

Fundamentals of Mathematics I – MATH 1350.151

1. Read the entire syllabus very carefully! When you are finished reading, scroll back to this page and reread # 1 – 5.
2. Open the Assignment List/Course Schedule document located in Blackboard under Getting Started as well as under Course Information. Read the Assignment List!
3. Print the Assignment List/Course Schedule, and put it in a place where you can refer to it often.
4. Send me a message through Blackboard in which you state the following: “I read the entire syllabus, and I accept all of its requirements. I printed the Assignment List.” Type your name at the bottom of the message. Send it to me by Thursday, August 30, 11:00 am. This message will count as your first homework grade. If it is late, I will deduct 10 points per day.
5. Register for MyMathLab at <http://pearsonmylabandmastering.com>. Click *Get Registered* in the *Students* box or click *Student* under *Register*. You will need the course ID which is **thompson07579**. MML allows for a two-week free trial that you may use if you have not yet purchased it.

South Plains College
Department of Mathematics and Engineering
MATH FOR TEACHERS I: 1350.002
Fall 2018 Course Syllabus

Instructor: Kaylan K Thompson

Office: M111

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Email: kthompson@southplainscollege.edu (Once class begins, all email should be sent within Blackboard)

Office Hours: As listed or by appointment.

Monday	Tuesday	Wednesday	Thursday	Friday
9:00-10:00	1:00-2:30	9:00-10:00	1:00-2:30	9:00-12:00

Course Description: This course is designed to provide the prospective elementary/junior high school teacher with some background in elementary analysis. This course is a requirement for the Associate of Arts in Teaching (AAT) degree. Pre-requisite: MATH 1314.

How this course is conducted: This is an online course meaning you will access course information and respond to me and/or other students through the use of the Internet. Blackboard and MyMathLab will be used to deliver and manage this course.

Course Objectives: To successfully complete this course, you must master 70% of the following objectives:

- Analyze numerical and geometric patterns and express them mathematically in words or in symbols.
- Use problem solving strategies and algebraic thinking.
- Use set notation and Venn diagrams.
- Define, add, subtract, multiply, and divide whole numbers, integers, rational numbers, decimals, and real numbers.
- Identify functions, evaluate functions, and write functions in algebraic notation.
- Convert numerals in the Hindu-Arabic numeration system into the Roman numeration system and other number base systems and vice versa.
- Determine if a number is prime or composite.
- Determine the greatest common divisor and least common multiple of a set of numbers.
- Solve proportions.
- Convert decimals and fractions into percent and percent into decimals and fractions.

Core Objectives:

Communication Skills:

- Develop, interpret, and express ideas through written, oral, and visual communication

Critical Thinking:

- Generate and communicate ideas by combining, changing, and reapplying existing information
- Gather and assess information relevant to a question
- Analyze, evaluate, and synthesize information

Empirical and Quantitative Competency Skills:

- Manipulate and analyze numerical data and observable facts, and arrive at an informed conclusion

Textbook & Materials:

Required Materials: MyMathLab Student Access Kit: This kit is free with the purchase of a new textbook at either SPC bookstore or you may also purchase it online at pearsonmylabandmastering.com in which you will need a credit card or PayPal. I encourage you to purchase this kit immediately. Whether you purchase MyMathLab at a bookstore or online, you will need to go to pearsonmylabandmastering.com and click on “Get Registered” in the students box. If you have not yet purchased the access code, that opportunity should be provided as you go through the registration process. You will need the course ID **thompson07579**.

Optional Materials: Textbook: [A Problem Solving Approach to Mathematics for Elementary School Teachers](#), Twelfth Edition, by Billstein, Libeskind, & Lott. The textbook is available in multimedia e-form as a part of MyMathLab. If you prefer to own a hard copy, you must purchase a textbook **and** the MyMathLab Student Access Kit. If you purchase a new textbook, the student access kit is free.

Technical Support

I will be glad to help you with MyMathLab (MML) and Blackboard when I can, but please contact the following for any login or technical issues:

Blackboard: Student support is available by emailing blackboard@southplainscollege.edu or calling 716-2180. When emailing a request for help, include your full name, course(s) enrolled in, name of instructor(s) and a phone number where you can be reached. There are also Blackboard video tutorials available at <http://ondemand.blackboard.com/students.htm>. You can also get to these videos by logging into Blackboard and clicking the My Blackboard tab.

