

**COURSE SYLLABUS**  
**Fall Semester 2003**

**Course Number: BUSI/ENGR 3510**

**Course Title: Introduction to Business and Engineering**

**Credit Hours: 3 SCH**

**Schedule: 5:00 – 6:15 pm MW**

**Location: 0019 Lowder Business Building**

**WebCT:** This is a WebCT course which can be accessed through the student's MyWebCT login account from the Auburn University Home Page links for current students or at this link <http://webct3.auburn.edu:8900/webct/public/home.pl>. [From the [Auburn University Home Page](#) click **Students** and then click **WebCT.**]

Prerequisites: 1) Junior standing  
2) Enrolled in B-E-T Program  
3) MATH 2630 for BUSI 3510 and ACCT 2111 for ENGR 3510

Target: This is a required course for undergraduate students who are admitted to the Business-Engineering-Technology program and are pursuing the minor in Business-Engineering-Technology. Business majors take the course as ENGR 3510 and engineering majors take the course as BUSI 3510.

**Course Coordinators:**

Dr. James O. Bryant, Jr., Samuel Ginn College of Engineering, Thomas Walter Center for Technology Management, Old Physical Plant Building, Room 104. Phone 844-4333, [jbryant@eng.auburn.edu](mailto:jbryant@eng.auburn.edu). Office Hours: 10-11 am M and by appointment.

Dr. Paul M. Swamidass. Professor of Management, College of Business, Thomas Walter Center for Technology Management, Old Physical Plant Building, Room 103. Phone 844-4333, [swamidp@eng.auburn.edu](mailto:swamidp@eng.auburn.edu). Office Hours: 10-11 am M and by appointment.

Guest lecturers who will present to the class are listed on the course WebCT site under the menu's Faculty link. Guest lecturers' last names are included with the course' schedule topics listed below.

## I. Course Content/Objectives:

### a. Course Summary:

The purpose of this course is to enable students to acquire knowledge, skills, and abilities concerning business administration and engineering topics.

The course covers business issues such as teamwork, communications, marketing, distribution, operations, accounting, and finance. Engineering issues covered include engineering units, terminology, standards, problem solving, engineering design process, electrical and wireless engineering, engineering mechanics, energy, energy conservation, and engineering materials.

An innovation of this course is the use of diagnostic case analyses that require students to investigate real-life industrial cases that illustrate a mixture of business and engineering issues.

### b. Educational Objectives:

The learning outcomes for this course are that the student will demonstrate:

1. An ability to work effectively in a cross-functional team,
2. An ability to reason and identify technical issues that must be considered in the analysis of real-world, open-ended problems,
3. An ability to reason and identify business issues that must be considered in the analysis of real-world, open-ended problems,
4. An ability to use systematic problem solving techniques in a cross-functional team when analyzing real-world, open-ended problems,
5. An ability to present solutions and findings as a well-written team report or as a well-presented oral report.
6. Recognize and use business concepts, such as teamwork, communications, marketing, distribution, operations, accounting, and finance, in decision making.
7. Recognize and use engineering concepts, such as engineering units, terminology, standards, problem solving, engineering design process, electrical and wireless engineering, engineering mechanics, energy, energy conservation, and engineering materials, in decision making.

### c. Required Text Books:

1. The Complete MBA for Dummies, Dr. Kathleen Allen and Peter Economy, IDG Book Worldwide, Inc, ISBN: 0-7645-5204-X.
2. B-E-T Teaming Skills Development Manual (Copies were provided at spring retreat. Those who missed the retreat will be issued a copy at the first class session. This manual is provided at no cost to you.)
3. There is no required textbook for the engineering portion of this course. Various web sites will be used instead. Each **Required Reading** or **Suggested Reading** on engineering topics is included in the course content outline as a

URL live link (all were verified as active and correct as of August 15, 2003.)  
The links in the PDF version of the outline that can be accessed from the WebCT courses site are active. You may want to download this file to your hard drive for easier access. You must be online to use the web based resources.

