

Syllabus for Fall 2024

Math 1324.001 – Math for Business and Economics

MW 5:40PM – 7:05PM

Instructor Contact Information

Name: Dijana Armstrong
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Office Location: RBN 4021
Office Hours: MW 3:35-4:05PM and by appointment

Course Description:

Topics include review of basic algebraic concepts, linear equations and inequalities, mathematics of finance, matrices, introduction to linear programming, topics in probability. Credit not given for both MATH 1324 and MATH 1314 or MATH 1332.

Student Learning Outcomes:

By the end of this course, the successful student should be able to:

- Demonstrate knowledge of basic functions (polynomial, exponential, and logarithmic)
- Visually, numerically, and symbolically determine solutions to systems of linear equations and inequalities as well as find the optimal value of a linear function subject to constraints.
- Use the basic principles of logic and counting to create and evaluate simple probabilistic models
- Apply the above to develop and analyze models in business scenarios

Prerequisite: Satisfactory score on SAT, ACT, or THEA.

Text (optional)

College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 14th edition, Prentice Hall by Barnett, Ziegler, and Byleen. Textbook ISBN-13: 9780134674148

Note: Paper book is not required. You will need to purchase MyLab Math access code (instructions are posted on Canvas). Once you purchase the access code you will have access to e-book and online homework. Online homework is required for this class.

Required Material

MyLab Math access code, scientific, non-graphing calculator, access to a computer with fast, reliable internet connection.

Course Weekly Schedule:

Aug. 26 Welcome; 1.1 Linear Equations and Inequalities
Aug. 28 1.2 Graphs and Lines;
Sept. 2 Labor Day Holiday – No Class
Sept. 4 1.3 Linear Regression; 2.1 Functions
Sept. 9 2.2 Elementary Functions: Graphs and Transformations
Sept.11 2.3 Quadratic Functions;
Sept. 16 2.4 Polynomial and Rational Functions
Sept. 18 2.5 Exponential Functions
Sept 23 2.6 Logarithmic Functions
Sept. 25 Test 1

Sept. 30 3.1 Simple Interest

Oct. 2 3.2 Compound and Continuous Interest

Oct. 7 3.3 Future Value of an Annuity: Sinking Funds

Oct. 9 4.1 Systems of Linear Equations in Two Variable

Oct. 14 4.2 Systems of Linear Equations and Augmented Matrices

Oct. 16 4.3 Gauss-Jordan Elimination

Oct. 21 Outside Assignment

Oct. 23 Test 2

Oct. 28 4.4 Matrices: Basic Operations

Oct. 30 4.5 Inverse of a Square Matrix

Nov. 4 4.6 Solving Matrix Equations

Nov. 6 5.1 & 5.2 Linear Inequalities and System of Linear Inequalities in Two Variables

Nov. 11 5.3 Linear Programming in Two Dimensions: A Geometric Approach

Nov.13 8.1 Basics on Probability

Nov.18 Review

Nov. 20 Test 3

Nov. 25-29 **Thanksgiving Holiday**

Dec. 2 Practice and Review

Dec. 4 Review for Final Exam

Dec. 9 – 13 Finals Week

*Dates are subject to change.

Evaluation of Grades

Students will be evaluated on the quality of their work on three major tests, quizzes, online homework and the final exam based on the following scale:

- 3 Tests.....50%
- Quizzes.....15%
- Online homework.....15%
- Final Exam..... 20%
- Total.....100%

Grade scale

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

Make-up policy

Make-up tests and extensions on assignments will only be granted in the case of severe illness, absences that are required as part of a UT Tyler obligation, or for religious observances. Make sure to notify me as soon as possible in the case of a planned absence and provide appropriate documentation.

Homework & Grading

Online homework via MyLab Math is required. Instructions are posted on Canvas. Quizzes will be composed of problems similar to homework. This means that if you keep up with homework, you should do very well on quizzes. Instead of giving make-up quizzes, I will drop one lowest quiz grade. No tests will be dropped. Final exam is comprehensive and is worth 20% of total average.

Calculator

You will need to use a scientific (non-graphing) calculator. Many different types will work well, but the TI-30XS is recommended.

Attendance

Class attendance is very important to your success. I will take roll once at the beginning of each class. If you come in late, notify me at the end of that class – otherwise you will be counted absent.

Cell Phone and Laptop Policy

When it is time for class to begin, please put away your laptop and cell phone out of sight.

Mathematics Learning Center (MLC)

The Department of Mathematics provides a free tutoring service for UT Tyler students taking mathematics courses (Intermediate Algebra through Calculus II) in the Mathematics Learning Center located in RBN 4021. The MLC schedule can be found at <http://math.uttyler.edu/mlc/spring18/labschedule.html>. In the MLC students have access to free tutoring, and access to computers for online homework and Mathematica labs. Upon entering the MLC students are asked for their student ID which will be scanned for attendance and held until the student wishes to be scanned out before leaving the lab. The MLC is a place to do work related to your mathematics courses - it is not a general access lab used for surfing the internet and checking email (this will be monitored by the tutors). The tutors in the MLC are there to help you, but they are not allowed to simply do your problems.

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date (Sept.9th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Last Day to Withdraw from Class

From the First Day of Classes through the Last Day to Withdraw – **Nov.4th**, students must process all withdrawals via the Online Course Drop or Withdrawal Request Form. Drops/withdrawals after Census Date and before the Last Day to withdraw will result in a grade of W or Q. Courses dropped prior to Census Date won't appear on the student's record or transcript.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

Student Absence Due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second-class meeting of the semester.

Student Absence for University-Sponsored Events and Activities Revised 05/19

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:

- copying from another student's test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;
- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;

- paying or offering money or other valuable thing to, or coercing another person to obtain non-administered test, test key, homework solution, or computer program or information about non-administered test, test key, home solution or computer program;
 - falsifying research data, laboratory reports, and/or other academic work offered for credit;
 - taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
 - misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- ii. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.
- iii. "Collusion" includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
- iv. All written work that is submitted will be subject to review by plagiarism software.

Artificial Intelligence

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy. For this course, AI is not permitted at all.

Recording of Class Sessions

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>