Math 141-200 - Business Mathematics I   Spring 2013

Instructor: Dr. Janice Epstein, Blocker 641H, 845-3261
Office Hours: Mondays 9:30 – 11:00A and Wednesdays 10:15 – 11:45A. Also by appointment.
Email: j-epstein@tamu.edu. Include your full name and class/section number in any email
Webpage: www.math.tamu.edu/~epstein/Math141
Class Meeting Times: TR 9:35 – 10:50A in ZACH 333A

Catalog Description:
Math 141: Business Mathematics I (Credit 3) Linear equations and applications, systems of linear
equations, matrix algebra and applications, linear programming (graphical methods), probability and
applications, statistics. Credit will not be given for more than one of MATH 141 and 166.
Prerequisites: High school algebra I and II and geometry.

Learning Objectives:
- Formulate linear models for business applications.
- Understand matrices and their applications, including solving systems of linear equations and solving problems involving the Leontief input-output model and Markov processes.
- Construct linear programming problems for various applications and solve using graphical techniques.
- Understand and apply the rules of sets and Venn diagrams.
- Understand the principles of probability and counting and apply these concepts to a variety of problems.
- Identify types of random variables and calculate probabilities and statistics for random variables.
- Apply the concepts of finance to real-world situations.

Required Materials:
- *Textbook: Finite Mathematics for the Managerial, Life, and Social Sciences, 10*[th] Ed. by Tan. Online access to the text has been included in your student fees. A hard copy of the book is optional.
- *Calculator:* A TI-83, TI-84 (Regular, Plus or Silver edition) or the TI-Nspire (non-CAS version) calculator is **REQUIRED** and you must bring your calculator to each class. If you want to use a calculator other than those listed, it may not perform symbolic mathematics and you must have my permission to do so.
- *Texas A&M Student ID:* You must bring your student ID to class with you.

Grading:

Quizzes	15%
Daily Grades (homework, videos, and class activities)	15%
Three In-Class Exams	15% each
Cumulative Final Exam	25%

Required Averages: A 90–100%   B 80–89%   C 70–79%   D 60–69%   F 0–59%

Tentative **Exam Schedule:**

Exam 1   Sections 1.3-1.5, 2.1-2.7   Thursday, February 7th
Exam 2   Sections 3.1-3.3, 6.1-6.4, 7.1-7.4   Thursday, March 7th
Exam 3   Sections 7.5-7.6, 8.1-8.6   Thursday, April 11th

Final Exam: Friday, May 3rd, at 12:30P in ZACH 333A

Attendance & Make-up Policy: Attendance is required in this class.

No make-up exams or late assignments are possible /accepted without a University-approved excused absence (see the Texas A&M University Student Rules).

An absence for a non-acute medical service or regular check-up does not constitute an excused absence.

To be excused, you must notify me in writing prior to the date of absence if possible. Consistent with Texas A&M Student Rules, in cases where advance notification is not feasible (e.g. accident, or emergency) the student must provide notification by the end of the second working day after the absence. This notification should include an explanation of why notice could not be sent prior to the class.

For injury or illness too severe or contagious to attend class, you must provide confirmation of a visit to a health care professional affirming date and time of visit. The Texas A&M University Explanatory Statement for Absence from Class form will not be accepted. It is the student's responsibility to schedule a make-up in a timely manner.

Homework: Homework will be both online and written assignments.

Quizzes: In-class quizzes will typically occur once per week.

Extra Help & Preparing for Exams

Office Hours: Please attend office hours for additional one-on-one help.

Week-in-Review: The Week-in-Reviews are review sessions for all Math 141 students twice per week to review the topics of the previous week and to provide additional examples. Please see

http://www.math.tamu.edu/courses/weekinreview.html

Practice: In addition to the WIR problems, I strongly recommend that you practice extra problems on your own from the book. See the suggested homework list on my webpage.

Help Sessions: Help sessions are an opportunity for you to ask questions and get help with your homework. Students who have previously taken Math 141 lead the help sessions. The schedule is at

http://www.math.tamu.edu/courses/helpsessions.html

Copyright:
All exams, printed handouts and/or assignments, and web-materials are protected by U.S. Copyright Laws. No multiple copies can be made without my written permission. No exams or assignments may be shared with anyone outside of the class.

Academic Integrity Statement:
"An Aggie does not lie, cheat, or steal or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

For additional information please visit: http://www.tamu.edu/aggiehonor/

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 believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit
http://disability.tamu.edu

Tentative Schedule: All changes will be announced in class, on the web, or via e-mail.

Week 1	Introduction, Sections 1.3 – 1.4	Linear Models for Business Applications Intersection of Lines
Week 2	Sections 1.5, 2.1 – 2.3	Linear Regression Formulating Systems of Linear Equations Gauss-Jordan Elimination Solving Systems of Linear Equations
Week 3	Sections 2.3 – 2.7	Matrices and Matrix Operations Matrix Multiplication Matrix Inverses Leontief Input-Output Models
Week 4	Review, **Exam 1 (1.3-1.5, 2.1-2.7)**	
Week 5	Sections 3.1 – 3.3	Graphing Systems of Linear Inequalities Formulating Linear Programming Problems Graphical Solution of Linear Programming Problems (Method of Corners) Leftovers
Week 6	Sections 6.1 – 6.4	Sets and Set Operations Venn Diagrams The Multiplication Principle
Week 7	Sections 6.4, 7.1 – 7.4	Permutations and Combinations Experiments, Sample Spaces, & Events Probability Use of Counting Techniques in Probability
Week 8	Review **Exam 2 (3.1-3.3, 6.1-6.4, 7.1-7.4)**	
Week 9	Sections 7.5 – 7.6	Conditional Probability Independent Events Bayes' Theorem
Week 10	Sections 8.1 – 8.3	Classification of Random Variables Probability Distributions of Random Variables Expected Value Mean, Median, and Mode Variance and Standard Deviation
Week 11	Sections 8.4 – 8.6	The Binomial Distribution The Normal Distribution Applications of the Normal Distribution
Week 12	Review **Exam 3 (7.5-7.6, 8.1-8.6)**	
Week 13	Section 5.1 – 5.2	Simple and Compound Interest Effective Rates of Interest Annuities
Week 14	Sections 5.3, 9.1, 9.2	Amortization and Sinking Funds Markov Chains
Week 15		Review