***Recommended Engineering Sites:***

4. [efunda.com](http://efunda.com), Engineering Fundamentals web site, B-E-T student and faculty *userid*: AuburnBET and *Password*: \*\*\*\*\* (Note: The Thomas Walter Center for Technology Management has purchased a 20-concurrent user site license for B-E-T students. DO NOT SHARE THIS USERID or PASSWORD WITH ANYONE WHO IS NOT ENROLLED IN THE B-E-T PROGRAM!)
5. Other recommended and suggested web sites are listed in the WebCT course under the menu heading On-line Resources.

**Recommended for Additional Reading:**

1. Product Design and Development, Second Edition, Ulrich and Eppinger, McGraw Hill, 2000, ISBN: 0-07-116993-8 (on library reserve)
2. The Innovators: The Engineering Pioneers Who made America Modern, David P. Billington, John Wiley and Sons, 1996, ISBN 0-471-14096-1 (on library reserve)
3. To Engineer Is Human, Henry Petroski, Vintage Books, 1992, ISBN 0-679-73416-3
4. More Than a Motorcycle: The Leadership Journey at Harley-Davidson, Richard F. Teerlink and Lee M. Ozley, Harvard Business School Press, ISBN: 0-875-84950-4 (September 2000). (The authors are guest speakers in the course.)
5. Other Internet based resources are listed at the WebCT course site under the menu heading On-line Resources.

**d. Tentative Schedule of Classes and Outline of Course Content:**

See attachment: **BUSI/ENGR 3510 Introduction to Business and Engineering, Tentative Schedule of Classes and Outline of Course Content, Fall 2003.**

**II. Class Communications**

All communication between students and faculty shall be by email sent to the student's Auburn email address, *i.e.*, [globalid@auburn.edu](mailto:globalid@auburn.edu). Students are responsible to check their email regularly, preferably daily, for course related communications.

Pertinent information about the course content, assignments, due dates, etc. is posted to the course' WebCT site. The WebCT site also provides space for chat and discussion groups. At various times the course may use these WebCT features to enhance the learning experience for students. Students access their WebCT Course from the Auburn

University Home Page (<http://www.auburn.edu>) by clicking on the menu item Students and then clicking on the WebCT link. Students login to MyWebCT using their OIT *globalid* and *password*. All students registered for the course BUSI 3510 or ENGR 3510 are automatically registered in the WebCT course.

### III. Grading and Evaluation Procedures

Course Requirements: The course is based on mastering competency material and participating in diagnostic case study discussions.

#### a. Exams

There seven (7) quizzes in the course that are valued at a total of 31 points. See attachment for the date and grade value of each quiz.

#### b. Cross-Functional Teams

The majority of your work in BUSI/ENGR 3510 will be team based. At the second class session, August 27, 2003, you will be assigned to a cross-functional work team. Normally, a team will have four members – two engineering majors and two business majors, but one, two or three teams may have three or five members depending on the exact class size. No student may have a major in common with any other member of the team. Your team will be required to turn in four (4) of five (5) open-ended team projects, such as the diagnostic case analyses, plus a term project. You will not submit individual work; rather all reports and presentations will be team efforts, and your team will be graded as a team. The term project report and presentations will serve as the final examination for the course.

The team projects and the term project are listed in the attachments as Appendix C by number, title and problem statement. There are three mandatory team projects that all teams must complete and turn in. Each team will be assigned only one (1) of the two (2) remaining team projects for submission.

Because most of your grade depends on your team, it is important that your team be effective and functional if you are to succeed in this course or in the B-E-T Program. If you suspect that your team is not effective or is becoming dysfunctional, **refer to your B-E-T Teaming Skill Development Manual and implement its guidelines to minimize team problems and maximize team effectiveness.** If you are unable to resolve your team problems internally with your teammates using the teaming manual, you must let Dr. Swamidass or Dr. Bryant know as soon as possible. Dr. Swamidass and Dr. Bryant will work with your team to help it recover.

### **c. Due Dates**

Note the due date for each project. Due dates are staggered so that a team project or a quiz is due about every two weeks although there will be times when due dates will fall in consecutive weeks. Projects are due by 5:00 PM (before the class starts) on the due date. Late submissions will not be accepted nor will they be graded. Turn in all project reports to Ley Barnes, the courses' teaching assistant.

