



NORTHEAST TEXAS  
COMMUNITY COLLEGE

# MATH 1350.88 Mathematics for Teachers I, Online

Course Syllabus: Spring 2020

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

**Instructor: Dr. Leah Reagan**

**Office:** Humanities Bldg. 128B

**Phone:** 903-434-8290

**Email:** [lreagan@ntcc.edu](mailto:lreagan@ntcc.edu) (email or REMIND is the fastest way to reach me)

Office	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Hours	10:30 – 11:00 1:00 – 3:30 3:00 – 4:00	10:30 – 11:00 1:00 - 3:30	10:30 – 11:00 1:00 – 4:00	10:30 – 11:00 12:30 – 1:30		Professor checks email multiple times daily.

*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:** This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. 3 credit hours

**Prerequisite(s):** MATH 1314 with a grade of “C” or better

### Student Learning Outcomes:

**1350.1** Apply problem solving skills to numerical applications.

**1350.2** Perform and model addition, subtraction, multiplication, and division on sets, subsets, and various number sets.

**1350.3** Explore patterns and sequences as inductive and intuitive methods for problem solving.

**1350.4** Apply and use properties of the real number system.

**1350.5** Solve applications using fractions, decimals, percents, ratios, and proportions.

### Evaluations/Grading Policy:

Three major 100 point exams administrations will be given, which will count for 45% of your total grade (worth 15% each). If an exam is missed or failed, the highest possible make-up grade is a 70 (with instructor notification prior to the exam missed). The 2<sup>nd</sup> exam and the Final Exam MUST BE TAKEN IN PERSON IN THE NTCC TESTING CENTER. If you do not live near NTCC, you may take your exam from an approved testing facility that is near you (student is responsible for getting testing site information to me and also for paying any fees the alternate testing facility may charge). The instructor must approve of the testing facility before plans are made.

The average of a series of homework assignments will be worth 20% of the total grade (all homework is on

MyMathLab). All homework due dates are posted on MyMathLab. Homework is due on the due date...no exceptions.

Quizzes (over each chapter) will count for 10% of your overall average.

Two online Projects will count for 10% of your grade (see below for explanation of both).

A comprehensive final examination will contribute 15% to the final grade, and the final must be taken in the testing center of the NTCC campus. If you do not live near NTCC, you may take your exam from a approved testing facility near you (student responsible for getting testing site information to me and also for paying any fees the facility may charge).

**Tests/Exams:**

3 Exams (2 <sup>nd</sup> exam must be taken on campus)	45% (15% each)
Final Exam (must be taken on campus)	15%
Online Assignments (MyMathLab)	20%
Quizzes (MyMathLab)	10%
2 Projects (explained below)	10%
	-----
TOTAL	100%

- "A" 90%
- "B" 80%
- "C" 70%
- "D" 60%
- "F" Below 60%

**Project #1 Description (due date is March 25<sup>th</sup> by midnight):**

Find a children's book that teaches a math lesson. For instance, "The Greedy Triangle" by Marilyn Burns is a cute story about shapes and angles. I created an activity with play-doh to help students apply what the book teaches (they make different shapes out of the play-doh). You will need to do something similar: find a children's book that you like and create a "hands-on" activity to go along with it. You will then need to write this up (step-by-step instructions on your hands-on activity that goes along with your book) and post it in the Discussion Board on Blackboard in a few of weeks, so please start looking now.

NOTE: Your best bet is to find a teacher (can be any grade level) and ask her to recommend a book and activity...she probably has one you can borrow. You can also google this online...I have found many good activities there. Just be sure to give the author credit on the Discussion Board.

\*\*Be sure to look at the Children's BOOK LIST that I put on Blackboard (on the Homepage underneath my picture). There are some WONDERFUL books that teach a math lesson listed there. I have also put a couple of examples on there for you to look at to get some ideas.

**Project #2 Description (due date is April 30<sup>th</sup> by midnight):**

For this project, you will be writing up a complete lesson plan (post on the Discussion Board), and then video yourself teaching that math lesson. You will be posting the video on Blackboard also. I will send more details out about that later, BUT for now you need to start looking for a complete lesson plan either online or from a school teacher (preferably). This lesson plan should be geared toward the age group you want to one day teach, and it should of course be a math lesson. Some examples could be a lesson on telling time, shapes, fractions, decimals, addition, subtraction, multiplication, division, etc. It can be any math topic...but you must have a complete lesson plan for it. This should be longer than the book project. It needs

to actually "teach" a lesson to the students. And, you must have a hands-on activities to go along with your lesson. Kids need to use their tactile/kinesthetic senses when learning, so please make sure your lesson has something for them to "manipulate" during the lesson. Examples of manipulatives are blocks, shapes, dice, toothpicks, bingo chips, rulers, hands on a clock, paper money, coins, etc. (anything they can touch and learn from). Note: no easy counting books...the book needs to be a higher level than that

You will need to video yourself teaching this lesson (talk to the camera as if you were talking to children – actually teach the lesson and demonstrate concepts with manipulatives). The video should be 8 – 10 minutes in length. Below you will find instructions on how to upload the video on Blackboard.

