



IE 101 – Introduction to Industrial Engineering
Course Syllabus: Fall 2013
MW 2:30 –3:45 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 Required:

1. Lial, Margaret L., Greenwell, Raymond N., and Ritchey, Nathan P. (2009). ***Finite Mathematics and Calculus with Applications***, Eighth Edition. Pearson Education, Inc. [ISBN-13: 978-0-321 42651-2, ISBN-10: 0-321-42651-7].
2. Landis, Raymond B. (2013). ***Studying Engineering: A Roadmap to a Rewarding Career***, Fourth Edition. Discovery Press [ISBN-13: 978-0979348747, ISBN-10: 0979348749]

Books on reserve in the Library:

- Turner, Wayne C., Mize, Joe H., Case, Kenneth E., and Nazemetz, John W. (1993). *Introduction to Industrial and Systems Engineering*, Third Edition. Prentice Hall [ISBN: 0-13-481789-3].
- Emerson, Howard P. and Naehring, Douglas C. E. (1988). *Origins of Industrial Engineering: The Early Years of a Profession*. Institute of Industrial Engineers [ISBN 0-89806-097-4].

Course Description:

Basic industrial engineering concepts to include systems optimization, variability in systems, and production systems. Student teams engage in design projects that require the integration of several concepts. Ethics and professional conduct are stressed. The computer competency evaluation will be administered in this course. Co requisite: Placement and enrollment in Math 142, 2413, 192, or 315; and Eng 1301 or 1302; if not all complete.

(2012-2013 Undergraduate Catalog, Texas A&M University-Commerce,
<http://catalog.tamu-commerce.edu/index.php>)

Student Learning Outcomes:

After completing this course, students should be able to:

1. Demonstrate knowledge of Industrial Engineering, related Texas A&M University-Commerce Web sites, and engineering ethics
2. Demonstrate introductory knowledge of matrices
3. Demonstrate introductory knowledge of linear programming
4. Demonstrate introductory knowledge of engineering economy
5. Demonstrate introductory knowledge of discrete mathematics
6. Demonstrate introductory knowledge of probability and statistics

COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments

This course utilizes lectures, assignments (in class and out of class) to assist students in achieving the course learning outcomes. The assessment criteria for the stated student learning outcomes will include assignments, exams, and a final exam.

Assignments: 10% of total course grade.**Student learning outcomes #1, #2, #3, #4, #5, #6**

There will be many in class and out of class assignments throughout the semester. Assignments will include reading, problem solving and writing. Students will have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. Students will have an ability to communicate effectively. You must be in class in order to do the in-class assignments.

Examinations: 85% of total course grade**Student learning outcomes #1, #2, #3, #4, #5, #6**

There will be four in class exams throughout the semester (including the Final). Exams will be used to assess a student's knowledge and skills related to basic industrial engineering concepts to solve engineering problems.

Class Participation: 5% of total course grade

This component of the Class Participation course grade (account for 5% of the student's course grade) will be derived from items: (1) Student's participation in class discussions and interest shown in class and (2) class attendance

Grading

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

Assignments	10%
Class Participation	5%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Final Exam	25%

Grading Scale:

A = 90% and above

B = 80% - 89%

C = 70% - 79%

D = 60% - 69%

F = 0% - 59%

STUDENT EXPECTATIONS

- Students are expected to attend all class periods. Students who do not attend class regularly may find this course to be more challenging than it should be. Students missing more than five class meetings will be assigned a final grade of "F" for the course and will not be allowed to attend any more class meetings, regardless of the reason(s) for the absences. Students are considered absent from a class meeting if they miss any portion of class time. Class time begins when the instructor arrives, but no earlier than the scheduled start of class time. Class time ends when the instructor dismisses class, but no later than the scheduled end of class time.
- Students are expected to make a legitimate attempt to pass the course, as judged by the instructor. Students who do not make a legitimate attempt to pass the course will be assigned a final grade of "F" for the course and will not be allowed to attend any more class meetings.

Any violations of the following student expectations, as judged by the instructor, will result in letter grade reductions to course work grades and/or to the final course grade of the offending student.