MyMathLab: <http://pearsonmylabandmastering.com/students/support>
You can email or chat online. The chat online is the fastest way to reach them. The home page for MyMathLab is <http://pearsonmylabandmastering.com>. On this page, you will see a box titled Students. In this box, you will find links for “Getting Registered” and “Support”.

Calculators: You may use a scientific or graphing calculator.

Software Requirements:

Microsoft Word 2007 or 2010 or 2013 or 2016
Adobe Acrobat Reader

MyMathLab System Requirements: Please follow the link to see the system requirements for MyMathLab.
<http://www.pearsonmylabandmastering.com/northamerica/mymathlab/system-requirements/>

Class Policies

Logging Into Your Course: Under no circumstances are you allowed to give your User ID and/or passwords to anyone (for either Blackboard or MyMathLab). If someone other than you logs into this course, I will withdraw you from the course with an F, regardless of the reason. If you are taking this course with a roommate, sibling, spouse, or significant other, you must inform me of this immediately. Failure to disclose this information could result in your being withdrawn from this course with an X or F.

Attendance Policy: Attendance is monitored through the completion of assignments. Whenever you have 6 missed assignments, the instructor may withdraw you from the course with a grade of X or F. Just logging in does not keep you compliant. You must be turning in work!

Academic Integrity: It is the aim of South Plains College to foster a spirit of complete honesty and a high standard of integrity. Please refer to the SPC General Catalog policy under “Academic Integrity” and “Student Conduct” regarding consequences for cheating and plagiarism. This is an online environment, and others will see your responses to discussion posts. Do not post any pictures or data that others may find offensive. You are expected to work alone on all tests and quizzes. You may use your textbook and notes for assistance. If you choose to cheat on any test, you will be withdrawn immediately from this class with a grade of F. Whether you copy someone else’s work or you allow someone to copy your work is immaterial. Cheating of any type is not tolerated.

Computer Issues: If your personal computer becomes “disabled”, there are computer labs on the Levelland and Reese campuses, which you may use to access this course. Please remember that it is your responsibility to have a backup plan in place in case your computer goes down. Do not wait until it is a crisis situation! Computer problems, mechanical failures, Internet service issues, etc. do not constitute excuses for late submission of work. Deadlines will NOT be altered. This means that you should not wait until the last minute to work on assignments! All assignments are due at 11:00 am. I suggest that you try to turn in assignments the night before the due date, so that if you have technical issues, you will have time to deal with those issues and still get your assignments in on time. If the SPC server is down, you may access MyMathLab directly at <http://pearsonmylabandmastering.com>.

Netiquette: No profanity under any circumstances! Respect and courtesy is required at all times. Even though we are not meeting face to face, I still expect formal/polite classroom decorum, as do your classmates. Students who decide to insult, embarrass, intimidate, or coerce other students or me will be dropped from this course immediately.

Withdrawal: If you are administratively withdrawn from this class, you will receive an F or X at my discretion. If you wish to withdraw from the course for any reason, you must contact the admissions office. If you live in Lubbock or Levelland, you will need to go to the admissions office (Levelland or Reese Campus) to drop the class. If you do **not** live in Lubbock or Levelland, contact the Registrar’s Office (806-716-2371) for further instructions. Please send me an email telling me you are withdrawing and why. If you drop this class, a W does not become effective until you complete the required steps with the admission’s office. Until I receive official notification of your withdrawal, you are still on my class roll and are subject to being dropped with an F.

Communication: All email should be sent through Blackboard. From Monday through Thursday, I will respond to your email within 24 hours. If you email me after 12 noon on Friday, you may not hear from me until after 9 am Monday morning, so do not wait until it is an emergency to email me. I do not guarantee a response to email during SPC scheduled school holidays.

Grading Policy:	Lesson Plan	5%
	Homework Average	10%
	Quiz Average	10%
	Unit Exam Average (4 tests)	60%
	Final Exam	15%

Grading Scale:	A: 90 and above	D: 60 – 69
	B: 80 – 89	F: 59 or below
	C: 70 – 79	

You may access your grades at any time during the course on MyMathLab by clicking on Gradebook. If you have an assignment that says past due, that assignment has not been included in calculating the overall average. Once I submit a zero for the assignment, then it will be included in the average. I will keep all your grades for this course in

the MyMathLab gradebook. I will not be using the Blackboard gradebook. Here is the formula for calculating your course average: $(Lesson\ Plan * .05) + (HW\ Avg * .10) + (Quiz\ Avg * .10) + (Test\ Avg * .60) + (Final * .15)$

Work hard throughout the semester! I do not curve test grades for any reason. I also do not allow any one student to be a special case. Do not ask for extra points or for me to bump up your grade at the end of the course. You must *earn* all points that you receive.