**Steps to complete the Project #2 (video) assignment:**

1. Each student should create an account at <http://www.youtube.com/>.
2. Video the presentation using a webcam or video recorder (using a video recorder will require the student to load the video on their computer).
3. Go to the YouTube account and select UPLOAD VIDEO.
4. Once the video is uploaded from the computer to YouTube, there will be a link that YouTube generates for the video.
5. Copy and paste this link into the Discussion Forum that was created for the assignment in Blackboard.
6. Once it is pasted, all students should be able to click on the link and watch the video.

Before you post your video, please enter the following information for your lesson plan on the Discussion Board in Blackboard:

- 1) Your name
- 2) Title of your lesson
- 3) Objective of your lesson (what it will teach)
- 4) Materials needed for your lesson (anything you or students will use during the lesson)
- 5) Procedure of lesson (list these in steps - list how you would go about teaching the lesson); be as detailed as possible here (leave directions good enough for a substitute teacher to know how to teach your lesson)
- 6) Be sure to list your dependent practice for the lesson - what you will have students do WITH your help or in groups/partners
- 7) List the independent practice - what students will do ALONE to demonstrate that they've learned the lesson
- 8) Closure - how will you close (summarize) your lesson with your students

**Required Instructional Materials:** Long, DeTemple, Millman (2015). Mathematical Reasoning for Elementary Teachers, 7th Edition.

**Publisher:** Pearson, Boston, MA

**ISBN Number:**

978-0-321-91474-3 [LONG/MATHEMATICAL REASONING BINDER TEXT W/MYMATHLAB](#)

Both the loose-leaf textbook and the MyMathLab code will work for BOTH 1350 & 1351. You only have to purchase them once.

**Optional Instructional Materials:** None

**Minimum Technology Requirements:** Students should have a computer at home that is Internet accessible. It is recommended that students have a graphing calculator. The TI-84 is preferred, but other models may be approved by the instructor. You will be using this calculator for both courses.

**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 16 week online course where students are required to access graded activities on MyMathLab via the Blackboard Learning Management System. Students are required to complete online homework in addition to chapter quizzes, and over the course of the semester, two projects, three exams and a final exam. It is very important students keep up with course materials and assignments since this is a very fast-paced, college-level course. Students are expected to watch posted instructional videos, read the course textbook, and complete online assignments located in MyMathLab, by the due dates.

### **Course Outline:**

All problems assigned to each section are located in the Homework tab in MyMathLab. Dates for each section are located in your MyMathLab Calendar at the end of this syllabus.

- 1.1 An Introduction to Problem Solving
- 1.2 Polya's Problem-Solving Principles
- 1.3 More Problem-Solving Strategies
- 1.4 Algebra as a Problem-Solving Strategy
- 1.5 Additional Problem-Solving Strategies
- 1.6 Reasoning Mathematically

#### **QUIZ #1**

- 2.1 Sets and Operations on Sets
- 2.2 Sets, Counting, and the Whole Numbers
- 2.3 Addition and Subtraction of Whole Numbers
- 2.4 Multiplication and Division of Whole Numbers

#### **QUIZ #2 (Chapter 2 only)**

#### **EXAM 1(Chapters 1 & 2 – may be taken at home)**

- 3.2 Algorithms for Adding and Subtracting Whole Numbers
- 3.3 Algorithms for Multiplication and Division of Whole Numbers
- 3.4 Mental Arithmetic and Estimation

#### **QUIZ #3 (Chapter 3 only)**

- 4.1 Divisibility of Natural Numbers
- 4.2 Tests for Divisibility
- 4.3 Greatest Common Divisors and Least Common Multiples

#### **QUIZ #4 (Chapter 4 only)**

#### **EXAM 2 (Chapters 3 & 4) \*\*MUST BE TAKEN IN A TESTING FACILITY(see details above)**

- 5.1 Representation of Integers
- 5.2 Addition and Subtraction of Integers
- 5.3 Multiplication and Division of Integers

#### **QUIZ #5 (Chapter 5 only)**

- 6.1 The Basic Concepts of Fractions and Rational Numbers
- 6.2 Addition and Subtraction of Fractions
- 6.3 Multiplication and Division of Fractions

#### **QUIZ #6 (Chapter 6 only)**

- 7.1 Decimals and Real Numbers
- 7.2 Computations with Decimals
- 7.3 Proportional Reasoning
- 7.4 Percent

#### **QUIZ #7 (Chapter 7 only)**

#### **EXAM 3 (Chapters 5, 6, & 7 – may be taken at home)**

### **COMPREHENSIVE FINAL EXAM (Over all chapters) \*\*MUST BE TAKEN IN TESTING FACILITY**

(see notes above)

**Communications:**

Emails will be responded to within 24 hours. Students are expected to abide by Netiquette rules when communicating online. See this link for details:

<https://coursedesign.colostate.edu/obj/corerulesnet.html>.

