South Plains College
Mathematics Department
TSI Boot Camp (MATH0000)
Course Syllabus
Fall 2022

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Course Description: MATH 0000 is an intensive, self-paced, and personalized course that will help students understand the various objectives tested on the TSI exam. Students are required to schedule and take the math portion of the TSI to complete the course. This course carries no credit and does not satisfy graduation requirements.

Learning Outcomes
Upon successful completion of this course, the student will:
1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
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.
3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real-world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular forms to solve problems from a variety of contexts and to make predictions and decisions.
7. Use algebra skills to solve equations involving factoring and inequalities.

Textbook: No textbook is required for this course. However, the instructor may recommend a textbook for additional study.

Attendance: The student will be required to *schedule an appointment and meet with the instructor at least **once per week** for the duration of this course*. Failure to communicate and meet at least once per week with the instructor will result in the student being dropped from the course or earning an F for the course.

Grading: This course will be graded on a pass/fail basis. Once the student has completed the course with at least 95% mastery by *Wednesday, 14 December 2022, at 15:00 (3:00 pm)* **and** *submitted proof of a scheduled or completed TSIA exam to the instructor*, the student will have earned a grade of P, indicating "passing" for the course. If the student does not achieve a 95% level of mastery **or** submit proof of a scheduled or completed TSIA exam to the instructor, the student will have earned a grade of F and will be required to complete the course again.

Supplies: Access to a computer with an internet connection is required for this course.

Accessing the Course Diagnostic and Learning Modules:
    Creating an Account:
1. Log in to your Blackboard course and use the EdReady Link to access the program.
2. Choose the "Enter a key to add goals" option (upper right of page). Your key for this course is **HPFA2022TSIBootCamp**.

    Taking the Initial Diagnostic Test:
- After creating the account, you will need to take the initial diagnostic test.
- Please allow at least one hour for this test. However, if you need more time or need to step away, there is an option to save and exit. It is recommended that you do your best as this determines your Study Plan.

    Studying & Improving your Score in EdReady:
- After taking the Initial Diagnostic Test, click on View Study Plan on the lower left of the chart.
- Choose the *LEARN* icon to study the recommended topics. You can read notes, watch videos, and work practice problems to help you understand the topics.
- Once you have studied the topic, then you can retest over the topic, or the unit as a whole, in order to improve your EdReady score.

Disability: 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 Office) 806-716-2577, Reese Center (Building 8) & Lubbock Center 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College -1401 College Avenue, Box 5, Levelland, TX 79336, 806-894-9611.

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.

Date	Topic
	Introduction on Blackboard and take *Initial Diagnostic on EdReady*
	#1 Whole Numbers Unit
	Exponents, Square Roots, and the Order of Operations Lesson
	Understanding Exponents and Square Roots
	Order of Operations
	#2 Fractions and Mixed Numbers Unit
	Introduction to Fractions and Mixed Numbers Lesson
	Introduction to Fractions and Mixed Numbers
	Proper and Improper Fractions
	Factors and Primes
	Simplifying Fractions
	Comparing Fractions
Week 1	**Multiplying and Dividing Fractions and Mixed Numbers Lesson**
(29 Aug – 3 Sep)	Multiplying Fractions and Mixed Numbers
	Dividing Fractions and Mixed Numbers
	Adding and Subtracting Fractions and Mixed Numbers Lesson
	Adding Fractions and Mixed Numbers
	Subtracting Fractions and Mixed Numbers
	#3 Decimals
	Introduction to Decimals Lesson
	Decimals and Fractions
	Decimal Operations Lesson
	Multiplying and Dividing Decimals
	#4 Real Numbers Unit
	Introduction to Real Numbers Lesson
	Variables and Expressions
	Integers
	Rational and Real Numbers
Week 2	**Operations with Real Numbers Lesson**
(4 Sep – 10 Sep)	Adding Integers
	Adding Real Numbers
	Subtracting Real Numbers
	Multiplying and Dividing Real Numbers
	Properties of Real Numbers Lesson
	Associative, Commutative, and Distributive Properties
	Simplifying Expressions
	Order of Operations
	#5 Ratios, Rates, and Proportions Unit
	Ratio and Rates Lesson
	Simplifying Ratios and Rates
	Proportions Lesson
Week 3	Understanding Proportions
(11 Sep – 17 Sep)	**#6 Percents Unit**
	Introduction to Percents Lesson
	Convert Percents, Decimals, and Fractions
	Solving Percent Problems Lesson
	Solving Percent Problems
	#7 Measurement Unit
	United States Customary Units of Measurement Lesson
	Length
	Weight
	Capacity
Week 4	**Metric Units of Measurement Lesson**
(18 Sep – 24 Sep)	The Metric System
	Converting within the Metric System
	Using Metric Conversions to Solve Problems
	Temperature Lesson
	Temperature Scales