- Students are expected to have complete knowledge of and to be fully compliant with the Code of Student Conduct in the current Student Guidebook at <http://www.tamu-commerce.edu/studentlife/guidebook.htm>
- Students are expected to be fully prepared for each class before it meets.
- Students are expected to refrain from any disruptive behaviors during class. This includes (but is not limited to) not being in their seat at the scheduled start time of class; packing up and leaving class before it is dismissed by the instructor; talking or making other noises while the instructor is presenting material or a student is asking a question; sleeping; doing work for another course; reading newspapers, magazines, or other non-course materials; and using a computer at times and for purposes other than those designated by the instructor.
- Students are expected to have cell phones (NO TEXTING), music devices, and pagers turned off during class

TECHNOLOGY REQUIREMENTS

The following technologies will be required for this class.

- A scientific calculator for exams (one with built-in statistical functions).
- Internet access to download class notes, assignments, and readings from the course Web site.
- Some coursework will require computer software for assignments. The software will be freely available for students in the computer labs on campus.

ACCESS AND NAVIGATION

This course will utilize eCollege to share documents related to the class such as syllabus, handouts/class notes, assignments, and solutions to the homework/exams. It is the student's responsibility to check the course Web site before every class for updated information. The course web site can be logged in through "myLEO". Log in to "myLEO", select "eCollege", and select "My Courses" (the Web site for this course will have a link on this page).

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamuc.edu.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

1. Each exam will be given in class. All exams will be closed book, closed notes. The Final Exam is comprehensive. Students will need a scientific calculator for exams. Use of unauthorized aids on exams will result in a grade of zero.
2. Homework must be turned in at the beginning of the class on the day it is due. Late assignments will not be accepted.
3. As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.
4. Copyright 2013 Andrea Graham as to this syllabus and all lectures. Students are prohibited from selling (or being paid for taking) notes during this course to or by any person or commercial firm without the express written permission of the professor teaching this course.

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.

Drop and Withdrawal Dates: Refer to the 2012-2013 Academic Calendar at <http://www.tamu-commerce.edu/registrar/calendar.asp> for drop and withdrawal dates.

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 OUTLINE/CALENDAR

WEEK	DATES	TOPICS	ASSIGNMENTS
Aug 26		-First day of class	
Week 1	8/26, 8/28	-Keys to Success in Engineering - The Engineering Profession - History of Industrial Engineering	- Read Ch 1,2 (Landis) - Assignment 1
Sept 2		- Labor Day – University Closed.	
Week 2	9/4	- Engineering Ethics and Professionalism	- Assignment 2
Week 3	9/9, 9/11	- Linear Functions	- Read Ch 1 (1.1 & 1.2 Finite Math) - Assignment 3
Week 4	9/16, 9/18	- Systems of Linear Equations and Matrices	- Read Ch 2 - Assignment 4
Week 5	9/23, 9/25	- Systems of Linear Equations and Matrices	- Read Ch 2 - Assignment 5
Week 6	9/30, 10/2	- Systems of Linear Equations and Matrices - Exam 1	- Read Ch 2 - Assignment 6
Week 7	10/7, 10/9	- Linear Programming: The Graphical Method	- Read Ch 3 (3.1, 3.2, 3.3) - Assignment 7
Week 8	10/14, 10/16	- Linear Programming: The Simplex Method	- Read Ch 4 - Assignment 8
Week 9	10/21, 10/23	- Linear Programming: The Simplex Method	- Read Ch 4 - Assignment 9
Week 10	10/28, 10/30	- Linear Programming: The Simplex Method - Exam 2	- Read Ch 4 - Assignment 10
Week 11	11/4, 11/6	-Mathematics of Finance -Logic	- Read Ch 5, 6 - Assignment 11
Week 12	11/11, 11/13	-Logic -Sets and Probability	- Read Ch 6,7 - Assignment 12
Week 13	11/18, 11/20	-Sets and Probability	- Read Ch 7 - Assignment 13
Week 14	11/25, 11/27	- Exam 3 - Statistics	- Read Ch 9 - Assignment 14
Nov 28 & 29		- Thanksgiving Break – University Closed	
Week 15	12/2, 12/4	- Statistics	- Read Ch 9 - Assignment 15
Dec 6		- Last day of class.	
Week 16	12/9	- Final Exam (1:15-3:15pm)	