Spring 2019- MATH 0332+1332 CONTEMPORARY MATHEMATICS CO-REQ

INSTRUCTOR: Mrs. Jody Dean, B.S., M.S.
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OFFICE HOURS: 2:00 – 5:00 Tues & Thur, 9:00 – 12:00 Friday, and by appointment

MATH 0332/1332

COURSE DESCRIPTION: The Contemporary Mathematics Support Course (MATH 0332) is the study of the basic algebraic concepts necessary for success in MATH 1332, to include order of operations, exponent rules, polynomials, radical expressions, and the solution of equations and inequalities. This course is not applicable toward any degree. Prerequisites: Math level 6, Reading level 7. Co-requisite: MATH 1332 (3:3:0)

In Contemporary Mathematics (MATH 1332), this course is designed specifically for those students who will terminate their mathematical training with one or two courses in mathematics. It includes the fundamentals and principles of algebra; introduction to geometry and trigonometry; use of graphs, proportions, percentages, and logarithms; and heavy emphasis on applications. A grade of C or better is required from Math0332, Math0337, or Math0320. (3:3:0)

COURSE MATERIALS:

- **REQUIRED:** MyMathLab Access Code – Purchased from the bookstore or online via Pearson's website www.pearsonmylabandmastering.com. (The course code is available on the class' Blackboard site or from the professor on the first day of class.)
- **OPTIONAL:** Textbook: *College Mathematics for Trades and Technologies* by Cleaves and Hobbs, 10th edition
- **REQUIRED:** Graphing calculator. The graphing calculator should be the equivalent of a TI-84 or lower. In other words, *you will NOT be allowed to use a TI-89 or higher on an exam. You may NOT use a TI-Nspire on an exam.*
- **SUGGESTED SUPPLIES:** Paper, pencil, colored pencils or highlighters, graph paper, and a ruler

STUDENT LEARNING OUTCOMES:

MATH 0332

Upon successful completion of this course, the student will be able to:

1. Add, subtract, multiply, and divide real numbers.
2. Use order of operations to evaluate expressions.
3. Understand the basics of geometric concepts.
4. Simplify and perform operations with radical expressions.
5. Solve linear equations and equalities of a single variable.
6. Solve quadratic equations by factoring and quadratic formula.
7. Graph linear equations functions.
8. Understand the basics of statistical concepts.

MATH 1332

Upon completion of the course, students will be able to:

1. Apply the language and notation of sets.
2. Determine the validity of an argument or statement and provide mathematical evidence.
3. Solve problems in mathematics of finance.

4. Demonstrate fundamental probability/counting techniques and apply those techniques to solve problems.
5. Interpret and analyze various representations of data.
6. Demonstrate the ability to choose and analyze mathematical models to solve problems from real-world settings, including, but not limited to, personal finance, health literacy, and civic engagement.

GENERAL EDUCATION OUTCOMES:

1. CRITICAL THINKING – Students will develop habits of mind, allowing them to appreciate the processes by which scholars in various disciplines organize and evaluate data and use the methodologies of each discipline to understand the human experience.
2. COMMUNICATION SKILLS – Students will communicate ideas, express feelings and support conclusions effectively in written, oral and visual formats.
3. EMPIRICAL & QUANTITATIVE SKILLS – Students will develop quantitative and empirical skills to understand, analyze and explain natural, physical and social realms.

ATTENDANCE: Attendance and effort are the most important activities for success in this course. If you are absent, you, alone, are responsible for getting the notes and doing your assignment before the next class. If you decide to stop coming to class, you must go through the drop procedure. If you stop attending or miss ***five*** classes you may be dropped with a grade of F or X at the discretion of the instructor. Please talk with me to verify if you have successfully dropped the course. Please read the "Drops and Withdrawals" policies on page 21 in the current catalog. Attendance will be checked in each class meeting via an in class quiz. Your number of absences will be calculated by the number of quizzes that you do not turn in

HOMEWORK & QUIZZES: Homework will be on-line using MyMathLab. Homework should be a daily occurrence. It is important to note that it is *impossible* to pass this course without the homework.

MyMathLab: In order to do your quizzes you must have access the internet. Follow the instructions in the MML handout to register and get started.

You may work an assignment as many times as you would like. The best grade is the one I will record. Also, the more time you spend going over the homework, the greater the likelihood your grade will improve in the course.

