

revised

Submission Deadlines: Fall - October 11, 2005 Spring - February 14, 2006

TITLE New Course Proposal: Strategic Engineering Management

Sponsor(s) Robert Fleming, Department of Management/MIS fleming@rowan.edu

DEPARTMENT Department of Management/MiS
College College of Business

If LAS -check: History/Humanities Social/Behavioral Sciences

Math/Science

UNDERGRADUATE *fleming*

New non gen-ed *hair*

Short-Term non gen-ed

Minor curricular changes (few

Existing non gen-ed course

Non gen-ed degree requirement

D

Change in prerequisite

Signatures Required

Department Chair: _____
Department CURRICULUM: _____
Academic DEAN: _____

COLLEGE CURRICULUM: _____

Signature: College Curriculum: _____

Signature: SENATE CURRICULUM: _____

This course has existed in the system since 1995. I've just updated the registration restriction per this proposal. Attached a copy of 1995 prop. -SK

Comments: _____

Signature: Executive Vice President/Provost: _____

Date: 6/14/06

Approved: _____

Not Approved: _____

Signature: REGISTRAR: _____

Date: 6/19/06

Course Description Received & Approved
Hegis Taxonomy & Course

MGT 06.510

Notification Forward:

SCC CHAIR
 IR
 CAP
 Registrar

Academic Dean
 Department Chair
 VP/Student Affairs
 Other-

use file

Course Proposal
Strategic Engineering Management

DETAILS

Title: Strategic Engineering Management: HEGIS 0506510

Sponsor: Robert S. Fleming, Chairperson, Management/MIS Department

Credit Hours: 3 semester hours

Course Level: Graduate

Pre-Requisites: Admission into the College of Engineering Five-Year BS/MS Program or permission of instructor

Scale & Time: The course will be offered once a year during the summer session.

CURRICULAR EFFECT:

The course will count as an elective within the College of Engineering Five-Year BS/MS Program and was developed in response to a request by the College of Engineering to offer a support course which will enable their students to develop the strategic mindset critical to the role of engineering in positioning the contemporary organization to gain and sustain a competitive advantage.

There is no curricular effect on other academic departments and/or programs because the course will only be open to engineering students.

Adequate faculty resources and facilities are currently available to offer this course.

Recommended Library Resources are described by the accompanying library resource form.

RATIONALE

In a rapidly changing economic world, organizations – especially “high tech” organizations – need engineers (a) who understand the role of the engineering function in the strategic planning process and (b) who are able to collaborate with managers in other organizational functions to promote the competitive position of the organization. This course will provide engineers with the KNOWLEDGE AND SKILLS they need to successfully contribute to organizational success.

ESSENCE OF THE COURSE

Students will acquire a knowledge of the strategic planning process, the roles and responsibilities of the engineering function in that process, and will apply this knowledge in case studies and other analytical situations.

The attached syllabus documents the topical content of the course and the process of student evaluation. Students will be evaluated using a variety of standard grading criteria including case analyses, research projects, class discussion, team participation, and tests.

The success of the course will be evaluated using various outcome assessment measures including the Student Instructional Reviews normally used in all College of Business courses; the student evaluation forms used in the College of Engineering; feedback from faculty teaching engineering students in courses which are taken after Strategic Engineering Management; and an informal assessment by the engineer speakers who present/speak during the semester.

RESULTS OF CONSULTATIONS

Given that this is a course offered by the Management/MIS Department as a support course for the College of Engineering Five-Year BS/MS Program a consultation was requested and received from the College of Engineering. The consultation letter is attached.

CATALOG DESCRIPTION

Strategic Engineering Management: HEGIS 0506510

Prerequisites: Admission into the College of Engineering Five-Year BS/MS Program or permission of the instructor

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The course introduces engineers to the concepts and application of strategic planning specifically to the roles and responsibilities of the engineering function in the strategic planning process for high-tech firms.

COURSE OVERVIEW IN SYLLABUS FORM **STRATEGIC ENGINEERING MANAGEMENT**

Text: Charles W.L. Hill and Gareth R. Jones, **STRATEGIC MANAGEMENT THEORY: AN INTEGRATED APPROACH**, Sixth Edition, Houghton Mifflin, 2004.

COURSE DESCRIPTION/REQUIREMENTS

Prerequisites: Admission into the College of Engineering Five-Year BS/MS Program or permission of the instructor.

