Syllabus

Math 1314: College Algebra

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Purpose of Course:

This is a standard course in college algebra. Topics included are: algebraic expressions, equations and inequalities, relations and functions, polynomial and rational functions, exponential and logarithmic functions, systems of equations, and inequalities.

Textbook: Blitzer (2014). *College Algebra*. 6th ed. Pearson Prentice Hall, NJ.

ISBN-13: 978-0321782281
ISBN-10: 0321782283

(There are various options for purchasing this text. You can rent or buy a hard copy through a provider such as Amazon. The book is available either new or used. It is also available via a rental as an eTextbook.)

Each six weeks will cover at least a chapter from the text with a six weeks assessment. In addition to these exams, quizzes will be administered as needed. Students will be expected to complete and submit homework as indicated throughout the course. A mid-term and Final Exam will be calculated into the overall grade .

STUDENT LEARNING OUTCOMES/COMPETENCIES: Upon completion of this course and receiving a passing grade, the student will be able to:

1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.

2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.

3. Apply graphing techniques.

4. Evaluate all roots of higher degree polynomial and rational functions.

5. Recognize, solve and apply systems of linear equations using matrices.

CORE OBJECTIVES:

Communication Skills: Effective development, interpretation, and expression of ideas through written, oral, and visual communication.

> • Develop, interpret, and express ideas through written communication
>
> • Develop, interpret, and express ideas through oral communication
>
> • Develop, interpret, and express ideas through visual communication

Critical Thinking: creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

> • 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: the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

> • Manipulate and analyze numerical data and arrive at an informed conclusion
>
> • Manipulate and analyze observable facts and arrive at an informed conclusion

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1st Six Weeks:

> Chapter 1 ……Equations and Inequalities
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> Chapter 2……..Functions and Graphs
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> Chapter 3 ……..Polynomial and Rational Functions
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> Chapter 4…….4.1 Exponential Functions
>
> *Student Evaluation: Homework, Quizzes, Six Weeks Assessment (October):*

<u>**2nd Six Weeks:**</u>

Chapter 4 ……..Exponential and Logarithmic Functions

Chapter 5……….5.1 & 5.2 Systems of equations in 2 or 3 variables

Chapter 6………………Matrices and Determinants
Student Evaluation: Homework, Quizzes, Six Weeks Assessment (December):

3rd Six Weeks:

Chapter 7……………Conic Sections
Chapter 8……………..Sequences & Series (section 8.1-8.3)
Student Evaluation: Homework, Quizzes, Six Weeks Assessment (May):

<u>**December: Midterm Exam**</u>

- **Semester Average = (1st + 2nd + 3rd +Final)/4**

<u>Grading Rubric:</u>

Each Six Weeks Grade:
> **Homework……10%**
> **Quizzes…………. 40%**
> **Exams……………50%**

Mid-Term & Exam….25% of the 1st Semester Grade
Final Exam……...25% of the 2nd Semester Grade

Final Average = (1st Semester + 2nd Semester)/2

Technology:
1) *Students will need a graphing calculator for the course. Preferably a TI-84 graphing calculator. If the student purchases their own calculator, they should buy a TI-84 Plus. Students may have other calculators that are similar but will be responsible for understanding any nuances of that particular calculator.*
2) *Students may use their IPad or laptop in the course. Of course, this will not be allowed on exams. Some may choose the e-text which will require the use of a technology platform.*

3) I will use various software programs to represent and investigate mathematical concepts. Students should have access to these programs on their own devices.

4) Students may submit assignments via email or texting. This becomes particularly useful for students absent due to school functions. I will also post a YouTube video at various times which is useful for understanding a topic in the event of an absence or as a support for classroom lecture.

College Credit: Students will earn 3 semester hours of College Credit for the course through South Plains College if they register and fulfill entrance requirements for the university. Although the course will start in the Fall, registration will be in the Spring.

ATTENDANCE POLICY: Students are responsible for attendance via the explanations provided in the Ropes ISD Student Handbook. Students are also responsible for any combination of the following due to an absence.

1) Obtain work in anticipation of a school related absence.
2) Communicate with their peers regarding lectures, classwork, homework, and exams.
3) Check their email and/or text for informational posts regarding classwork or exams.
4) Makeup work missed due to an absence in a reasonable timeframe.

> (a) Do not show up to class and ask, "Did I miss anything while I was gone?"
> (b) Do not expect the instructor to stop or delay class to present missing work.