

Quality, Strategy, and Value Creation

EMEN 5040

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Course Syllabus & Tentative Content Outline

1. Course Description

An introductory study of methods designed to maximize excellence in business performance. Includes interactions with the customers and suppliers, integrated manufacturing, strategic planning and policy deployment, just-in-time production (JIT) methods such as Total Asset Utilization (TAU), and meeting customer requirements while focusing on maximizing profitability. These characteristics are addressed both strategically and tactically through the use of case analysis, field study, and experiential learning for both the production and service sectors.

2. Course Goals and Objectives

As a result of successfully completing this course, the student will be capable of describing contemporary models and components for developing and maintaining a high-powered organization; with the maximization of profitability in the presence of financial growth as a targeted objective. With the course content organized on the basis of current business performance excellence models (e.g. 6 Sigma) the student will be specifically capable of:

- (a) Describing the history and development of the Quality Sciences in the United States, and how Quality has and may be used in the future to leverage strategic differentiation;
- (b) describing an integrated approach (based on Dr. W. Edwards Deming's Theory of Profound Knowledge) for deploying an organization's Critical Performance Indicators (i.e. KPIs and NFIs) throughout an organization in order to deploy those resources necessary to achieve its Strategic and Tactical Objectives, with the result of achieving its Strategic and Business Plan year after year;

- (c) describe and apply a comprehensive model for Total Asset Utilization (TAU) and Customer/Product/Process Rationalization (CPR) which will allow each student, in their own current or future work setting, to assess the use and cost of their Assets in such a way so as to facilitate an almost immediate improvement in their company's level of profitability (and, usually, *without the need for capital investment !*)

In order to illustrate the nature and use of these models/approaches, the instructor will present a series of actual examples and applications drawn from contemporary business and industrial case studies. These examples are from firms such as Anheuser-Busch; the Earthgrains company; ALCOA, and ALCOA of Australia; Molex, and Molex-Singapore; the Applied Magnetics Corporation; the Inland Steel company; Ford Motor Company; Motorola (Semi-Conductor Division); and the Oregon Saw Chain company (Omark Industries).

3. Instructor

Dr. Jeffrey T. Luftig

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4. Textbook / References

After careful review, the instructor has determined that no single text can adequately comprise a resource for **all** of the topics we will review in this course. Instead, the instructor will provide the students with copies of the PowerPoint presentations employed in each lecture session through a web site, available to all students through the Internet. Associated with each presentation, the instructor will also provide students with assigned and supplemental reading materials in the form of articles from texts, journals, and magazines.

5. Course Structure / Approach

The course topic outline which follows (Table I) identifies the proposed and tentative lecture topics that will be presented throughout the semester in order to allow the student to achieve the goals and objectives of the course.

For each topic covered, it will be the student's responsibility to have read any assigned material identified by the instructor *before* the corresponding lecture

Students will complete one short paper (~ 4-5 pages) and two examinations. The due date for the paper and the date and time of the examinations will be announced, but will be timed to follow the completion of each of the three major Units associated with this course. At the end of the first Unit, each student will submit a paper detailing how the content covered in Unit 1 compares to their current or previous place of employment. Specifically, I am looking for a general analysis of where you (the student) sees their current (or most previous) organization in terms of the developmental periods of quality and management systems we reviewed; and where significant improvements or changes could be made to increase the profitability of that organization. This is not so much of a research paper as it is a reflective analysis of the history and development of quality and management systems, and within which of those periods or eras their organization is operating.

A Note on Academic Honesty & Plagiarism

The development of the Internet has provided students with historically unparalleled opportunities for conducting research swiftly and comprehensively. The availability of these materials does not, however, release the student from appropriately citing sources where appropriate; or applying standard rules associated with avoiding plagiarism. Specifically, the instructor will be expecting to review papers written by students drawing ideas and information from various sources (cited appropriately), presented generally in the student's words after careful analysis, synthesis, and evaluation. An assembly of huge blocks of other individuals' existing material, even when cited, does not constitute an appropriate representation of this expectation. Uncited, plagiarized material shall be treated as academically dishonest, and will result in an 'F' for the entire course. If the student is confused as to what constitutes plagiarism, he/she should review the CU Honor Code on this topic, and review the following excellent source:

<http://www.northwestern.edu/uacc/plagiar.html>

Papers submitted by any student, written in part or in whole by someone other than that student, shall be considered to constitute fraud under the University Honor Code, and result in the assignment of an 'F' for the entire course.

Students agree that by taking this course all required papers may, at the discretion of the instructor, be subject to submission for a Textual Similarity Review to Turnitin.com for the detection of plagiarism. All submitted papers will be added as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers in the future.

