Abilene Christian University

Department of Mathematics

MATW 130.01: Finite Mathematics
Fall 2009, MW 8:00 - 8:50, TR 8:00 - 9:20
Foster Science Building 203

Dr. John Ehrke
Assistant Professor of Mathematics
Office: Foster Science 229

Email: jee99a@acu.edu
Phone: 325.674.2162
Course Blog: blogs.acu.edu/1010_MATW13001
Office Hours: M 2:00 - 3:00, W 2:00 - 3:00, R 1:00 - 3:00, F 9:00 - 11:00, 2:00 - 3:00

Required Text: *Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences*, 11^{th} ed., Barnett, R. A., Byleen, K. E., Ziegler, M. R., Prentice Hall, 2008.

Required Calculator: A graphing calculator is required for this course. At a minimum, students should have access to a calculator for use on tests, quizzes, and homework. Calculators will not be loaned out during class and cannot be exchanged between students during tests or quizzes. **Students may choose either a TI-83, TI-83 plus, or TI-84 calculator for use in class–no exceptions or substitutions.**

Course Description: This course introduces mathematical reasoning as it relates to developing problem solving skills. The course is designed to rely heavily on the use of the required calculator. The skills developed in this course are an integral part of modeling and solving real-world problems, and the course will emphasize such. The ACU course catalog describes the course as follows:

> **MATH 130 Finite Math for Applications** (3-0-3), fall, spring. Fundamental concepts of mathematics applications for business, economics, and the social and behavioral sciences. Math of finance, sets, introduction to probability, functions and mathematical modeling. Prerequisite: meet one of the following - MATH SAT of 500; MATH ACT of 20; or COMPASS placement into MATH 130. For COBA, information technology, and agribusiness majors only. Will satisfy University Core mathematics requirement. Same as MATW 130.

Mission Statement: This course supports ACU's mission statement of preparing students for Christian service and leadership throughout the world by providing students a foundational understanding of mathematical principles such as problem solving and decision making, as well as exposing students to the role of mathematics in a Christian world view.

Departmental Mission: The mission of the Department of Mathematics is to educate students to be quantitative and analytic thinkers in preparation for Christian service and leadership throughout the world.

Course Goals: This course aims to increase your understanding of mathematics and its relevance to business and economics. The integration of technology in the course serves as a foundation for developing analytical skills. In particular, the student is expected to

- compute simple interest and compound interest, explain the difference between the two, and appropriately model real world problems involving these concepts.
- analyze and compare investment options involving personal savings, annuities, and retirement plans.

- analyze and compare options related to credit, including retail purchasing, home and automobile financing, and amortization.
- apply counting techniques as well as graphical representations to compute probabilities and odds.
- use concepts of probability to compute expected value and interpret its significance.
- demonstrate an understanding of the mathematical concept of functions and their relevance as models for real world problems.
- identify linear, quadratic, polynomial, and exponential functions from tables, graphs, and equations.
- apply functional concepts as an aid in problem solving.
- utilize technology to solve applied problems and interpret answers in context.

Course Format: Careful and thorough reading of the required sections in the text is expected. Be prepared to take a short quiz over the assigned reading(s) at the beginning of most classes. Class lecture will deal with applications of material encountered in the text in the form of discussion and activities designed to promote reflection and enhance reasoning skills. Suggested exercises for practice will be provided. Students are encouraged to keep a homework notebook containing the examples worked in class, work done on suggested homework exercises, and all homework handouts.

Grading: As this is a workshop course, the course grade will be determined a little differently than what you are most likely familiar with. Grades will be determined as follows:

Percent Grade	Course Grade
85 - 100%	A
75 - 84.9 %	B
60 - 74.9 %	C
below 60	F

Grades for the workshop component of the course MATW 030 will be awarded consistent with the grade the student receives in MATW 130. Please note that there will be no D awarded in this course.

Grading Components: The course grade will be determined by the following items:

Exams (4)	60%
Daily Reading Quizzes (20)	20%
Final Exam	20%

Exams: There will be four exams given during the semester. Each of the exams is announced in the schedule below. At least half of the material on each exam will come directly from the suggested exercises for each section covered on the exam. Your lowest exam score can be replaced with the grade on your final if it is higher. **Only attempted tests are eligible to be dropped.**

Homework: While there is no grading category for homework. Homework is an integral component of this course. During the semester students are expected to keep a spiral or notebook containing all the assigned problems worked out in a neat and orderly manner. Students will present their work before taking each exam. The homework will be graded for completeness while you are taking your exams and handed back to you as you leave. Students may receive up to 10 points toward their exam grade. **These are not bonus points, but rather a portion of your exam grade. For example, if you answered everything correctly on the exam, but failed to turn in homework the highest grade you could receive on the exam is a 90.**

Course Blogs: One of the features new to class this semester is the course blog. This will be information central for this course. Suggested exercises for homework, announcements of tests and quizzes, and various media components will be located here. More information on these blogs will be provided as the semester goes forward.

iPhone Users: If you have an iPhone either from the university or one of your own, feel free to bring it with you to class and be prepared to use it. At multiple points throughout the semester we will use these devices for blogging, polling, and various other applications. If you do not have an iPhone, do not worry. All course materials are available online for your use.

