



IE 201 - Elementary Engineering Analysis (Section 002)

Fall Semester 2014

COURSE DESCRIPTION

The purpose of this class is to introduce students to the basic fundamentals of how to identify, formulate and analyze problems based on the knowledge of mathematics, science and engineering by using modern computing techniques. Concepts gained will pave the way to more advanced problem framing and selection of appropriate programming computing approaches. Students will solve problems by writing programs in a high-level programming language, a database management system, and an electronic spreadsheet. Prerequisites: Math 2413.

PROFESSOR

Nilo Tsung CEng, PE, PhD
Assistant Professor
Department of Engineering and Technology
College of Science and Engineering

CONTACT INFORMATION

Office: Room 204, AG/IT Building

Office Hours: 2:30 – 5:00 PM Tuesdays and Wednesdays or by appointment

Office Telephone: 903-886-5464

E-mail: nilo.tsung@tamuc.edu

Department fax number: 903-886-5960

CLASS SECTION AND MEETINGS INFORMATION

Section: 002

Time: 8:00 – 9:15 AM Tuesdays and Thursdays

Location: Ag/IT 211

COURSE OBJECTIVES

1. Learn to apply knowledge of mathematics, science, and engineering to analyze engineering problems.
2. Learn to identify, formulate, and solve an engineering problem.
3. Learn to implement the computing techniques chosen to solve the problem.

REQUIRED COURSE MATERIALS

Required Textbooks:

1. Cox, J. and Lambert, J. (2010). *Microsoft Access® 2010: Step by Step*. Redmond, Washington: Microsoft Press. ISBN: 978-0-7356-2692-8.
2. Dewhurst, S. C. and Stark, K. T. (1995). *Programming in C++* (2nd edition). Englewood Cliffs, New Jersey: Prentice Hall, Inc. ISBN-13: 978-0131827189.

Optional Textbook:

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

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.

HOMEWORK ASSIGNMENT POLICY

A grade of "0" will be assigned to late assignments, unless prior arrangements are worked out with the instructor. The instructor has the final decision on whether late work will be accepted. Late penalties will be assessed to any approved late work.

COURSE GRADING

Attendance and class participation: 10%

Homework assignments: 15%

First in-class exam (Microsoft Excel®): 25%

Second in-class exam (Microsoft Access®): 25%

Third in-class exam (C++ programming): 25%

GRADING SCALE

90-100%: A;

80-89%: B;

70-79%: C;

60-69%: D;

<60%: F.

ACADEMIC DISHONESTY

Texas A&M University-Commerce will not condone plagiarism in any form. Plagiarism represents disregard for academic standards and is strictly against University policy. Plagiarized work can result in a "0" on a given assignment(s) or an "F" for the course as well as further administrative sanctions permitted under University policy. You may discuss course work and other course materials with fellow students (except during tests), but it is inappropriate to have another student do your course work or provide you with any portion of it.

Guidelines for properly quoting someone else's writings and the proper citing of sources can be found in the APA Publication Manual. If you do not understand the term "plagiarism", or if you have difficulty summarizing or documenting sources, contact your professor for assistance.

STUDENT BEHAVIOR

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.

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 (8/24-8/30)	<ul style="list-style-type: none"> • Understand course objectives and policies • Relationship between engineering analysis and computing • Introduction to Excel 	<ul style="list-style-type: none"> • Chapter 1 (Larson)
2 (8/31-9/6)	Labor Day (9/1, Mon.; holiday and no class) <ul style="list-style-type: none"> • Using Excel’s ribbon • Graphing with Excel 	<ul style="list-style-type: none"> • Chapters 2 and 3 (Larson)
3 (9/7-9/13)	<ul style="list-style-type: none"> • Excel’s functions • Macros and User-Written functions for Excel 	<ul style="list-style-type: none"> • Chapters 4 and 12 (Larson)
4 (9/14-9/20)	<ul style="list-style-type: none"> • Macros and User-Written functions for Excel 	<ul style="list-style-type: none"> • Chapter 12 (Larson)
5 (9/21-9/27)	<ul style="list-style-type: none"> • Macros and User-Written functions for Excel First in-class exam (Excel Spreadsheets)	<ul style="list-style-type: none"> • Chapter 12 (Larson)
6 (9/28-10/4)	<ul style="list-style-type: none"> • Explore an Access 2010 database • Create databases and simple tables • Create simple forms 	<ul style="list-style-type: none"> • Chapters 1, 2, and 3 (Access)
7 (10/5-10/11)	<ul style="list-style-type: none"> • Display data • Create simple reports 	<ul style="list-style-type: none"> • Chapters 4 and 5 (Access)
8 (10/12-10/18)	<ul style="list-style-type: none"> • Maintain data integrity • Create custom forms 	<ul style="list-style-type: none"> • Chapters 6 and 7 (Access)
9 (10/19-10/25)	<ul style="list-style-type: none"> • Create queries 	<ul style="list-style-type: none"> • Chapter 8 (Access)
10 (10/26-11/1)	<ul style="list-style-type: none"> • Create custom reports Second in-class exam (Access databases)	<ul style="list-style-type: none"> • Chapter 9 (Access)
11 (11/2-11/8)	<ul style="list-style-type: none"> • Introduction to C++ • Data types and operations 	<ul style="list-style-type: none"> • Chapters 0 and 1 (C++)
12 (11/9-11/15)	<ul style="list-style-type: none"> • Procedural programming • Classes 	<ul style="list-style-type: none"> • Chapters 2 and 3 (C++)
13 (11/16-11/22)	<ul style="list-style-type: none"> • Data abstraction 	<ul style="list-style-type: none"> • Chapter 4 (C++)
14 (11/23-11/29)	<ul style="list-style-type: none"> • Inheritance Thanksgiving Holidays on 11/27 (Thur.) and 11/28 (Friday) no class	<ul style="list-style-type: none"> • Chapter 5 (C++)
15 (11/30-12/6)	<ul style="list-style-type: none"> • Object-oriented programming 	<ul style="list-style-type: none"> • Chapter 6 (C++)
16 (12/7-12/13) Finals week	Third in-class exam (C++ programming) Will be held on the date scheduled by the University for the final exam of the class.	