All assignments completed in MML will be graded instantly as they are submitted. For assignments outside of MML, grades and feedback on work from the instructor will be provided within one week after the assignment's due date. These grades will be recorded in the MML gradebook.

Important Dates:

- September 3: Labor Day Holiday
- October 12: Fall Break (no office hours)
- November 15: Last day to drop
- November 21-23: Thanksgiving Holiday

Course Content and Unit Learning Outcomes: On the home page for this course in Blackboard, you will find a list of links in the left column. The Units link contains the course content. For each unit, you will find three lists: unit learning outcomes, course materials, and assessments. Notes, lecture videos and assignments are found in the unit folders in Blackboard. The textbook, PowerPoints, and additional video lectures are located in MyMathLab by clicking the Multimedia Library link.

Unit 1: Problem Solving and Patterns (Chapter 1) & Sets (Chapter 2)

The student will be able to:

1. Apply the Four-Step Problem-Solving Process to solve various types of problems. (1-1)
2. Select an appropriate strategy for a given problem and evaluate the reasonableness of a solution. (1-1)
3. Identify and extend arithmetic sequences, geometric sequences, and the Fibonacci sequence; extend patterns of figures. (1-2)
4. Use differences in a sequence to find a pattern. (1-2)
5. Find terms of a sequence whose n th term is given as an algebraic expression. (1-2)
6. Create an equation to determine the number of terms in a finite sequence. (1-2)
7. Use the appropriate formulas to create equations for arithmetic and geometric sequences. (1-2)
8. Write sets using the listing method and set-builder notation. (2-2)
9. Identify equal sets, equivalent sets, finite sets, and infinite sets. (2-2)
10. Find the cardinal number of a set. (2-2)
11. Use Venn diagrams to display the universal set and the complement of a set. (2-2)
12. Define the empty set. (2-2)
13. Identify subsets and proper subsets, and know the symbols used for these. (2-2)
14. Use Venn diagrams to illustrate set intersection, set union, and set difference. (2-3)
15. Use Venn diagrams as a problem-solving tool. (2-3)

Unit 2: Numeration Systems and Whole Numbers (Chapters 3) & Number Theory (Chapter 4)

The student will be able to:

1. Write a number in expanded form. (3-1)
2. Convert numbers between our base 10 system and the Roman number system. Convert numbers between our base 10 system and other bases. (3-1)
3. List the counting numbers in systems with other bases. (3-1)
4. Identify the place value of a digit in a base 10 number. (3-1)
5. Use blocks to model numbers in base 10 and other bases. (3-1)

6. Define the sets of natural numbers, whole numbers, and integers. (3-2, 5-1)
7. Describe different models for the four arithmetic operations on whole numbers and integers. (3-2, 3-3, 3-4, 3-5)
8. Explain and identify the properties of the four arithmetic operations on whole numbers and integers. (3-2, 3-3, 3-4, 3-5)
9. Relate multiplication and division as inverse operations. (3-3)
10. Apply the order of operations. (3-3)
11. Investigate strategies for mental arithmetic. (3-4, 3-5)
12. Investigate strategies for estimating answers to arithmetic problems. (3-4, 3-5)
13. Understand the difference between factor (divisor) and multiple. (4-1)
14. Explain the divisibility rules for 2, 3, 4, 5, 6, 8, 9, and 10. (4-1)
15. Determine whether a whole number is prime or composite. (4-2)
16. Write the prime factorization of a whole number. (4-2)
17. Understand the Fundamental Theorem of Arithmetic. (4-2)
18. Determine the number of divisors of a whole number. (4-2)
19. Find the greatest common divisor (GCD) of two or three whole numbers using multiple methods. (4-3)
20. Find the least common multiple (LCM) of two or three whole numbers using multiple methods. (4-3)

Unit 3: Integers (Chapter 5) & Rational Numbers and Proportional Reasoning (Chapter 6)

The student will be able to:

1. Describe different models for the four arithmetic operations on whole numbers and integers. (5-1, 5-2)
2. Explain and identify the properties of the four arithmetic operations on whole numbers and integers. (5-1, 5-2)
3. Apply the order of operations. (5-2)
4. Define absolute value. (5-1)
1. Define the set of rational numbers. (6-1)
2. Determine if a rational number is proper or improper. (6-1)
3. Simplify a rational number. (6-1)
4. Determine if two rational numbers are equivalent. (6-1)
5. Create equivalent fractions. (6-1)
6. Model rational numbers. (6-1)
7. Discuss the denseness of the rational numbers. (6-1)
8. Arrange a set of rational numbers in order. (6-1)
9. Find a fraction in between two other fractions using more than one method. (6-1)
10. Perform and explain the four arithmetic operations on rational numbers. (6-2, 6-3)
11. Describe different models for the four arithmetic operations on rational numbers. (6-2, 6-3)
12. Convert between mixed numbers and improper fractions. (6-2)
13. Investigate strategies for estimating answers to arithmetic problems involving rational numbers. (6-2, 6-3)
14. Define exponents and use the properties of exponents. (6-3)
15. Define ratio and proportion. (6-4)
16. Use proportions to solve various application problems. (6-4)

Unit 4: Decimals and Percents (Chapter 7) & Irrational Numbers, Real Numbers, and Algebraic Thinking (Chapter 8)

The student will be able to:

1. Understand the connection between decimals and fractions. (7-1)

2. Write a decimal in words. (7-1)
3. Write a decimal in expanded form with place values. (7-1)
4. Write a decimal as a rational number and vice versa. (7-1)
5. Perform and explain the four arithmetic operations with decimals. (7-2)
6. Express numbers in scientific notation. (7-2)
7. Round a decimal to the nearest given place value. (7-2)
8. Classify decimals as either repeating, terminating, or non-terminating. (7-1, 7-3)
9. Write a repeating decimal as a rational number. (7-3)
10. Define percent as a ratio. (7-4)
11. Write a decimal as a percent and vice versa. (7-4)
12. Write a fraction or mixed number as a percent and vice versa. (7-4)
13. Use percents to solve application problems. (7-4)
14. Investigate strategies for mental arithmetic with percents. (7-4)
15. Define the sets of irrational numbers and real numbers. (8-1)
16. Define and simplify square roots. (8-1)
17. Use the Pythagorean Theorem. (8-1)
18. Classify a number as natural, whole, integer, rational, irrational, or real. (8-1)
19. Arrange a set of real numbers in order. (8-1)
20. Define a variable. (8-2)
21. Translate statements into mathematical expressions or equations using variables. (8-2)
22. Discover and write equations for algebraic patterns. (8-2)
23. Use properties of equality to solve equations. (8-3)
24. Define function. (8-4)
25. Determine if a relation is a function. (8-4)
26. Determine the domain and range of a function. (8-4)
27. Represent a function as a rule, machine, equation, arrow diagram, table, set of ordered pairs, and a graph. (8-4)

Teacher Preparation

The student will be able to:

1. Be aware that in Texas, public school teachers are required to teach certain objectives called Texas Essential Knowledge and Skills (TEKS).
2. Write a detailed lesson plan for a K – 8 math class.

Assignments

Most assignments will be completed in MyMathLab (MML), but a few will be located in Blackboard. Please be aware of deadlines because once deadlines have passed, you will no longer have access to those assignments. You may turn your work in early if you wish. Each test, including the final, will open one week prior to its deadline. Deadlines will not be changed for any reason!

Homework: There will be 26 homework assignments in MML. These homework assignments will include some media problems in which you might have to view videos and PowerPoints or participate in animations or eManipulatives. As long as you complete these media problems, you will receive credit for them. They should be very helpful for learning the material in that section. Homework problems given in MML may be reworked as many times as you wish, before the deadline, to get a 100 on the assignment. I encourage you to take advantage of this opportunity. After watching the videos, if you are still not sure how to work the problems, use the tab that says “Question Help” and click on “Help Me Solve This” or “View an Example”. There will also be a few worksheets that

will count as homework grades. These are located in Blackboard within the Units folders. These will require that you print the assignment, work them out, scan your work, and email it back to me.

Discussions: There will be 3 discussion topics throughout the semester that are located in Blackboard and will count as homework grades. You can get to these from the Discussions link or from the Units folders. You will have to make one new post, including all the required information, and at least one reply for each discussion. As long as you do so, you will receive a 100.

Quizzes: Quizzes will be given in MML. You may submit quizzes two times, and the highest of the two grades will be counted. When you open a quiz, you will have 80 minutes to complete it unless you open a quiz less than 80 minutes before the deadline. For example, if you open a quiz 10 minutes before the deadline, then you only have 10 minutes to complete the quiz. You may use your textbook, homework, and notes. You will be allowed to review quizzes immediately after submitting them.