The college's official means of communication is via your campus email address. Your instructor will use your campus email, Blackboard, and REMIND texting to communicate with you. You need to check these often throughout the week in case your instructor sends out new information. Also, 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.

**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 population's page on the NTCC website.

**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):**

<u>1</u>	<u>O</u>	<u>ASSIGNMENTS</u>	<u>DUE DATES</u>
		Orientation	01/24/20
<u>2</u>	1	Section 1.1 Homework	01/28/20
<u>3</u>	1	Section 1.2 Homework	01/30/20
<u>4</u>	1	Section 1.3 Homework	02/01/20
<u>5</u>	1	Section 1.4 Homework	02/03/20
<u>6</u>	1	Section 1.5 Homework	02/05/20
<u>7</u>	1	Section 1.6 Homework	02/07/20
<u>8</u>	1	Chapter 1 REVIEW	02/08/20
<u>9</u>	1	Chapter 1 Review Quiz	02/09/20
<u>10</u>	2	Section 2.1 Homework	02/10/20
<u>11</u>	2	Section 2.2 Homework	02/12/20
<u>12</u>	2	Section 2.3 Homework	02/14/20
<u>13</u>	2	Section 2.4 Homework	02/16/20
<u>14</u>	2	Chapter 2 REVIEW homework	02/18/20
<u>15</u>	2	Chapter 2 Review Quiz	02/19/20
<u>16</u>	1, 2	REVIEW for EXAM #1	02/23/20
<u>17</u>	1, 2	<b><u>EXAM #1 (Chapters 1 &amp; 2)</u></b> <b><u>Begins at 8:00 on Feb.23, due by midnight on Feb. 24</u></b>	02/24/20

18	3	Section 3.2 Homework	02/26/20
19	3	Section 3.3 Homework	02/29/20
20	3	Section 3.4 Homework	03/02/20
21	3	Chapter 3 REVIEW homework	03/04/20
22	3	Chapter 3 Review Quiz	03/05/20
23	4	Section 4.1 Homework	03/15/20
24	4	Section 4.2 Homework	03/18/20
25	4	Section 4.3 Homework	03/20/20
26	4	Chapter 4 REVIEW homework	03/22/20
27	4	Chapter 4 Review Quiz	03/23/20
28	0-7	<b><u>Project #1 - Lesson Plan due March 25 (Offline)</u></b>	
29	5	Section 5.1 Homework	03/28/20
30	5	Section 5.2 Homework	03/31/20
31	5	Section 5.3 Homework	04/02/20
32	5	Chapter 5 REVIEW Homework	04/04/20
33	5	Chapter 5 Review Quiz	04/05/20
34	3-5	Review for EXAM #2 (over Chapters 3 ,4, 5)	04/07/20
35	3-5	<b><u>EXAM #2 - Chapters 3, 4, &amp; 5 (must take in Testing Center) Begins at 8:00 am on April 7; due by 6:00 pm on April 8</u></b>	04/08/20 6:00pm
36	6	Section 6.1 Homework	04/13/20
37	6	Section 6.2 Homework	04/15/20
38	6	Section 6.3 Homework	04/18/20

39	6	Section 6.4 Homework	04/20/20
40	6	Chapter 6 REVIEW homework	04/22/20
41	6	Chapter 6 Review Quiz	04/23/20
42	7	Section 7.1 Homework	04/25/20
43	7	Section 7.2 Homework	04/27/20
44	7	Section 7.3 Homework	04/28/20
45	0-7	<b><u>Project #2 - Video due April 30 (Offline)</u></b>	
46	7	Section 7.4 Homework	05/02/20
47	7	Chapter 7 REVIEW homework	05/03/20
48	7	Chapter 7 Review Quiz	05/04/20
49	6, 7	REVIEW for EXAM #3 (Chapters 6 & 7)	05/07/20
50	6, 7	<b><u>EXAM #3 - Chapters 6 &amp; 7</u></b> <b><u>Begins at 8:00 am on May 7; due by midnight May 8</u></b>	05/08/20
51	1-7	REVIEW for FINAL Exam (Chapters 1 - 7)	05/13/20
52	1-7	<b><u>FINAL EXAM!!! Must be taken at a testing facility</u></b> <b><u>Begins at 8:00 am on May 13; due by 6:00 pm May 14</u></b>	05/14/20 6:00pm