Final Exam: The final exam is comprehensive and will be largely based on the four tests taken during the semester. The final exam is scheduled for **10-11:45 a.m., Wednesday, December 9**. The final exam cannot be given in advance of the schedule time under any circumstance.

University Policies: The following are important university policies which pertain to this course.

Attendance: Your regular attendance is both necessary and expected. You are responsible for all material covered while absent and will be expected to take regularly scheduled exams and are responsible for turning in work on the assigned dates. As this is a workshop course, I expect your attendance at every class meeting. Attendance *will be recorded* at the beginning of each class. If you come in after attendance is taken you will be counted absent. So make every effort to arrive to class on time, prepared for class. **Only university approved absences can exempt you from being counted absent.** University approved absences must be cleared with the instructor one week in advance, as outlined in the University attendance policy. Make your sponsors aware that failure to comply with this policy will affect your attendance record in this class. **Students with more than 12 absences will be dropped from the course with a grade of WF.**

Make Up Work: There will be no make up exams or quizzes. If you miss an exam or quiz due to a university scheduled event, you may make arrangements to take the test before the date is scheduled.

Academic Integrity: The university policy is available online at `http://www.acu.edu/campusoffices/provost`. Students found guilty of an act of academic dishonesty on an assignment or test will be subject to the following actions in this course.

First Occurrence: A first violation will result in a zero. No makeup will be allowed. Appropriate offices will be notified.

Second Occurrence: This will result in a grade of F in the course and a recommendation for suspension from the university.

Electronic Devices: Please turn off all cell phones, beepers, pagers, alarms, etc. Frequent disruptions will be viewed as disruptive behavior and are subject to dismissal from class and/or being counted absent. Frequent incidents of disruptive behavior will result in your being dropped from the course.

Proper Dress: Please follow the university dress code when at ACU and in particular, this course. Inappropriate clothing may be treated as a form of disruptive behavior.

Disability: If you have a documented disability and wish to discuss academic accommodations, please feel free to contact me. The ACU Student Disability Services Office (a part of Alpha Academic Services) facilitates disability accommodations in cooperation with instructors. In order to receive accommodations, you must be registered with Disability Services and you must complete a specific request for each class in which you need accommodations. Call 674-2667 for an appointment with the Director of Disability Services.

Course Schedule: The following is a tentative schedule for the upcoming semester. Reading assignments are listed below, but they are subject to change as well.

Monday		**Tuesday**		**Wednesday**		**Thursday**	
Aug 24	Syllabus, 1.1	Aug 25	1.1, 1.2	Aug 26	1.2	Aug 27	1.3
Aug 31	1.3	Sep 1	5.1	Sep 2	5.2	Sep 3	5.2
Sep 7	5.3	Sep 8	5.3	Sep 9	5.3	Sep 10	Review
Sep 14	Exam 1	Sep 15	2.1	Sep 16	2.1	Sep 17	2.2
Sep 21	2.2	Sep 22	2.3	Sep 23	2.3	Sep 24	2.4
Sep 28	2.4	Sep 29	Review	Sep 30	Exam 2	Oct 1	3.1
Oct 5	3.1	Oct 6	3.2	Oct 7	3.2	Oct 8	3.2
Oct 12	3.3	Oct 13	3.3	Oct 14	3.3	Oct 15	3.4
Oct 19	3.4	Oct 20	3.4	Oct 21	Review	Oct 22	Exam 3
Oct 26	7.3	Oct 27	7.3	Oct 28	7.4	Oct 29	7.4
Nov 2	7.4	Nov 3	8.1	Nov 4	8.1	Nov 5	8.2
Nov 9	8.2	Nov 10	8.2	Nov 11	8.3	Nov 12	8.3
Nov 16	8.3	Nov 17	8.5	Nov 18	8.5	Nov 19	8.5
Nov 23	Review	Nov 24	Exam 4	Nov 25	Holiday	Nov 26	Holiday
Nov 30	Review	Dec 1	Review	Dec 2	Review	Dec 3	Review