

Instructor: Kathryn Bollinger

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(Please include your full name and section color in any email you send to me.)

Web Page: <http://www.math.tamu.edu/~bollinger>

(Check regularly for announcements and important information, as well as for notes, a daily schedule and other helpful links.)

Office: Blocker 630E

Office Hours: Mondays & Tuesdays 2:00 – 4:00 PM
Wednesdays 10:00 AM - Noon
OR by appointment

* All office hours will be held in BLOC 628, unless you are told otherwise. *

Math Dept. Phone: (979) 845-3261

Class Times & Locations: MATH 141-504 (Blue).....TR 9:35 – 10:50 AM..... ZACH 102
MATH 141-505 (Yellow).....TR 11:10 AM – 12:25 PM.....ZACH 102

Catalog Description: (Credit 3) Linear equations and applications, systems of linear equations, matrix algebra and applications, linear programming (graphical method), probability and applications, statistics.

Prerequisites: High school algebra I and II and geometry. Credit will not be given for more than one of MATH 141 and 166.

Learning Objectives:

- Formulate linear models for business applications.
- Understand matrices and their applications, including solving systems of linear equations.
- 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, 10th Ed.* by Tan
 - You paid for an electronic book version of the text when you paid your fees for this course. Information on how to access your ebook can be found under the “Student Information Page” at <http://www.math.tamu.edu/courses/eHomework/>. Look under the Math 141 link.
 - If you would like a hard bound or loose-leaf copy of the textbook you may buy one, but it is not required.
- **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. Calculators are allowed on exams but you must clear and reset the memory before each exam. You may not share calculators during exams or quizzes. I will consider any illegal use of calculators on exams or quizzes as academic dishonesty and report it to the Aggie Honor Council. (Refer to the Academic Integrity Statement on pg. 5)
- **Texas A&M Student ID:** You must bring your student ID to each class.



Grading:

Grade Weights

Required Averages

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| In-Class Daily Assignment Average (details on pg. 3) | 5% |
| Homework Problem Set Average (details on pg. 3) | 10% |
| Quiz Average (details on pg. 3) | 15% |
| Three In-Class Exams (details on pg. 2 & 3) | 15% each |
| Cumulative Final Exam (details on pg. 2 & 3) | 25% |

| | |
|---|---------|
| A | 90-100% |
| B | 80-89% |
| C | 70-79% |
| D | 60-69% |
| F | 0-59% |

Tentative Exam Schedule:

| | | |
|-----------------|---------------------------------------|--|
| Exam I | Sections 1.3-1.5, 2.1-2.6 | Thursday, February 9th |
| Exam II | Sections 3.1-3.3, 6.1-6.4, 7.1 | Thursday, March 8th |
| Exam III | Sections 7.2-7.6, 8.1-8.4 | Thursday, April 12th |

FINAL EXAM Schedule:

- Section 504 is on Friday, May 4th, 7:30 – 9:30 AM in ZACH 102
- Section 505 is on Monday, May 7th, 8:00 – 10:00 AM in ZACH 102

A tentative day-by-day semester schedule can be found on the course web page with an abbreviated version below.

