**Math 1324 Finite Mathematics Online**



**Course Syllabus: Fall 2024 (December Intersession)**

“Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed.”

**Dr. Leah Reagan**

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| --- | --- | --- | --- | --- | --- | --- |
| **Office Hours** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** |  |  |
| Online | Online | Online | Online |  |  |

*The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.*

**Course Description:**  Finite Mathematics addresses topics of the application of common algebraic functions, including polynomial, exponential, logarithmic, and rational to problems in business, economics, and the social sciences. The applications include mathematics of finance, including simple and compound interest and annuities, systems of linear equations, matrices, linear programming, probability including expected value, and statistics including measures of central tendency, measures of variation, and normal distribution. Three hours credit.

**Prerequisite(s):** 1) TSI Not Complete – Multiple Measures Placement with Corequisite Model

***or*** 2) TSI Complete Status

# **Student Learning Outcomes**:

# 1324.1 Apply elementary functions including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.

# 1324.2 Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.

# 1324.3 Apply basic matrix operations, including linear programming methods, to solve application problems.

# 1324.4 Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.

# 1324.5 Apply matrix skills and probability analyses to model applications to solve real-world problems.

# 1324.6 Apply statistical analyses including measures of center, measures of variation, and the normal distribution to model applications to solve real-world problems.

# **Core Curriculum Purpose and Objectives**:

# Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

# 

# Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

# 

# **Program Student Learning Outcomes**:

# Critical Thinking Skills

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# CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information,

# and 3) evaluate the logic, validity, and relevance of data.

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# Communication Skills

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# CS.1 Students will effectively develop, interpret and express ideas through written communication.

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# Empirical and Quantitative Skills

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# EQS.1 Students will manipulate numerical data or observable facts by organizing and converting

# relevant information into mathematical or empirical form

# 

# EQS.2 Students will analyze numerical data or observable facts by processing information with correct

# calculations, explicit notations, and appropriate technology.

# 

# EQS.3 Students will draw informed conclusions from numerical data or observable facts that are

# accurate, complete, and relevant to the investigation.

# **Evaluation/Grading Policy**:

**Assignments:** This is a four-week online class where students are required to use the MyMathLab online learning tool to complete homework and tests. They must go through Blackboard to get to the MyMathLab. All instructions can be found in the “Start Here” folder in Blackboard.

**Tests/Exams:** Exam information is located below in the Evaluation/Grading Policy. Dates for the exams will be set in MyMathLab. Material covered in each exam is in the course outline below.

**Evaluation/Grading Policy:**

A Midterm and Final exam will contribute 60% to the final grade. Online homework through MyMathLab will count for 40% of the final grade.

|  |  |
| --- | --- |
| Midterm Exam | 30% |
| Homework/Participation Grade | 40% |
| Final Exam | 30% |
| TOTAL | 100% |

Make-up exams will not be given unless the student has coordinated with the instructor at least two days prior to the exam. Late work for whatever reason will incur a penalty unless otherwise indicated by the instructor. Any approved makeup will be in conjunction with the final course examination. If you have any questions or concerns, please contact the instructor.

Grading System

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

**Required Textbook(s)**

ISBN 978-0-13-392229-5    LIAL / FINITE MATHEMATICS & CALCULUS W/APPLICATIONS DIGITAL TEXT W/MYMATHLAB

(MyMathLab ONLY – no binder text, only online digital text).

Students will have automatic access to their digital textbook and MyMathLab on Blackboard.

# **Publisher**: Pearson **ISBN Number**: see above

# **Optional Instructional Materials**: None

# Minimum Technology Requirements:

# Scientific Calculator required. TI-83 or TI-84 is preferred.

NOTE: Both of the versions of the Online Calculators are available for individual purchase by students through our TI Store.  A single license for the TI-84 Online Calculator is $20 per year and the single license for the TI Nspire CX II Online Calculator is $27.50 per year.  Both of the online calculator solutions come with full math functionality.  For a full list of specifications and a comparison chart of the various functionalities for each of the online calculator solutions, please click on the appropriate link below.

* [**TI-84 Plus CE ONLINE Calculator**](https://education.ti.com/en/products/online-calculators/ti-84ce-online-calc)  -   $20.00 per year for an individual license

* [**TI-Nspire CX II ONLINE Calculator**](https://education.ti.com/en/products/online-calculators/ti-nspire-cxii) -  $27.50 per year for an individual license.

The link to the TI Store where students can purchase their individual licenses is found below:

[**TI STORE**](https://epsstore.ti.com/OA_HTML/ibeCCtpSctDspRte.jsp;jsessionid=7d4e8c557cb78ec4f11eafec4f0e53772aa9dbd73fdc14d9580a630bf1fd91c2.e34TbNyLbhiKai0ObhaMbNiOb3v0?section=12057&sitex=10023%3a22372%3aUS&XT=P5UW-NZWF-NVWB-R0FF-RTVK-81AB-HDNM-6UX3&ref_url=http%3a%2f%2feducation.ti.com%2fen%2fproducts%2fonline-calculators%2fti-84ce-online-calc)

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# Below are some technical requirements for using Blackboard that will help your experience in this course.