Important Note: The homework problems assigned online via MyMathLab are required and are the only homework grades given in this class. If you do not have a personal computer or your computer is in serious need of an upgrade, there are many computer labs on the Lubbock Center campus, the Reese Center campus, and the Levelland campus which have very liberal hours

GRADING: Your grade will be calculated as follows. A test average (TA) will be found by averaging all the exam grades with the final exam counting twice. Then, the test average will be averaged with your online quiz grade to give your overall average. That is:
(Exam 1 + Exam 2 + Exam 3 + 2*Final Exam)/5 = TA
(TA + MML)/2 = Overall Average.
There are **NO MAKE-UP** exams, quizzes or classroom exercises. Final grades will be assigned on the following scale: **A** 90%-100%; **B** 80%-89%; **C** 70%-79%; **D** 65%-69%; **F** below 65%
A grade of C (70) or better is required to advance to the next course. Although your grade in this course will not be used in calculating your GPA, your grade is used to determine academic status for financial aid. *This course and its grade will be recorded on your official transcript.*

EXAMINATIONS: There will be **3** major exams. Correct the exams as they are returned in partial preparation for the final exam. Exams **MAY NOT** be made up. If you are absent on the day an exam is given, you will receive a grade of zero for that exam. If you contact me BEFORE the exam, at the discretion of the instructor, the final exam grade **may** be used to replace one zero for a missed exam. This is ONLY if you have contacted me before the exam. Subsequent zeros will stand***. There is no such thing as missing the final exam.***

EXAM ETIQUETTE: During exams there will be no talking. All electronic devices must be silenced and put away, with the exception of calculators. No cell phones may be used during exams. Once the first person turns in an exam, no one else may start. If you come in after that point, you will not be allowed to take the exam and you will receive a zero for that exam. Therefore it is extremely important that you be on time. No one may leave the room and come back during an exam.

ACADEMIC HONESTY: While working on homework and quizzes, students are allowed and even encouraged to work together. In this situation, two or more heads are almost always better than one. However, exams are different matter entirely. Each student is expected to work alone and with only the tools allowed for the exam. Any student caught cheating on an exam will receive a zero on that exam. A second offence will result in the student receiving an F for the course and being dropped from the course. Any student caught cheating on the final exam will receive an F for the course. There will be no exceptions to this rule.

CLASSROOM BEHAVIOR: Be aware that class is over when I dismiss it, and not before. Any student who repeatedly disrupts my class will be asked to leave. Some of the things that I consider "disruptions" include, but are not limited to, packing your things before the end of class, ringing cell phones, talking while I am talking, making a late "entrance", and so on. Texting while in class is also a disruption. **No tobacco products of any kind may be used at any time during class.** Chronic offenders will be banned from the classroom. It is phenomenally difficult to pass my class if you cannot attend on test days.
Do NOT use texting abbreviations in any correspondence with me.

4.1.1.1. Diversity Statement
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.

4.1.1.2. Disabilities 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 Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

4.1.1.3. Non-Discrimination Statement
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. Phone number 806-716-2360.

4.1.1.4 Title IX Pregnancy Accommodations Statement

If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact Crystal Gilster, Director of Health and Wellness at 806-716-2362 or email cgilster@southplainscollege.edu for assistance.

4.1.1.5 OPTIONAL STATEMENT - Campus Concealed Carry Statement

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 and Frequently Asked Questions, please refer to the Campus Carry page at: https://www.southplainscollege.edu/campuscarry.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.

Course Calendar:

Week 1:

- Syllabus Overview
- 1.3 Order of Operations and Problem Solving
- 2.1 Multiples and Factors
- 2.2 Equivalent Fractions and Decimals
- 2.3 Adding and Subtracting Fractions and Mixed Numbers
- 2.4 Multiplying and Dividing Fractions and Mixed Numbers
- 3.1 Percent and Number Equivalents
- 3.2 Percentage Problems
- 3.3 Increase and Decrease
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Week 2: MLK Day, Exam 1, & Measurement (Part 1)

- **Martin Luther King Holiday – No Classes!**
- Review for Exam 1
- **Wed 1/23 Exam 1 (Chapters 1-3)**
- 4.1 The U.S. Customary System of Measurement
- 4.2 Introduction to the Metric System