The exams following Unit 2 and Unit 3 are ‘open-book, open-notes’ in nature. However, all examinations submitted must be the product of only the student submitting that examination. Exams submitted by any student, assisted or written in part or in whole by any other individual, shall be considered to constitute fraud under the University Honor Code, and will result in the assignment of an ‘F’ for the entire course.

The Research Paper and both Examinations ***MUST*** be submitted via the appropriate Dropbox on the course website. There are no options to this requirement. Papers / exams submitted as e-mail attachments will not be opened or accepted.

The final grade for the course will be assigned on the basis of the following weighting:

- Paper - Unit 1 : History & Development 33.33%
- Exam - Unit 2 : BPE Phase I – Strategic Planning & Policy Deployment 33.33%
- Exam – Unit 3 : Total Asset Utilization & Customer Product/Process Rationalization 33.34%

Each exam is assigned a letter grade and GPA value (A+ is possible), which is converted by the ECollege Gradebook into a percentage. For example, a B is equivalent to a GPA value of 3.0. This value is divided by the value of an ‘A’ of 4.0, and converted into a value of 75%. B+ equals 3.3, and is converted into an 82.5%. An A+ would be 4.3/4 or 107.5%. To generate your final grade, ECollege multiplies each percentage by its weight, and generates a final cumulative percentage (fcp). You can determine your final grade by comparing your final cumulative percentage to the following table:

Final Weighted Percentage Earned - Low	Final Weighted Percentage Earned - High	Final Course Grade Equivalent
96.250	107.500	A
87.500	96.249	A-
78.750	87.499	B+
71.250	78.749	B
62.500	71.249	B-
53.750	62.499	C+
46.250	53.749	C
37.500	46.249	C-
28.750	37.499	D+
21.250	28.749	D
17.500	21.249	D-
< 17.50		F

For example, assume that a student received the following grades:

Research Paper	B+ = 3.3
Exam 1	A- = 3.7
Exam 2	B+ = 3.3

The final cumulative percentage (fcp) generated by ECollege would be:

$$\begin{aligned} \text{fcp} &= ((33.33)(3.3/4.00)) + ((33.33)(3.7/4.00)) + ((33.34)(3.3/4.0)) \\ &= 27.497 + 30.830 + 27.505 \\ &= 85.832 \end{aligned}$$

Converting the fcp to a letter grade using the previous table, the final grade earned would be a B+

6. The Course Website

All students must register on the web at XXXXXXXXXXXXXXXXXXXX for access to eCompanion (look for the *register* link). ALL of the lectures and materials used in this course are contained on this website. Additionally, all communication associated with this course will take place via the e-mail function on the course website; students will be responsible for checking their e-mail frequently enough to be knowledgeable about the information sent by the instructor to them using this utility throughout the semester.

A Note on e-Mail Addresses

When you register on ECollege, you can set your e-mail address to be sent from the course website to any address you choose. I know it can be a hassle to check multiple e-mail locations on a daily / regular basis, but may I suggest that you use your CU e-mail address for this purpose (e.g. firstname.lastname@colorado.edu). If you do not know your assigned CU address, contact ITS (dial 5-HELP from any on-campus phone) and they will provide it to you. The reason I mention this is because in the past, I have sent e-mails to students with attachments of interest as the course proceeds. In some cases, where students have used their work e-mail address, the e-mail goes through but the attachment is blocked. In some rare cases, fire-walled work systems, when blocking an attachment, block the associated e-mail as well, and provide no indication to the student that anything was sent out by me and subsequently blocked. It is *your* responsibility to be cognizant of any information sent via the course website by me, so it might be useful to use either a CU or at least personal e-mail address that will not present this sort of possibility.

Additional information associated with the use of the ECollege website and accessing videos of the lectures are available on the ECollege website, under the **Course Home** section, in the Content Item labeled '**Instructions**'.

7. Lecture Topics, References, Reading Assignments, & Associated Discussion Points

Note that the course consists of three primary Units, which are described in Table I. Note also that each Unit as described in this Table corresponds to what you will find when you access the course website on ECollege. The website Tab identified as 'Unit 1' includes all of the content and material associated with the History and Development of the Quality Sciences and the introduction to the development of the BPE model. The Unit 2 Tab on the website contains the content and material associated with Strategic Planning and Policy Deployment (Hoshin Kanri); and the Unit 3 Tab contains the content and material associated with the Total Asset Utilization Model (TAU), Customer Product / Process Rationalization (CPR), and Allocated Cost Accounting Systems.