	#8 Geometry Unit
	Basic Geometric Concepts and Figures Lesson
	Figures in 1 and 2 Dimensions
	Properties of Angles
	Triangles
Week 5	The Pythagorean Theorem
(25 Sep – 1 Oct)	**Perimeter, Circumference, and Area Lesson**
	Quadrilaterals
	Perimeter and Area
	Circles
	Volume of Geometric Solids Lesson
	Solids
	#9 Concepts in Statistics Unit
	Statistical Graphs and Tables Lesson
	Graphing Data
	Other Types of Graphs
Week 6	**Measures of Center Lesson**
(2 Oct – 8 Oct)	Measures of Center
	Graphical Representations Lesson
	Use and Misuse of Graphical Representations
	Probability Lesson
	Probability
	#10 Solving Equations and Inequalities Unit
	Solving Equations Lesson
	Solving One-Step Equations Using Properties of Equality
	Solving Multi-Step Equations
	Special Cases and Applications
	Formulas
Week 7	**Solving Inequalities Lesson**
(9 Oct – 15 Oct)	Solving One-Step Inequalities
	Multi-Step Inequalities
	Compound Inequalities and Absolute Value Lesson
	Compound Inequalities
	Equations and Inequalities and Absolute Value
	#11 Exponents and Polynomials Unit
	Integer Exponents Lesson
	Exponential Notation
	Simplify by Using the Product, Quotient, and Power Rules
	Products and Quotients Raised to Powers
	Scientific Notation
	Polynomials with Single Variables Lesson
	Introduction to Single Variable Polynomials
Week 8	Adding and Subtracting Polynomials
(16 Oct – 22 Oct)	Multiplying Polynomials
	Multiplying Special Cases
	Dividing by a Monomial
	Dividing by Binomials and Polynomials
	Polynomial s with Several Variables Lesson
	Simplifying and Evaluating Polynomials with More than One Term
	Operations with Polynomials
	#12 Factoring Unit
	Introduction to Factoring Lesson
	Greatest Common Factor
	Factoring Polynomials Lesson
Week 9	Factoring Trinomials
(23 Oct – 29 Oct)	Factoring: Special Cases
	Special Cases: Cubes
	Solving Quadratic Equations by Factoring
	Solve Quadratic Equations by Factoring

Week 10 **(30 Oct – 5 Nov)**	**#13 Graphing Unit**
	Graphs and Applications Lesson
	The Coordinate Plane
	Graphing Linear Equations
	Slope and Writing the Equation of a Line
	Finding the Slope of a Line
	Writing the Equation of a Line
	Parallel and Perpendicular Lines
	Graphing Linear Inequalities
Week 11 **(6 Nov – 12 Nov)**	**#14 Systems of Equations and Inequalities Unit**
	Graphing Systems of Equations and Inequalities Lesson
	Graphing Systems of Linear Equations
	Graphing Systems of Inequalities
	Algebraic Methods to Solve Systems of Equations Lesson
	The Substitution Method
	The Elimination Method
	Systems of Equations in Three or More Variables Lesson
	Solving Systems of Three Variables
Week 12 **(13 Nov – 19 Nov)**	**#15 Rational Expressions Unit**
	Operations with Rational Expressions Lesson
	Introduction to Rational Expressions
	Multiplying and Dividing Rational Expressions
	Adding and Subtracting Rational Expressions
	Complex Rational Expressions
	Rational Equations Lesson
	Solving Rational Equations and Applications
	Formulas and Variation Lesson
	Rational Formulas and Variation
Week 13 **(20 Nov – 26 Nov)**	**#16 Radical Expressions and Quadratic Equations Unit**
	Introduction to Roots and Rational Exponents Lesson
	Roots
	Squares, Cubes, and Beyond
	Rational Exponents
	Operations with Radicals Lesson
	Multiplying and Dividing Radical Expressions
	Adding and Subtracting Radicals
	Multiplication of Multiple Term Radicals
	Rationalizing Denominators
	Radical Equations Lesson
	Solving Radical Equations
	Complex Numbers Lesson
	Complex Numbers
	Operations with Complex Numbers
	Solving Quadratic Equations Lesson
	Square Roots and Completing the Square
	The Quadratic Formula
Week 14 **(27 Nov – 3 Dec)**	**#17 Functions Unit**
	Introduction to Functions Lesson
	Identifying Functions
	Using Functions Lesson
	Evaluating Functions
	Graphing Types of Functions
	Finding Domain and Range
	Operations with Functions Lesson
	Arithmetic Operations with Functions
Week 15 **(4 Dec – 10 Dec)**	**#18 Exponential and Logarithmic Functions Unit**
	Exponential Functions Lesson
	Introduction to Exponential Functions
	Logarithmic Functions Lesson

	Introduction to Logarithmic Functions
	Properties of Logarithmic Functions
	Natural Logarithms Lesson
	Introduction to Natural and Common Logarithms
	Logarithmic Exponential Equations Lesson
	Solving Exponential and Logarithmic equations
	Mathematical Modeling with Exponential and Logarithmic Functions
Week 16 **(11 Dec – 14 Dec)**	Submit your confirmation of the scheduled math portion of the TSI exam by *14 December 2022* at *15:00 (3:00 pm)*