Strategic Engineering Management defines the basic purposes, competitive strategies, and the implementation planning of an organization. Under the spotlight of worldwide competition, organizations need to be flexible and responsive to a rapidly changing environment. These changes are not evolutionary, but it is revolutionary that organizations must reinvent themselves periodically in order to maintain their competitive position. In high-technology industries, these changes are compounded by the rapid advancement of technology. The concepts and techniques required for such changes are embodied in Strategic Management.

Objectives: Students completing the course will:

- A. Develop a strategic thinking mindset.
- B. Understand the role and responsibility of engineering in the strategic management process.
- C. Understand and be able to apply strategic management concepts in the analysis of case studies.
- D. Demonstrate skills in oral and written communication, computer usage, library and field research, and functioning in teams.
- E. Demonstrate knowledge of current business strategic issues, problems, and practices in the discussion of text materials, case studies, and course research projects.

COURSE TOPICS

- The Strategic Management Process
- External Analysis: The Identification of Industry Opportunities and Threats
- Internal Analysis: Distinctive Competencies, Competitive Advantage and Profitability
- Building Competitive Advantage Through Functional-Level Strategies
- Building Competitive Advantage Through Business-Level Strategies
- Competitive Strategy and the Industry Environment
- Strategy in High-Technology Industries
- Strategy in the Global Environment
- Corporate Strategy: Horizontal Integration, Vertical Integration, and Strategic Outsourcing
- Corporate Strategy: Diversification, Acquisitions, and Internal New Ventures
- Corporate Performance, Governance, and Business Ethics
- Implementing Strategy in Companies that Compete in a Single Industry
- Implementing Strategy in Companies that Compete Across Industries and Countries

- THE ENGINEERING IMPLICATIONS OF ALL OF THE ABOVE TOPICS WILL BE COVERED THROUGHOUT THE COURSE.

SKILLS TO BE LEARNED/EXTENDED

Communications (Oral): In addition to participating in class discussions throughout the semester, each student will participate in the oral presentation of his or her team's assigned case study and will present his or her research paper.

Communications (Written): All written assignments must reflect quality workmanship. Assignments will be computer processed (using word processing, electronic spreadsheets, and computer graphics). Inattention to correct spelling, grammar, punctuation, and sentence construction will result in a reduced grade or rejection.

Teamwork/Interpersonal Skills: The seminar format of the course will require students to work in teams and utilize interpersonal skills.

Critical Thinking: Students frequently look for answers in their textbooks but few solutions to real-world problems are in the textbook. Critical thinking involves the ability to understand the environment and take theories and past learning or experiences and apply them to new problems and situations. Students will develop critical thinking skills in analyzing cases and preparing recommendations. Students will engage in critical thinking in overlaying an engineering perspective on the strategic management process.

Research/Quantitative Analysis: Successful engineering professionals must supplement their engineering knowledge and skills with a good knowledge of business principles and practices. There are many sources of information available to the engineering professional with respect to the management of the contemporary organization. Students must investigate these sources in preparing their case analysis.

Information Technology: Students must use word processing, spreadsheet and presentation software. Also, they will use Internet browsers and access computerized library databases.

MAJOR THEMES TO BE EXAMINED

Internationalization: It is essential that the engineering professional understand how international business differs from domestic business and is able to act accordingly. Issues impacting the decisions to enter the international business arena will be a critical part of this course and addressed in both class discussions and case studies.

Diversity: Workforce and customer diversity must be a consideration of any manager. These issues will be addressed, as appropriate to the specific cases.

Ethics: Ethical behavior within an organization and within the context of decision making is expected. Ethical issues will be discussed, as appropriate to cases being analyzed.

Environment (Social, Legal, Regulatory, etc.): The engineering professional or manager must understand the environment in which his or her business operates. All aspects of the environment will be considered in the case analysis.

Management of Technology: All contemporary managers must understand and manage the technology necessary to be effective in their positions. The transfer and management of technology as a tool for gaining and/or sustaining competitive advantage will serve as a focal point for class discussions and case analysis.

COURSE METHODOLOGY

Teaching/Learning Method: This course will be conducted as a seminar. The format of the class will include: lectures; class discussions; preparation, presentation and discussion of case studies; preparation of a case study analysis report and executive summaries; research, preparation and presentation of a course research paper; and viewing and discussion of audio-visual presentations. The learning process will be greatly enhanced by the extent to which students participate in the case study analysis and class discussions.

Reading: Students must read and study the assigned chapters and cases in the **Strategic Management Theory** text before the specific class periods related to the assignment. Students are responsible for the text material as it applies to the class discussions and case studies.

Strategic Management Quizzes: Four quizzes will be given based on the material covered in the Strategic Engineering Management course.

