IE 201 – Elementary Engineering Analysis
Course Syllabus: Fall 2012
Tuesday 2:00 – 4:45 PM, AGIT 211

Instructor: Dr. Andrea Graham
Assistant Professor
Department of Engineering & Technology

Office Location: Charles J. Austin Engineering & Technology Building, Room 216

Office Hours: M 10-11:00am, TWR 10:00am – 12:00pm or by appointment

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COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings:

Textbooks:

1. Lippman, S. B.; Lajoie, J.; and Moo, B. E. (2012). ***C++ Primer*** (5th edition). Upper Saddle River, New Jersey: Addison-Wesley, Inc. ISBN 0-13: 978-0-71411-4.
2. Cox, J. and Lambert, J. (2010). ***Microsoft Access® 2010: Step by Step.*** Redmond, Washington: Microsoft Press. ISBN: 978-0-7356-2692-8.

Supplementary reading:

Larsen, R. W. (2009). ***Engineering with Excel*** (3rd edition). Upper Saddle River, New Jersey: Pearson/Prentice Hall. ISBN: 0-13-601775-4.

Course Description:

This course will utilize Microsoft Excel to solve problems that commonly arise in engineering analysis. Numerical methods of problem solving will be emphasized. Problem solving techniques will be accentuated rather than the underlying mathematical solution procedures. Application of these methods for use in other science, mathematics, engineering, and technology courses will be illustrated. A one-hour per week outside class laboratory will be required. The focus of this class is to help students understand how to choose an appropriate computing approach among modern computing techniques to solve an engineering problem Prerequisite: : Math 2413.

Student Learning Outcomes:

By the end of this course, the student will demonstrate:

1. An ability to apply knowledge of mathematics, science and engineering.
2. An ability to identify , formulate and solve engineering problems
3. An ability to implement the computing techniques introduced to solve problems.

COURSE REQUIREMENTS

ATTENDANCE POLICY:

Every student is expected to attend all classes to acquire the information and knowledge covered in the class. Students themselves are responsible to obtain the materials covered in the classes they have missed. No effort will be made by the instructor to track down missing students and/or assignments.

ASSIGNMENT POLICY AND ACADEMIC HONESTY :

Each student is responsible for turning in the assigned work by the due time. No late assignment will be accepted except prior arrangement with the instructor. Students shall not copy other's work without properly indicating its source. Plagiarism is considered academic dishonesty. If a student was found to be "guilty" of plagiarism, he/she could be punished by lowering down his/her final grade.

COURSE GRADING:

The ***final course grade*** will be based upon the following:

Homework assignments: 15%
First in-class exam (C++ programming): 30%

Second in-class exam (Microsoft Access®): 20%

Third in-class exam (Microsoft Excel®): 15%

Term project (comprehensive): 20%

GRADING SCALE

A = 90% and above
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = 0% - 59%

STUDENT EXPECTATIONS

- All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. Students are expected to be fully compliant with the Code of Student Conduct, defined in the current Student Guidebook.

- Students are expected to attend all class periods and to be prepared for each class. Students are expected to refrain from any disruptive behaviors during class, which includes but is not limited to working on assignments/projects from another course, reading non-course materials, or using the computer for non-class purposes. Cell phones, iPods, and other electronic devices should be turned off during class.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Academic Dishonesty

Texas A&M University-Commerce will not allow plagiarism in any form. The students' course works should be their own. Plagiarism represents disregard for academic standards and is strictly against University policy. If you have a question regarding academic dishonesty and integrity, please talk to the instructor or refer to the *Code* of Student Conduct from Student Guide Handbook.

University Specific Procedures:

Students with Disabilities:

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 have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library
Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

COURSE SCHEDULE (following schedule is subject to change)

Week No. & Dates (mm/dd – mm/dd)	**Weekly Contents**	**Reading Assignments**
1 (8/25-8/31)	• Understand course objectives, attendance, grading policy and academic honesty/ plagiarism. • Variables, basic data types, strings, expressions, and statements	• Chapters 1, 2, 3, 4, and 5 (Primer)
2 (9/1-9/7)	Labor Day (9/2, Mon.; holiday and no class) • Functions and classes	• Chapters 6 and 7 (Primer)
3 (9/8-9/14)	• I/O library, sequential containers	• Chapters 8 and 9 (Primer)
4 (9/15-9/21)	• Copy control	• Chapter 13 (Primer)
5 (9/22-9/28)	• Overloaded operations and conversions	• Chapter 14 (Primer)
6 (9/29-10/5)	• Object-oriented programming	• Chapter 15 (Primer)
7 (10/6-10/12)	• Templates and genetic programming **First in-class exam (C++ programming)**	• Chapter 16 (Primer)
8 (10/13-10/19)	• Introduction to Access, create databases and simple tables, create simple forms, and display data,	• Chapters 1, 2, 3, and 4 (Access 2010)
9 (10/20-10/26)	• Create simple reports, maintain data integrity, create custom forms	• Chapters 5, 6, and 7 (Access 2010)
10 (10/27-11/2)	• Create queries and create custom reports	• Chapters 8 and 9 (Access 2010)
11 (11/3-11/9)	• Import and export data **Second in-class exam (Access databases)**	• Chapter 10 (Access 2010)
12 (11/10-11/16)	• Excel overview, equations, and graphing	• Chapters 1, 2, and 3 (Larsen)
13 (11/17-11/23)	• Excel's built-in functions, sorting, and data analysis menu option	• Chapter 4, Section 11.4, and Chapters 6 & 7 (Larsen)
14 (11/24-11/30)	• Sharing Excel information with other programs: importing and exporting data **Third in-class exam (Excel Spreadsheets)** Thanksgiving Holidays on 11/28 (Thur.) and 11/29 (Friday)	• Chapter 10 (Larsen)
15 (12/1-12/7)	• Preparation for the term project	
16 (12/8/-12/13) Finals week	The **term project** is due on the date scheduled by the University for the final exam of the class.	