| Tentative Schedule: All changes will be announced in class. | | | |
|--|------------------|--|---|
| Week 1 | Jan. 16–20 | Introduction, Sections 1.3, 1.4, 1.5 | Equations of Lines Linear Models for Business Applications Intersection of Lines Linear Regression |
| Week 2 | Jan. 23–27 | Sections 1.5, 2.1, 2.2, 2.3 | Linear Regression Formulating Systems of Linear Equations Gauss-Jordan Elimination Solving Systems of Linear Equations |
| Week 3 | Jan. 30 – Feb. 3 | Sections 2.4, 2.5, 2.6 | Arithmetic Operations with Matrices Matrix Multiplication Matrix Inverses |
| Week 4 | Feb. 6 – 10 | Review, Exam I (1.3-1.5, 2.1-2.6) | |
| Week 5 | Feb. 13 – 17 | Sections 3.1, 3.2, 3.3 | Graphing Systems of Linear Inequalities Formulating Linear Programming Problems Graphical Solution of Linear Programming Problems (Method of Corners, Leftovers) |
| Week 6 | Feb. 20 – 24 | Sections 6.1, 6.2, 6.3 | Sets and Set Operations Venn Diagrams The Multiplication Principle |
| Week 7 | Feb. 27 – Mar. 2 | Sections 6.3, 6.4, 7.1 | The Multiplication Principle Permutations and Combinations Experiments, Sample Spaces, & Events |
| Week 8 | Mar. 5 – 9 | Review Exam II (3.1-3.3, 6.1-6.4, 7.1) | |
| | Mar. 12 – 16 | SPRING BREAK | |
| Week 9 | Mar. 19 – 23 | Sections 7.2, 7.3, 7.4 | Basic Probability Rules of Probability Use of Counting Techniques in Probability |
| Week 10 | Mar. 26 – 30 | Sections 7.5, 7.6 | Conditional Probability & Tree Diagrams Independent Events Bayes' Theorem |
| Week 11 | Apr. 2 – 6 | Sections 8.1, 8.2, 8.3, 8.4 | Classification of Random Variables Probability Distributions of Random Variables Expected Value, Statistics, & Odds Variance and Standard Deviation The Binomial Distribution |
| Week 12 | Apr. 9 – 13 | Sections 8.4, Review Exam III (7.4-7.6, 8.1-8.4) | The Binomial Distribution |
| Week 13 | Apr. 16 – 20 | Sections 8.5, 8.6, 5.1 | The Normal Distribution Applications of the Normal Distribution Simple & Compound Interest Effective Rates of Interest |
| Week 14 | Apr. 23 – 27 | Sections 5.2, 5.3 Review | Annuities Amortization and Sinking Funds |
| Week 15 | Apr. 30 – May 1 | Tuesday is a "Redefined Friday" No Class on Tuesday | |
| Finals | | Final Exam (Cumulative) | |

In-Class Daily Assignments (ICAs):

At various times throughout the semester, you will be given assignments (that are not homework problems or quizzes) which must be completed before leaving class. **In order to complete the ICAs you will need to have loose-leaf notebook paper and something to write with. Always come to class with these materials.** Many times the ICAs will be due within the first five minutes of class, so it is imperative that you arrive to class prepared and on time each day. Other times the ICAs may be given at the end of class, so it is also imperative that you do not leave class early. None of the grades on these assignments may be dropped unless you are missing a grade due to a verified University excused absence.

Homework Problem Sets:

Graded

Graded homework sets will be primarily online, but may include an occasional written assignment.

Online Homework Problem Sets

- All online homework problem sets will be based in the online system WebAssign. Everything you will need to know about logging into your account is available at <http://www.math.tamu.edu/courses/eHomework/>. Please visit this site for help with technical difficulties, announcements, and more information. I suggest you bookmark this page and visit it before you login to WebAssign each time.
- Be sure to start each assignment well in advance of the due date.
- You should use Mozilla Firefox and have the most updated versions of Java and Flash on the computer you are using to alleviate technical problems.
- If you ever have technical issues with WebAssign, please fill out a **Student Help Request Form** found at <http://www.math.tamu.edu/courses/eHomework/>.
- I will not give extensions or grade adjustments due to technical difficulties at the last minute.

Written Homework

Each collected written homework assignment must contain your NAME, SECTION COLOR, and SEAT # in the top right hand corner of the front page and all subsequent pages must be STAPLED to the first page. All of your work must be shown and it must be neat and legible, with all answers clearly marked. Failure to follow these instructions may result in a grade of zero.

Late Work

Written assignments are due at the beginning of the class period *before* I have started collecting papers. If you arrive after I have started collecting papers, but before I have finished picking them up, then a 20% late penalty will be imposed. Once I have finished collecting papers, no assignments will be accepted. No extensions on online homework problem sets will be granted without a verified University excused absence.