Two hard copies of the report and presentation slides must be given to the TA or to the instructors at the beginning of the class period for grading.

Your team is responsible for completing four of the five team projects and the term project. You should begin working on each case well in advance of its due date. In fact, your team may want to have several cases as "work in progress" at any given time rather than doing them sequentially

### **d. Reports and Presentations**

Two copies of the written report and slides that your team plans to use when presenting its report orally must be submitted for grading before the start of class on the due date. Late reports will not be graded.

All written reports, except the term project, should be submitted as a hard copy before the start of class on the due date. Reports will be graded for content, completeness, clarity, neatness, and application of what you learned in college English composition. Because these are technical reports, it is important that units be used when appropriate and be written in accordance with generally accepted practice. Reports should be double spaced, printed on 8.5"x11" white paper with page numbers, and stapled in the upper left-hand corner.

The instructors are interested in your ability to express your thoughts clearly and concisely. Brevity and clarity are virtues that will be rewarded. As a rule of thumb, the text section of your written reports should be at least 2 double-spaced, 8.5x11" printed pages, about 500 words minimum. Use fonts size 12 except when subscripts or superscripts are required. Arial or Times-Roman typefaces are preferred.

## 1. Reports for Team Projects #1 through #5.

The contents of a typical team project report are:

**Title Page** (title, date submitted, team member names, course number and name, names of instructors, and semester are required information for the title page.)

**Table of Contents** (to include a List of Figures, a List of Tables, and a List of Appendices)

**Text of Report** (500 words minimum. Use sub-headings just as if you were writing a book. Use The Complete MBA for Dummies as a model.)

**References** (Use a standard engineering or business reference style format for all citations. Do not mix engineering and business styles in the same report. The citation (references) style used by Dr. Bulfin in his handout {[http://www.eng.auburn.edu/BET/PROBSO\\_Bulfin\\_2003.pdf](http://www.eng.auburn.edu/BET/PROBSO_Bulfin_2003.pdf)} is a good model to follow. )

**Appendices** (hard copies of presentation slides plus any other material essential to enhance the report)

Oral reports should be planned as 5-minute (maximum) presentations with the time split equally between engineering and business issues. Every team will present at least twice during the semester and every student will present at least once. The business majors will present the engineering report; the engineering majors will present the business report. One of your jobs is to make sure that your teammates know enough about the material to present it effectively. Non-presenting team members may participate in the Q&A portion of the presentation. The presentation slide set will be graded as part of the written report. Hard copies of the slides that your team plans to use when presenting the oral report must be submitted in the appendix to your report.

Two teams will be randomly selected to make oral presentations on the due date. That means that you must come to class prepared to present your report every time because you'll never know when it is your turn in the box. You will receive feedback on your presentation skills.

## 2. Term Project Report (Due December 10)

The term project is a significant engineering and business report. Therefore, its length should be a minimum of 15 double-spaced pages using 12-point Arial or Times New Roman fonts (3500 words minimum). Each double-spaced page in 12-point font is about 250 words.

The term project should be organized as follows:

**Title Page** (title, date submitted, team member names, course number and name, names of instructors, and semester are required information for the title page.)

**Table of Contents** (to include a List of Figures, a List of Tables, and a List of Appendices)

**Executive Summary** (not to exceed one page, double spaced (250 words) which summarizes the major conclusions and recommendations that are contained in the full report)

**Text of Report** (3500-4000 words minimum. Use sub-headings just as if you were writing a book. Use The Complete MBA for Dummies as a model.)

**References** (Use a standard engineering or business reference style format for all citations. Do not mix engineering and business styles in the same report. The citation (references) style used by Dr. Bulfin in his handout {[http://www.eng.auburn.edu/BET/PROBSO\\_Bulfin\\_2003.pdf](http://www.eng.auburn.edu/BET/PROBSO_Bulfin_2003.pdf)} is a good model to follow. )

**Appendices** (hard copies of presentation slides plus any other material essential to enhance the report)

**APPENDIX 1. “Meeting Effectiveness Report” is mandatory for all teams** and provides summaries (minutes) of all your team meetings. Read the section “Meeting Effectiveness” in the B-E-T Teaming Skills Development Manual and use its forms to document your team meetings. Include a team statement of at least 400 words that describes how the team became more effective by using the guidelines, procedures, and processes outlined in the B-E-T Teaming Skills Development Manual.

