

**MATH 0404 003 – Foundations of Mathematical Reasoning**

**Course Syllabus:** Fall 2021



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

**Instructor: Kenzie Messer**

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| **Office** **Hours** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Online** |
| 1:00 – 4:30 | 1:00 – 4:30 | 1:00 – 4:30 | 1:00 – 4:30 | 8:00 – 12:00 | Available by email at all hours |

***This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.***

*Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.*

**Course Description:**  MATH 0404 surveys a variety of mathematical topics needed to prepare students for a gateway college-level mathematics course. Topics include: numeracy with an emphasis on estimation and fluency with large numbers; evaluating expressions and formulas; rates, ratios, and proportions; percentages; solving equations; linear models; data interpretations including graphs and tables; verbal, algebraic and graphical representations of functions; exponential models. No college credit.

**Prerequisite(s):** TSI Incomplete Status with Multiple Measures Placement on TSI Placement Chart

**Corequisite(s):** 1) EDUC 1300 2) MATH 0200 if TSI Incomplete Status with Multiple Measures Placement as posted on TSI Placement Chart is required.

# Student Learning Outcomes:

# 0404.1 Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.

# 0404.2 Define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.

# 0404.3 Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.

# 0404.4 Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.

# 0404.5 Use graphs, tables, and technology to analyze, interpret, and compare data sets.

# 0404.6 Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

# 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

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

#  calculations, explicit notations, and appropriate technology.

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# 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/Quizzes\* 20%

Exam 1 20%

Exam 2 20%

Exam 3 20%

Final Exam 20%

Minimum requirements for Final Course Grade:

"A" 90%

"B" 80%

"C" 70%

"D" 60%

"F" Below 60%

The daily grade is an average grade of quizzes and homework assignments. In-class quizzes must be taken according to class schedule. The lowest in-class quiz grade will be dropped. The highest in-class quiz grade will be doubled. Online assignments are graded homework exercises posted on the website MyMath Lab. Homework problems can each be reworked up to three times. The last grade earned for each homework assignment will be posted for the final grade.

# Required Instructional Materials:

# Martin-Gay, Elayn, *Path to Mathematics*, 1st Edition

# Publisher: Pearson Publishing Co. ([www.pearson.com](http://www.pearson.com))

#

# ISBN Number:

# Optional Instructional Materials: None

# Minimum Technology Requirements: Graphing Calculator is required. TI-84, but other models may be approved by the instructor.

**Required Computer Literacy Skills**:

1. Navigating Blackboard to access materials and MyMath Lab Assignments
2. Communicating via email
3. Accessing, Saving, and Reloading Files

# Course Structure and Overview: This is a 16-week face-to-face course where students are required to access graded activities on MyMath Lab via the Blackboard Learning Management System. General participation by all students in discussions involving the topic of discussion is required. Students are required to complete online homework in addition to other assignments as they are assigned. There will be three exams given throughout the semester, in addition to the final exam. It is important that you keep up with course materials and assignments throughout the semester.

# Communications: Emails will be responded to within 34 hours during the week and 48 hours on the weekend.

# The college’s official means of communication is through your NTCC student email. I will use your campus email and Blackboard to communicate with you outside of class. Make sure you download the Outlook application on your cell phone for immediate access to your student emails.

Institutional/Course Policy: No late work will be accepted. It is the student’s responsibility to check Blackboard for important information/announcements regarding the course. Students should be working on course material via Blackboard every week. 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)

# 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):**

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| **Weeks** | **Topics**  | **Assignments** | **Due Dates**(Due by 11:59pm Central Time) |
| Week 1: 8/23/2021 | Introductions/Math Treasure Hunt | Math Treasure Hunt | 8/29/2021 |
| Week 2: 8/30/2021 | Mathematical Symbols and SetsVariable Expressions and Equations | 1.2/1.3 | 9/5/2021 |
| Week 3: 9/6/2021 | Operations on Real NumbersSquare Roots | 1.4 | 9/12/2021 |
| Week 4: 9/13/2021 | Introduction to Problem SolvingPercents and Finance | 2.4/2.5 | 9/19/2021 |
| Week 5: 9/20/2021 | Mathematical Symbols and SetsVariable Expressions and EquationsOperations on Real NumbersSquare RootsIntroduction to Problem SolvingPercents and Finance | Exam 1 | 9/26/2021 |
| Week 6: 9/27/2021 | ProportionsProblem Solving | Appendix D | 10/3/2021 |
| Week 7: 10/4/2021 | Graphing Linear EquationsDetermining and calculating intercepts and slope | 3.1/3.2 | 10/10/2021 |
| Week 8: 10/11/2021 | All Exam 1 topics plus ProportionsProblem SolvingGraphing Linear EquationsDetermining and calculating intercepts and slope  | Exam 2 | 10/17/2021 |

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| --- | --- | --- | --- |
| Week 9: 10/18/2021 | Writing Equations of LinesFunctions: Regression/Domain/Range | 3.3/3.4 | 10/24/2021 |
| Week 10: 10/25/2021 | Negative ExponentsScientific NotationReading and Creating Charts and Graphs | 4.5/R.4 | 10/31/2021 |
| Week 11: 11/1/2021 | Counting Principle of ProbabilityIntroduction to Probability | 7.1/7.4 | 11/7/2021 |
| Week 12: 11/8/2021 | All Exam 1 and 2 topics plusWriting Equations of LinesFunctions: Regression/Domain/RangeNegative ExponentsScientific NotationReading and Creating Charts and GraphsCounting Principle of ProbabilityIntroduction to Probability | Exam 3 | 11/14/2021 |
| Week 13: 11/15/2021 | Measures of Central Tendency: Mean, Median, Mode ... | 8.1 | 11/21/2021 |
| Week 14: 11/22/2021 | Introduction to Statistical Thinking | Blackboard Assignment | 11/28/2021 |
| Week 15: 11/29/2021 |  | Review for Final Exam | 12/5/2021 |
| Week 16:12/6/2021 | All semester topics | Final Exam | 12/9/20215:00 pm |