Table I

Primary Lecture Topic	Content Reviewed, Key Discussion Points, and Significant Case Studies
Introduction to the Course & Course Requirements	* Syllabus * Content Outline * Examinations * Suggested Support References * Case Study Sources Used in the Course * A Review of the ECollege Course Website
<i>Unit 1: Models for Business Performance Excellence - Introduction</i>	* A General Model for Achieving BPE, and Its Origins - History & Development of the Quality Sciences in the United States - Selected Management Programs and Initiatives, 1920-2000 - Dr. W. Edwards Deming's Theory of Profound Knowledge as a Basis for Business Performance Excellence

Primary Lecture Topic	Content Reviewed, Key Discussion Points, and Significant Case Studies
<p><i>Unit 2: Setting the Stage for World Class Results: Strategic Planning and Policy Deployment (Hoshin Planning)</i></p>	<p>* Utilizing an Organization’s Strategic & Business Plans to Generate an Appropriate Set of Critical Performance Indicators (KPIs & NFIs)</p> <p>* Translating the KPIs and NFIs Into Actionable Initiatives : A Suggested Model for Policy Deployment</p> <p>* Case Studies :</p> <ul style="list-style-type: none"> - ALCOA - Aerospace Division - Inland Steel Company - FASCO Motors (BTR Group) - Earthgrains (Sara Lee) - Ionics/Sievers - 1st National Bank of Colorado - Inovonics
<p><i>Unit 3: Achieving the Strategic & Business Plan : Asset Utilization Improvement™ & CPR™ (Customer & Product Rationalization)</i></p>	<p>* An Overview of a Tested and Proven Model for Total Asset Utilization (TAU) Improvement for Continuous Cost Reduction & Management – <i>Finding the Hidden Factory™</i></p> <p>* An Overview of a Model for CPR™</p> <p>* Case Studies of Applications drawn from:</p> <ul style="list-style-type: none"> Earthgrains Company Inland Steel Bar Company Molex Anheuser-Busch Metal Container Corporation

8. Additional University Provisions Recommended for Inclusion by the Office of Undergraduate Education and the Engineering Management Program, University of Colorado – Boulder

- a. If you qualify for accommodations because of a disability, please submit a letter to me from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, or <http://www.Colorado.EDU/disabilityservices>

- b. Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, my expectation is that each student will review the policy details http://www.colorado.edu/policies/fac_relig.html) and religious holiday calendar (<http://www.interfaithcalendar.org/>) during the first week of class, and by the end of the second week of class notify the instructor via e-mail as to what dates the student anticipates they will not be in class, and the religious holiday they will be observing.

- c. Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. See polices at <http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

- d. All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Additional information on the Honor Code can be found at:

<http://www.colorado.edu/policies/honor.html>

and at

<http://www.colorado.edu/academics/honorcode/>

The faculty of the Engineering Management Program (EMP) believe that a culture of integrity is essential to both the long-term, personal success of our students and to the economies and countries in which they live and work. Therefore, EMP has created an Honor Code Violation Policy that specifies program-specific consequences for a second offense of the CU Honor Code:

EMP HONOR CODE VIOLATION POLICY

Any and all violations of the CU Honor Code in EMP classes will be reported to the Honor Code Council. As per CU's policy, the faculty member will determine the academic sanction for an offense. The CU Honor Code Council will determine any additional, non-academic sanctions. *This portion of EMP's policy is a restatement of the Honor Code policy approved by the CU Board of Regents.*

A second violation of the CU Honor Code by any Engineering Management graduate student will result in an academic sanction as decided by the faculty member and an automatic expulsion of the student from the Engineering Management graduate program.

- e. The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combination of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Sexual Harassment (OSH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the OSH and the campus resources available to assist individuals who believe they have been sexually harassed can be obtained at:

<http://www.colorado.edu/sexualharassment/>

f. The Engineering Management Program (EMP) has a large distance learning population and, as such, many copyrighted materials are offered electronically to students. EMP has the responsibility to comply with the copyright law regulating distance education for a non-profit, state institution, i.e., the Technology, Education and Copyright Harmonization (TEACH) Act of 2002. It's the student's responsibility to comply with U.S. copyright law with respect to the use and sharing of the electronic materials (*this include the videos of class lectures*) provided within the program.

g. Appropriate Classroom Laptop Use

Although having a laptop in class opens up new learning possibilities for students, sometimes students utilize it in ways that are inappropriate. It is easy for your laptop to become a distraction to you and to those around you. Therefore, please refrain from instant messaging, e-mailing, surfing the Internet, playing games, writing papers, doing homework, etc. during class time. Acceptable uses include taking notes, following along with the instructor on PowerPoint, and other directed class activities, as well as working on assigned in-class activities, projects, and discussions that require laptop use.