# You will see the NTCC Tech Support email address and phone number below. Please contact them if you run into any technical problems during the semester. Please let your instructor know you are having difficulties as well.

# If you need further NTCC technical support services, please contact Austin Baker or Mary Lou Pemberton at:

# abaker@ntcc.edu or 903-434-8279; mpemberton@ntcc.edu or 903-434-8270

# Blackboard will work on both a Mac and a PC. (Chrome Books are known to have issues with Blackboard.) It is best to access Blackboard through Fire-Fox or Chrome as your web browser. If you have trouble with any of the activities working properly, you might change your web browser as your first solution. The Default Browser in Windows 10 is Edge. This browser does not do well with Blackboard! If you go to Windows Accessories you will find Internet Explorer still on your computer but is not your default browser. If you have any difficulties navigating with Edge, close it and go to Internet Explorer.

# To use TEAMS you must have access to a computer with high-speed internet, a microphone, a Webcam, and appropriate systems rights to download any necessary software. Please note, the college does not provide this equipment.

# You can download Blackboard Student for your smart phone from the Play store or the App store.

# More information is available for Technology Requirements and Support under the [Student Resources – Technical Support Tab in Blackboard](https://blackboard.ntcc.edu/webapps/portal/execute/tabs/tabAction?tabId=_14_1&tab_tab_group_id=_15_1).

**Required Computer Literacy Skills**: Students should have the ability to navigate through a website, use a chat room, post remarks to a discussion board, and email. They must also be able to navigate Blackboard to access posted materials and MyMathLab assignments.

# **Course Structure and Overview**: This is a four-week online class where students are required to use the MyMathLab online learning tool to complete homework and tests. They must go through Blackboard to get to the MyMathLab. All instructions can be found in the “Start Here” folder in Blackboard.

**Communications**: Students are expected to abide by Netiquette rules when communicating online. See this link for details http://www.albion.com/netiquette/corerules.html.

The college’s official means of communication is via your campus email address. I will use your campus email address, Blackboard, and TEAMs Texting to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

**Institutional/Course Policy**:

Since this is an online class, students must be self-motivated to keep up with the due dates, turn in assignments ON TIME, and take Exams as scheduled. Students need to check their email accounts daily AND log in daily to MyMathLab to make sure they receive all communications from the professor.

No late work will be accepted without prior approval by the instructor. It is the student’s responsibility to

check Blackboard and their NTCC email account for important information/announcements regarding the course. Students should be working on course material via Blackboard and MyMathLab every day. Do not wait until the last minute to complete and submit assignments in case of technology issues.

**Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements**

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it

may be

necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule.  It is the responsibility of the student to monitor NTCC’s website (<http://www.ntcc.edu/>) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid).  Should this be the case, every effort will be made to continue instruction in an alternative delivery format.  Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

# NTCC Academic Honesty/Ethics Statement:

NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

# ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student’s responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website[.](http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=111&pid=1)

**Statement Regarding the Use of Artificial Intelligence (AI) Technology:**

Absent a clear statement from a course instructor, use of or consultation with generative AI shall be treated analogously to assistance from another person (collusion). Generative AI is a subset of AI that utilizes machine learning models to create new, original content, such as images, text, or music, based on patterns and structures learned from existing data (Cornell, Center for Teaching Innovation). Unauthorized use of generative AI tools to complete an assignment or exam is not permitted. Students should acknowledge the use of generative AI and default to disclosing such assistance when in doubt. Individual course instructors may set their own policies regulating the use of generative AI tools in their courses, including allowing or disallowing some or all uses of such tools. Students who are unsure of policies regarding generative AI tools are encouraged to ask their instructors for clarification. (Adapted from the Stanford University Office of Community Standards-- accessed August 31, 2023)

# Family Educational Rights and Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children’s educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered “eligible students.” In essence, a parent has no legal right to obtain information concerning the child’s college records without the written consent of the student. In compliance with FERPA, information classified as “directory information” may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student’s name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

**Tentative Course Timeline (\*note\* instructor reserves the right to make adjustments to this timeline at any point in the term):**

**Course Outline:**

1. Equations, Functions, and Graphs - Week 1
   1. Equations of Lines
   2. Linear Inequalities
   3. Functions and Graphs
   4. Applications of Linear Functions

1. More Functions; The Mathematics of Finance – Week 2
   1. Quadratic Functions with Applications
   2. Exponential Functions with Applications
   3. Logarithmic Functions
   4. Simple Interest and Discount
   5. Compound Interest

1. Systems of Linear Equations - Weeks 2 & 3
   1. Systems of Linear Equations with Applications
   2. Matrix Operations with Applications
   3. Graphing Linear Inequalities in Two Variables
   4. Linear Programming: The Graphical Method with Applications
   5. Maximization

1. Probability Analyses -Week 3
   1. Sets, Venn Diagrams, Experiments, Sample Spaces
   2. Basic Concepts: Rules for Addition, Complements, Odds
   3. Conditional Probability, Independence
   4. Probability Distributions and Expected Value
   5. Multiplication Principle, Permutations, and Combinations

1. Statistics – Week 4
   1. Introduction
   2. Descriptive Statistics
   3. Probability Distributions
   4. Normal Distribution