Case Study Analysis/Scope of Work: In completing the various assignments requiring the analysis of case studies, students will be expected to address the following issues:

- External and internal environmental issues
- Recommended course of action

- Goals
- Objectives
- Strategies
- Implementation issues

Case Presentation: Each student will be assigned to a case study team. The team will be responsible for researching an assigned case study and facilitating a class discussion regarding the case study. As facilitator, the team will be expected to lead a directed discussion of the case. Thirty (30) minutes of class time will be allocated for each case study.

The following criteria will be utilized in evaluation of the case presentations:

□ Understanding of Case Study	10%
□ Analysis of Case Study	10%
□ Evidence of Outside Research	10%
□ Integration of Course Materials	10%
□ Organization of Presentation	10%
□ Effective Use of Visual Materials	10%
□ Stimulated Thinking	10%
□ Professionalism of Presentation	10%
□ Involved Participants in Discussion	10%
□ Solicited and Answered Questions	10%
 TOTAL	 100%

Case Analysis Report: In addition to leading the class discussion on an assigned case, the team will be expected to submit a comprehensive written analysis of the assigned case study. This analysis will be based on reading and analyzing the case study and relevant outside research. *The case analysis report will be due on the evening that the case is presented in class.*

The following criteria will be utilized in evaluation of the case analysis reports:

□ Understanding of Case Study	20%
□ Analysis of Case Study	20%
□ Evidence of Outside Research	20%
□ Integration of Course Material	20%
□ Professionalism and Organization	20%
 TOTAL	 100%

Case Executive Summaries: Students will be expected to read the remaining case studies (those assigned to other consulting teams) and to:

- Analyze the case and prepare an executive summary (no more than three pages) that analyzes the important issues in the case using relevant theories and models.
- ***Submit the executive summary on the evening of the class discussion of the case.***
- Participate actively in the class discussion of the case.

The following criteria will be utilized in evaluation of the case executive summaries:

- | | |
|------------------------------------|-----|
| ○ Understanding of Case Study | 20% |
| ○ Analysis of Case Study | 20% |
| ○ Integration of Course Material | 20% |
| ○ Conciseness/Effectiveness | 20% |
| ○ Professionalism and Organization | 20% |

TOTAL	100%
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Course Research Paper: Each student will be required to conduct research on a contemporary organization and the role of engineering within its strategic management processes. The role of engineering in gaining and/or sustaining competitive advantage should be an integral component of this research. The findings of this research should be reported in a comprehensive research paper.

Course Research Executive Briefing: In addition to preparing and submitting a comprehensive written report on his or her course research project, each student will be required to present a concise executive briefing on his or her research. Ten (10) minutes of class time will be allocated for each research presentation.

Weekly Progress Reports: Each student will be expected to submit (via e-mail) a concise weekly update regarding his or her progress in fulfilling assignments.

EVALUATION OF COURSE AND STUDENT PERFORMANCE

Participation: Individual participation is essential to the learning process in this course. Students must attend and actively participate in all class sessions.

Grading: The following basis will be used in the computation and assignment of grades:

Class Participation	20%
Strategic Engineering Management Quizzes	
Quiz Number One	5%
Quiz Number Two	5%
Quiz Number Three	5%
Quiz Number Four	5%
Case Executive Summaries	15%
Case Presentation	10%
Case Analysis Report	10%
Course Research Paper	15%
Course Research Executive Briefing	10%
Total	100%



February 8, 2006

Professor Robert Fleming
Chair
Management Department
Rowan University
201 Mullica Hill Road
Glassboro, NJ 08028

Dear Dr. Fleming:

The Civil and Environmental Engineering Program very strongly endorses your proposed course entitled Strategic Engineering Management. As part of our existing Master of Science in Engineering (MSE) degree program, all students are required to take one business course. Thus, strategic Engineering Management will provide an excellent course to satisfy this requirement. In addition, our proposed Specialization in Engineering Management for the MSE program will require all students to take two business courses. Thus, Strategic Engineering Management will serve to satisfy one of these two requirements for the proposed Engineering Management Specialization.

Thank you very much.

Sincerely,

Ralph Alan Dusseau, Ph.D., P.E.
DRBA Professor and Founding Chair
Civil and Environmental Engineering Program

RAD:amd

College of Engineering
Civil and Environmental Engineering
Rowan University
201 Mullica Hill Road
Glassboro, NJ 08028-1701

856-256-5320
856-256-5242 fax

This form **MUST BE COMPLETED FOR NEW COURSE or PROGRAM PROPOSALS, and EXTENSIVE CHANGES TO A COURSE or PROGRAM.**

The purpose of this form is to provide a channel of communication between the Campbell Librarians and faculty when submitting new course or program proposals, or making extensive changes to existing courses or programs. The information will be used to assess the resources available in the library, and to identify resources the library should acquire to support the new courses/programs, or extensive changes to same. The information will also provide the rationale for institutional support for library acquisitions. This form should be completed in a coordinated effort between the course sponsor(s) and the academic department liaison librarian.

