, New York, 1996.

ASSIGNMENTS - As mentioned in the description of this course, six case studies are presented. Each group must do both a written and oral presentation on each case study (unless otherwise announced). It is important that each group member present a part of each case.

The written and oral presentations are to identify the case's main problems and recommend viable solutions (literature references are essential, **the grade of A will only be given to outstanding work that is supported with well-chosen, current literature**).

Each group's **written and oral presentations are due at the second session** for the given topic. You are to submit a paper copy of your written and oral work as well as electronic copies. The written presentation is to be typewritten/PC-prepared.

A two-minute white paper (a paragraph or two) is also required from each student at the end of each case stating the single most important thing the student learned from the case. Please wait until all presentations are completed for the evening before writing this. It is to be **submitted to me electronically by Friday Noon** immediately following the student case presentations.

GRADING POLICY - A grade will be given to each student for each case. The grade will comprise two parts:

- an instructor's grade (80 to 100 %) -- based upon both written and oral aspects of the presentation as well as upon the technical merit of the proposed solution, and
- a peer group grade (0 to 20 %)-- determined by the members of the group.

We will reach a consensus as a class as to the proportion using the above range. The members assigning each member a numerical value for each case will determine the peer grade. The five (5) best of six (6) case studies will be used to determine each student's grade. However, **all six must be satisfactorily completed**. The final grade will be determined using the standard + and - system.

ACADEMIC INTEGRITY – Solutions are to be your own work. Any use of other persons' work must be appropriate and properly documented. University rules will be enforced for any plagiarism.

TYPICAL CASE STUDIES - The cases that will be presented in class are expected to be: organizational development, continuous improvement, engineering design and visualization, core competencies, R & D and marketing and strategic planning.

WEB SITE – A web site has been constructed for this year's course. You may access it at –

www.eng.buffalo.edu/~rebarnes