Non-Graded

Math cannot be learned by watching someone else do math; it requires working lots of practice problems. In addition to graded homework, I STRONGLY recommend that you keep a spiral notebook in which you work the problems from the suggested homework list for the textbook found on our course webpage after a topic is covered in class, but *before* trying the graded homework. There are also "Practice" problem sets in WebAssign which are not for a grade, but each will be of help when trying to complete the corresponding graded "Homework" problem set.

It is imperative that you work many different problems in order to help you be fully prepared for quizzes and exams.

Quizzes:

You can expect to be given a mixture of in-class, take-home, announced and unannounced quizzes throughout the semester. Quizzes may be given at any time during class, so make sure you arrive on time to each class and do not leave class early. **You will be expected to show all of your work, including calculator methods, on all problems for full credit, unless it is stated otherwise.**

Exams:

There will be three in-class exams. **You will be expected to show all of your work, including calculator methods, on all problems for full credit, unless it is stated otherwise.**

Final Exam:

The in-class final exam is **COMPREHENSIVE**. The presence of material on the final is roughly proportionate to the amount of time we spend on that material during the semester.

Additional Help & Preparing for Exams:

- *Me*: I am here to help you but I can't help if I don't know there is a problem. I encourage each of you to talk to me, ask questions both in and out of class, come to office hours, send emails, etc. Your best bet for success is active participation!
- *Class Notes*: An outline of notes will be posted before class each day. It will be beneficial to print these out and bring them with you to class. You should review your notes after class, and make sure to get any questions you have about the material in the notes answered, before the next class meeting, if possible. A completed set of notes will NOT be posted after class (with the exception of the first day of classes, concerning the Prerequisite Information material). You should also review your notes when working on homework or when preparing for exams.
- *TAs*: Each of my classes will have a teaching assistant. These teaching assistants will be helping out during my office hours and will be offering additional help at other times. Times and places for these additional hours of help will be posted on our course webpage and will be announced in class, once they are determined.
- *Your Classmates*: Get to know your classmates. Form study groups and work on suggested problems outside of class.
- *Week-in-Review (WIR)*: There are two Week-in-Review sessions conducted by instructors each week. One will be conducted by Dr. Jean-Marie Linhart and the other will be conducted by Dr. Sherry Scarborough. Each review is open to all Math 141 students to review the topics of the previous week and to provide additional examples. The days, times and places of these reviews will be posted on our course webpage and will be announced in class, once they are determined. Additionally, this information can be found at <http://www.math.tamu.edu/courses/weekinreview.html>.
 - The problems Dr. Linhart will be working are located at http://www.math.tamu.edu/~jmlinhart/m141/141S_2012wir.html.
 - The problems Dr. Scarborough will be working are located at <http://www.math.tamu.edu/~scarboro/141spring2012wir.html>.

Additional sets of old Week-in-Review questions with solutions are linked from our course webpage.

- *Practice*: In order to succeed in this course, it is essential that YOU practice extra problems ON YOUR OWN. See the suggested homework list for the textbook and additional problem sets linked from our course webpage. Even if you are not able to attend either WIR, you can still use the provided problems for practice. If you regularly attend a particular WIR, it might be a good idea to work through the problems from the other WIR, on your own, for additional practice.
- *Help Sessions*: Help sessions are an opportunity for you to ask questions and get help with your homework. These sessions are led by students, where you may come and go, as your schedule allows. These reviews will start Sunday, January 22. Once determined, the schedule will be announced in class, posted on our course webpage and additionally posted at <http://www.math.tamu.edu/courses/helpsessions.html>.
- *Video Resources*: In WebAssign, under the Announcements section, there is a link to resource videos for the topics covered in this class.
- *Calculator Help*: Step-by-step written keystroke directions are available for all the calculator functions in the course on our course webpage.