Oral reports should be planned as 10-minute (maximum) presentations with the time split equally between engineering and business issues. Every team will present the term project oral report. All team members should participate equally in the presentation. The business majors will present the engineering report; the engineering majors will present the business report. One of your jobs is to make sure that your teammates know enough about the material to present it effectively. All team members will participate in the Q&A portion of the presentation. The presentation slide set will be graded as part of the written report. Hard copies of the slides that your team plans to use when presenting the oral report must be submitted in the appendix to your report.

The term project will be worth 23% (23 points) of the course grade. The term project will be scored as follows:

Written report = 16 points/member

Appendix 1. Meeting Effectiveness Report = 4 points/member

Oral Presentation = 3 points/member (a team, not an individual, score)

Team Participation = same as described above under team projects.

Because the term project report will not be returned to the students after grading, you should make copies for yourselves.

#### **e. Grading**

See Appendix D to the attached course content and schedule outline.

The four diagnostic case reports that your team submits will be graded and returned to your team. Each team report and presentation is valued as 10 points.

Team participation points will be allocated using confidential data provided by each team member individually. Each member will be asked to provide to the instructors, Dr. Swamidass and Dr. Bryant, a self-assessment of her/his contribution to the project and an assessment of the contribution of each of her/his teammates. Each member's assessment score may range from 0%, *i.e.*, the team member made no contribution to the project, to 100%, *i.e.*, the team member made a "fair and equal" contribution. Give 100% to all team members who contributed a "fair and equal" share to the work and less than 100% to team members who did not contribute a "fair and equal" share to the work in proportion to their contribution. If two or more members rate an individual's contribution as less than a "fair and equal" contribution, that member will receive a grade less than the team grade. For example, if two or more members rate a teammate at 70%, then that team member will receive a grade that is only 70% of the team grade.

Thus, the team reports and presentations for four (4) team reports and the term project represent 63% (63 points) of the course grade.

Your final course grade will not be released until you complete the self and peer evaluation forms on the Internet. The URL for the 360° feedback forms will be provided at a later date.

#### **IV. Schedule and Due Dates**

If you miss a class session, you are responsible for homework, class assignments, etc. Late assignments will not be accepted or graded. It is critical that the team member(s) responsible for turning in the team's work assignments do so diligently.

Exams will cover all materials covered in required reading assignments. Reading assignments should be completed by the lecture period noted in the reading assignments list that is linked to the WebCT course menu. Some guest lecturers will have handouts that are not noted in the reading assignments list.

#### **V. Statement related to policies on unannounced quizzes, class attendance, and participation**

Students are expected to be present in the classroom and can be excused only with University approved excuses. Attendance is mandatory. Students are permitted a maximum of two (2) excused absences. All absences in excess of two (2) will result in a 2 points deduction from the course grade for the third and every subsequent absence. Attendance will be taken at each class.

Two classes, the three-hour teaming session on Wednesday, August 27 and the five-hour Professional Presence Seminar on Saturday, September 20, are mandatory for all students. Each mandatory session is valued at three (3) points. See grading matrix attached.

**VI. Special Accommodation for Students with Disabilities**

Students with special needs should make an appointment to discuss the accommodation memo with the faculty during regular office hours as soon as possible. If our scheduled office hours conflict with classes, please arrange an alternate appointment time. If you do not have an accommodations memo, but need special accommodations, please contact the Program for Students with Disabilities, 1244 Haley Center, 334-844-5943 (Voice T/O).

**VII. Academic Honesty**

All portions of the Auburn University Honesty Code (TITLE XII) found in the TIGER CUB will apply in this class.

**VIII. Attachments**

**BUSI/ENGR 3510 Introduction to Business and Engineering  
Tentative Schedule of Classes and Outline of Course Content  
Fall 2003.**