Note: Sponsor(s) complete parts A & B
If assistance is required to complete, please notify the librarian liaison.
Forward this form to the librarian who will complete parts C, D & E

When form is completed, attach to the original curriculum proposal before submitting to the Senate office.

College of Business

Management/MIS

Proposed by: Robert Fleming

Date: February, 2006

COURSE TITLE: Strategic Engineering Management

Anticipated Date for Course/Program Offering: Summer, 2006

B. List specific resources that should be acquired to support this course.

[Empty box for listing resources]

C. Describe the resources available in the library to support this course/program, including reference, monographic, electronic databases, audio-visual materials, etc. A summary statement is sufficient.

Because of the nature of this request course I desire a variety of materials available in the library. For this reason I am recommending the use of broad online databases; Science Direct, IEEE, Applied Business, Bibliology, Conference Board - Learning Wiley, Britannica, Proquest, Emerald.

D. List key periodicals available in the library to support this course/program.

The databases noted above offer great text coverage to assist students with journals they will encounter in their work. Thus the titles are to be reviewed to list here.

E. Librarian comments & recommendations:

Our selection of both learning engineering databases will serve these students well in this course.

LIBRARIAN LIAISON: Connie Rosenberger

Signature: Connie Rosenberger

ROWAN COLLEGE OF NJ SENATE CURRICULUM COMMITTEE

SHORT-TERM COURSE APPROVAL FORM

0506.510

PROPOSAL TITLE Strategic Engineering Mgt

SPONSOR(S) Bill Enclin & Harry Outhbertson

DEPARTMENT: Mgmt / M 15 EXT 3410

Complete:	<input type="checkbox"/> Undergraduate	<input checked="" type="checkbox"/> Graduate II	<input type="checkbox"/> Credit Hours
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THE COURSE PROPOSAL MUST FOLLOW RECOMMENDED FORMAT OUTLINED IN GUIDELINES FOR CURRICULUM PROPOSAL. FORWARD ORIGINAL PLUS TEN (10) COPIES WITH COVERSHEET TO SENATE OFFICE.

Step 1 Department	Step 2 Academic Dean	Step 3 Senate Office
<input checked="" type="checkbox"/> Recommended <input type="checkbox"/> Not Recommended <u>3/10/95</u> Date <u>Yvonne Lee</u> (Dept. Curr. Chr.)	<input checked="" type="checkbox"/> Recommended <input type="checkbox"/> Not Recommended <input type="checkbox"/> Conditionally Recommended (See Comments) <u>3/10/95</u> Date Reviewed <u>Kimberly K. Leland</u> (Dean of School signature)	SCC# <u>94-95-12</u> Date Proposal Received <u>3-9-95</u> <u>Ronald J. Gohr</u> (SCC Chr. Signature)
<input checked="" type="checkbox"/> Reviewed <u>3/10/95</u> Date <u>Deane Hamilton</u> (Dept. Chr. Signature)	COMMENTS <u>B. Kelsey</u> <u>10 May 95</u>	

NEW COURSE PROPOSAL

1. Details:

- a. Course Title: Strategic Engineering Management
- b. Sponsor: Dr. William Enslin & Harry Cuthbertson
- c. Course Level: Graduate
- d. Credit Hours: 3 credit hours
- e. Curricular Effect: Part of required bank for engineering students. They will be required to take one business course from a set that includes this course.
- f. Prerequisites: None
- g. Suggested time and scale of implementation: One section to be offered every semester with the first offering in the fall 1995.
- h. Adequacy of Resources: Resources are expected to be adequate at time of implementation. Additional materials not available in the library can be made available to students.

2. Rationale:

Strategic Engineering Management defines the basic purposes, competitive strategies, and the implementation planning of an organization. Under the spotlight of world-wide competition, organizations need to be flexible and responsive to a rapidly changing environment. These changes are not evolutionary, but revolutionary in that organizations are having to re-invent themselves periodically. In high-technology industries, these changes are compounded by the rapid advancement of technology. The concepts and techniques required for such changes are embodied in Strategic Management.

3. Essence of the Course

- a. The objective of the course:
 - 1. Develop a strategic thinking mindset.
 - 2. Understand the role and responsibility of engineering in the strategic planning process.