Policies:

You are responsible for checking your TAMU e-mail account and the announcements on our course webpage daily.

Attendance

Attendance is essential in this class. By attendance, I mean arriving to class on time and ready to *actively* participate throughout the entire class time. Attendance will be used in conjunction with your final exam grade as a *consideration* in the case of borderline grades.

Grade Disputes

If you disagree with any deduction taken on an assignment or exam handed back in class, you must bring it to my attention within two working days of it being returned to be re-graded. Due to privacy issues, I cannot discuss grades over email or phone.

Late Work

All assignments due in class are due at the beginning of the class period *before* I have started collecting papers. If you arrive after I have started collecting papers, but before I have finished picking them up, then a 20% late penalty will be imposed. Once I have finished collecting papers, no assignments will be accepted. No extensions on online homework problem sets will be granted without a verified University excused absence.

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 or posted on any website.

Scholastic Dishonesty

- **An Aggie does not lie, cheat, or steal, or tolerate those who do! (You are an Aggie, and so am I! The Aggie Code of Honor will be enforced.)**
- Students are encouraged to study together, unless otherwise directed, but all work intended for a grade must clearly be your work as an individual. All exams and quizzes (whether in class, online, or take-home) are to be taken individually.
- 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 on the Honor Council Rules and Procedures, consult <http://www.tamu.edu/aggiehonor/>.
- Note: It is considered CHEATING to have notes, formulas, or programs in your calculator.

Make-up Policy

No make-ups will be given without written evidence of an official University excused absence. (See *University Student Rules*.) According to Section 7.3 of the *University Student Rules*, for an absence to be considered excused, “the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. 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.” In addition (and also in accordance with *University Student Rules*), a **written** excuse must be presented upon return to class. Specifically, **in the case of illness too severe or contagious to attend class or in the case of injury, students are required to obtain a confirmation note from a health care professional affirming date and time of a medical office visit regarding the illness or injury and confirming the need of the absence (with permission to verify)** before a make-up will be given. The Texas A&M University Explanatory Statement for Absence will NOT be accepted. An absence for a non-acute medical service does not constitute an excused absence. Students with an *official University excused absence* are permitted to make up work only for the dates of the absence.

It is the student’s responsibility to contact me within the proper time period, in order to schedule make-up assignments.

If class is officially cancelled for any reason, you can expect that the assignments due/taken on the missed class day will be due/taken the next time the class meets.

Disability Services

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>.

Classroom Etiquette Policies

Electronic Device Policy: Unless given permission otherwise by me, all electronic devices must be

TURNED OFF AND PUT AWAY WHILE YOU ARE IN THE CLASSROOM!

This means the following...

- You should never have a cell phone out or turned on in the classroom -- before, during, or after class (unless you specifically have been given permission from me before class). If I hear or see your cell phone out in the classroom, I may ask you to leave class. If you are asked to leave the classroom, you will not be allowed to complete any assignments taken for a grade during the remainder of that class.

If I see your cell phone out in the classroom (whether turned on or not) WHILE a grade is being taken (ICA, quiz, or exam), you will receive a ZERO on the assignment and you will be asked to leave the classroom.

- Calculators are allowed to be on during class while being used for math. You should always have your calculator out and ready to use by the time class starts. On exam days, you are not allowed to have your calculator lid out and your calculator memory must be RESET before entering the classroom.
- You are not allowed to have any other electronic device (computer, ipod, etc.) out or turned on while in the classroom (unless you specifically have been given permission from me before class).

Courtesy & Respect: During class I will stay focused on teaching you mathematics, so please stay focused on *learning* the mathematics being taught. This means you should arrive to class on time, you should stay awake throughout class, you should not be reading a newspaper or working with materials from another course, you should refrain from discussion not related to class, and you should not leave class early (unless there is an emergency or you have talked to me before class). If I feel you are being disruptive or disrespectful during class, you may be asked to leave the room.