Tests:

MML Tests: Unit 1, unit 3, and unit 4 tests will be given in MML and may be submitted only once. To access a test, login to **MyMathLab**, click the link for our course, and choose **Quizzes & Tests**. A link to the test will be found at the top of the page under All Quizzes and Tests, **not** under the heading Sample Tests and Quizzes. Tests are password protected. Each test will have a different password that I will e-mail to you in **Blackboard** the day before the test is released. Those tests will open one week prior to their due dates. When you open a test, you will have **two** hours to complete it unless you open an exam less than two hours before the deadline. You may use a hard copy of the textbook, problems that you have written down from homework or quizzes, and notes, but you will not be able to access assignments or the book in MyMathLab during the test. If you click outside of the test, you will be locked out. You will be allowed to review tests immediately after submitting them.

You may not need all the time, but you will want to schedule the full amount of time just in case you do need it. The tests are not printable. You must remain connected to the Internet and logged into **MyMathLab** for the duration of each test. Change the sleep settings on your computer while testing. Do not allow your computer to go to sleep or hibernate during a test.

It is critical that you use a reliable computer with a trustworthy Internet connection to take tests. You should reboot your computer before beginning a test. All other applications should be closed as you complete a test. If your computer is "glitchy," do not use it to take tests. If your Internet connection is "spotty," do not use it to take tests. Make plans to use a computer in one of the SPC labs if you do not trust either your computer or Internet connection.

If you are disconnected from your computer or bumped out of a test due to Internet outage, computer malfunction, or program interruption, you will be locked out of your test until I re-enable your test access. I am the only person who can restart your test. Do not contact Pearson. If this occurs, immediately login to **Blackboard** and send me an e-mail telling me the details of your situation.

Paper Tests: **Unit 2 test** and the **final exam** will be paper exams. There will be a 2 day window in which you will be able to take these exams. Details on dates and locations are located on the course schedule. You may use both sides of one 4x6" notecard during the exam filled with any information that you feel is helpful as well as a scientific calculator.

Lesson Plan: The specific instructions for the lesson plan will be posted in Blackboard in the Lesson Plan Project folder. You will write a detailed lesson plan, which covers objectives from the math Texas Essential Knowledge and Skills (TEKS) for a K – 8 class.

Final Exam: The final exam is comprehensive. It will cover all the sections for which homework was assigned. There are no exemptions from the final exam. Your grade for the course will be posted on CampusConnect after all students have completed the final.

Notes: In each unit on blackboard, you will find a set of blank notes for each section covered. There will also be a screencast posted of me teaching each section problem in detail. It is your job to print each set of notes and fill them out by watching the screencast. At the end of each unit, you will have the opportunity to scan and email me your filled out notes for a free 100% homework grade.

Suggestion for Learning the Material in this Course:

1. Look at the Assignment List/Course Schedule to see what section is covered on the homework. For example, you will see that Homework 1 covers section 1-1.
2. Click the Units link in Blackboard and look under Unit 1.
3. Print the notes for section 1-1. Watch the video for section 1-1 and fill out the notes.
4. Read the recommended pages out of the textbook for this section.
5. Attempt the MML Homework 1 assignment. If you have trouble, you may use the "Question Help" option available for each MML homework problem. Remember, you can attempt the homework problems as many times as you would like in order to get this grade to 100%.
6. If there are other assignments related to the 1-1 learning outcomes, complete those assignments.
7. Move to the section listed under Homework 2 and repeat this process.
8. When it comes time for quizzes or tests, you may study the homework by clicking on the assignments in the MML gradebook.

Religious Holy Days: In accordance with Section 51.911, Texas Education Code, South Plains College will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within seven (7) calendar days after the absence. Students are required to file a written notification of absence with each instructor within the first fifteen (15) days of the semester in which the absence will occur. Forms for this purpose are available in the Student Services Office along with instructions and procedures. "Religious holy days" means a holy day observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code. (copied from current South Plains College catalog)

Equal Opportunity: South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability, or age.

Disability Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland Student Health & Wellness Center 806-716-2577, Reese Center (also covers ATC) Building 8: 806-716-4675, Plainview Center Main Office.

Sexual Misconduct Statement: As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help.

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lclevinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

Campus Concealed Carry syllabus statement: Campus Concealed Carry - Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at: (http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php) Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

Now scroll back to the top and reread # 1 – 5!