South Plains College
Department of Mathematics & Engineering
Math 0401 Foundations of Mathematical Reasoning (4:3:2)
Course Syllabus – Spring 2018

Instructor: Gina Becker, BSE, M Ed
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Office Hours: TH 8:15 – 9:00, 10:50-11:50, 4:15 – 4:45 *or by appointment*

Pre- or Co-requisite: EDUC1300

Textbook: *Not required*

Supplies: Notebook paper or a spiral, graph paper, straight edge and pencil. A basic 4-function calculator may be used after the first exam.

Course Description and Purpose: This is a literacy-based course designed to provide students with the skills and conceptual understanding to succeed in a college-level statistics (Math1342) or quantitative literacy course (Math1332). This course includes applications of fundamental algebra, geometry, and statistics. **This developmental math course is NOT designed for those students who need to take Math1314 or Math1324 as part of their degree plan.** Students with undeclared majors should take Math0315 or Math0320, depending on their placement score. This course carries institutional credit but will not transfer and will not satisfy graduation requirements.

Student Learning Outcomes/Competencies: Successful completion of this course should reflect mastery of the following objectives:
1. Numeracy: Students will develop number sense and the ability to apply concepts of numeracy to investigate and describe quantitative relationships and solve real-world problems in a variety of contexts.
2. Proportional Reasoning: Students will use proportional reasoning to solve problems that require ratios, rates, proportions, and scaling.

3. Algebraic Competence, Reasoning, and Modeling: Students will transition from specific and numeric to general and abstract reasoning using the language and structure of algebra to investigate, represent, and solve problems.

4. Assessing Risk (Probabilistic Reasoning): Students will understand and critically evaluate statements involving risk and arguments based on probability that appear in the popular media, especially in presenting medical information.

5. Personal Finance: Students will understand, interpret and make decisions based on financial information that is commonly presented to consumers.

6. Civic Life: Students will understand that quantitative information presented in the media and by other entities can sometimes be useful and sometimes be misleading.

Learning Goals: This course is a quantitative reasoning course. This means you will learn to use, understand, and communicate about quantitative information. This course has 5 goals:

1. Communication goal: Interpret and communicate quantitative information and mathematical and statistical concepts using language appropriate to the context and intended audience.

2. Problem solving goal: Make sense of problems, develop strategies to find solutions, and persevere in solving them.

3. Reasoning goal: Reason, model, and make decisions with mathematical, statistical, and quantitative information.

4. Evaluation goal: Critique and evaluate quantitative arguments that utilize mathematical, statistical, and quantitative information.

5. Technology goal: Use appropriate technology in a given context.

Completion Requirements: Students need to pass **both** EDUC1300 and MATH0401 with a C or better to become TSI-compliant in mathematics. Only upon successful completion of **both classes** will the student be allowed to enroll in Contemporary Mathematics (MATH1332) or Statistical Methods (MATH1342). **This course does NOT prepare the student to take College Algebra (MATH1314) or Math for Business Majors (MATH1324).**

Course Requirements: To achieve success in this class, a student should attend all class meetings, take notes and participate in class, and complete all homework assignments and examinations, including the final examination.

Attendance Policy: Your attendance and active participation is vital to your success in this class. Attendance will be taken at the beginning of each class meeting. Should you arrive after attendance has been taken you will be marked as tardy for that class. Two tardies will be considered as one absence. If you exceed 4 absences during the course of the semester, you may be dropped from this course with a grade of X or F.

Course Expectations: Attend class, be on time, do homework, and be prepared to participate. Turn off and put away all electronic devices when you enter the classroom and keep off for the duration of the class.

Assignments and Grading:

Homework, quizzes and lab work: Homework assignments will be given daily. Work the problems on lined notebook paper. Write the problem, show all work and clearly identify your answer. Late homework will not be accepted and a grade of zero will be assigned. A quiz will be given each class period covering problems from the homework assignment. A grade will be assigned based on completion of the homework and grade made on the quiz. A lab assignment will be given for each class and a grade will be assigned. No make-up labs are available. The average for all homework, quizzes and lab work will account for 20% of the course grade.

Exams: Your course grade will include four exams, which will count as 60% of the grade and the final comprehensive exam, which will account for 20% of the course grade. Your final exam grade will take the place of your lowest exam grade, if it is a higher score. There will be no makeup tests.

Your final average will determine your letter grade for this class; determined by the following scale:

A - 90-100	D - 60-69
B - 80-89	F - 0-59
C - 70-79	

Tutoring: Students may obtain free tutoring in Room M116 in the Math building. Tutoring schedules will be posted on campus. Please remember to sign in when you seek the help of a tutor.

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.

ADA Accommodation: Students with disabilities, including but not limited to physical, psychiatric or learning disabilities, who wish to request accommodations in this class should notify the Special 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 Special Services Coordinator. For more information, call or visit the Special Services Office in Reese Center Building 8, 806-716-4675 or call or visit the Disability Services Office in the Student Health & Wellness Office, 806-716-2577.

Diversity and Learning Environment: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Classroom Civility: Students are expected to be respectful of their fellow classmates and maintain a classroom environment that is conducive to learning. Turn off all cell phones and other electronic devices before entering the room. The instructor reserves the right to ask a student to leave if his/her cell phone is left on and disrupts the class. Refrain from using offensive language, reading newspapers, chewing tobacco products, or otherwise being disruptive in class. Food and/or drinks are NOT allowed in the classroom.

Academic Honesty: Students are expected to uphold the ideas of academic honesty. Academic dishonesty includes, but is not limited to, cheating on tests, collaborating with another student during a test, copying another student's work, using materials not authorized, and plagiarism. Students who do not follow the

academic honesty policy will receive a grade of zero for the assignment, and may be dropped from the course with an F, or face possible suspension from the college. *Math apps, smart phones, smart watches and graphing calculators are not allowed in this class.*

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.

Tentative Course Schedule

Week	Tuesday		Thursday	
1	**January 16**	Addition and subtraction of integers No Calculator	**January 18**	Multiplication and division of integers and fractions No Calculator
2	**January 23**	Addition and subtraction of fractions No Calculator	**January 25**	Order of operations No Calculator
3	**January 30**	Solving linear equations	**February 1**	Direct translation application problems
4	**February 6**	Rectangular coordinate system and slope	**February 8**	Graphing linear equations
5	**February 13**	Systems of linear equations	**February 15**	TEST 1
6	**February 20**	Operations with monomials	**February 22**	Operations with polynomials
7	**February 27**	Factoring	**March 1**	Radicals

8	**March 6**	Solving quadratic equations	**March 8**	**TEST 2**
9	**March 20**	Metric system and conversions	**March 22**	Unit Conversions
10	**March 27**	Geometry	**March 29**	Area
11	**April 3**	Volume	**April 5**	Pythagorean theorem
12	**April 10**	**TEST 3**	**April 12**	Percentages and applications
13	**April 17**	Statistical concepts	**April 19**	Graphs
14	**April 24**	Probability	**April 26**	Simple and Compound Interest
15	**May 1**	**TEST 4**	**May 3**	**REVIEW**
16	**May 8**	**No Class**	**May 10 Final Exam**	**8:00 – 10:00 am**