Week 3: Measurement (Part 2) & Signed Numbers and Powers of 10

- 4.3 Time, Temperature, and Other Measures
- 4.4 Metric-U.S. Customary Comparisons
- 5.1 Adding Signed Numbers
- 5.2 Subtracting Signed Numbers
- 5.3 Multiplying and Dividing Signed Numbers

- 5.4 Signed Rational Numbers
- 5.5 Powers of 10
- 5.6 Scientific Notation

Week 4: Statistics & Exam 2
- 6.1 Reading Circle, Bar, and Line Graphs
- 6.4 Counting Techniques and Simple Probabilities
- Review for Exam 2
- **Thur 2/7 Exam 2 (Chapters 4-6)**

Week 5: Linear Equations & Logic (Part 1)
- 7.1 Variable Notation
- 7.2 Solving Linear Equations
- 7.3 Solving Linear Equations with Fractions and Decimals by Clearing Denominators
- 7.4 Inequalities and Sets
- 7.5 Solving Linear Inequalities
- 7.6 Solving Compound Inequalities
- Logic Handout 1

Week 6: Logic (Part 2) & Formulas, Proportion, and Variation
- Logic Handout 2
- 8.1 Formulas
- 8.2 Proportion
- 8.3 Direct and Joint Variation
- 8.4 Inverse and Combined Variation
- Review for Exam 3 (Chapters 7, 8, Logic)

Week 7: **Exam 3, Linear Equations and Functions in Two Variables**
- **Mon 2/25 Exam 3 (Chapters 7, 8, Logic)**
- 9.1 Graphical Representation of Linear Equations and Functions
- 9.2 Graphing Linear Equations in Two Variables Using Alternative Methods
- 9.3 Slope
- 9.4 Linear Equation of a Line
- 10.2 Solving Systems of Linear Equations Using the Addition Method
- 10.4 Problem Solving Using Systems of Linear Equations

Week 8: **Powers and Polynomials & Exam 4**
- 11.1 Laws of Exponents
- 11.2 Polynomials Basic
- 11.3 Operations with Polynomials
- Review for Exam 4 (Chapters 9-11)
- **Thu 3/7 Exam 4 (Chapters 9-11)**

Spring Break March 11 - 15

Week 9: Roots and Radicals & Factoring (Part 1)
- 12.1 Irrational Numbers and Real Numbers
- 12.2 Simplifying Irrational Expressions
- 12.3 Basic Operations with Square-Root Radicals

- 12.4 Complex and Imaginary Numbers
- 13.1 The Distributive Property and Common Factors
- 13.2 Factoring Special Products

Week 10: Factoring (Part 2) & Quadratic Equations

- 13.3 Factoring General Trinomials
- 15.1 Solving Quadratic Equations by the Square-Root Method
- 15.2 Solving Quadratic Equations by Factoring
- 15.3 Solving Quadratic Equations by Completing the Square or Using the Formula

Week 11: **Exam 5 & Logarithmic Equations**

- Review for Exam 5 (Chapters 12, 13, 15)
- **Tue 4/2 Exam 5 (Chapters 12, 13, 15)**
- 16.1 Exponential Expressions, Equations, and Formulas
- 16.2 Logarithmic Expressions, Equations, and Formulas

Week 12: **Geometry & Triangles (Part 1)**

- 17.2 Polygons
- 17.3 Circles and Radians
- 17.4 Volume and Surface Area
- 18.1 Special Triangle Relationships

Week 13: **Triangles (Part 2) & Exam 6**

- 18.2 Pythagorean Theorem
- 18.4 Distance and Midpoints
- Review for Exam 6 (Chapters 16-18)
- **Thu 4/18 Exam 6 (Chapters 16-18)**

Week 14: Right-Triangle Trigonometry & Trigonometry with Any Angle (Part 1)

- **Easter Holiday – No Classes!**
- 19.1 Trigonometric Functions
- 19.2 Solving Right Triangles Using the Sine, Cosine, and Tangent Functions
- 20.2 Trigonometric Functions for Any Angle

Week 15: **Trigonometry with Any Angle (Part 2) & Review for Final Exam**

- 20.4 Law of Sines
- 20.5 Law of Cosines
- Review for Final Exam
- Review for Final Exam

Week 16: **Cumulative Final Exam Monday May 6, 2019 10:15am – 12:15pm**

This calendar is tentative and subject to change at the instructor's discretion. Changes will be announced in class.