Course Syllabus - College Algebra
MATH 1314.350 – Fall 2016

Department: Mathematics and Engineering   **Instructor:** Denise Johansen

Discipline: Mathematics   **Office:** PC 101G; (806)716-4632

Course Number: Math 1314   **Cell/Text:** (513)227-0095

Course Title: College Algebra   **Email:** djohansen@southplainscollege.edu

Credit: 3 **Lecture:** 3   **Lab:** 1   **Time/Place:** MWF 8am-8:45am/FHS 105

Office Hours: MW 10:15am-11am and 12:15pm-1:30pm, TR 10am-11am and 4:15pm-5:15pm, or by appointment

This course satisfies a core curriculum requirement: Yes – mathematics

Prerequisites: 2 years of high school algebra or Math 0320, TSI compliance

Available Formats: conventional/internet/ITV

Campuses: Levelland Campus, Reese Campus, Plainview, Byron Martin ATC Lubbock

Textbook (Optional): College Algebra, Blitzer. (2014). College Algebra, 6th ed . Pearson. ISBN 10:0-321-78228-3.

Supplies: calculator with a log function, MyMathLab access (Course ID: **johansen30666**).

Course Description: A standard course in college algebra. Quadratic equations; ratio and proportion; variation; binomial theorem; inequalities; complex numbers; theory of equations; determinants and matrices.

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Course Purpose/Rationale/Goal: The purpose of the course is to provide a fundamental background in algebra to meet the mathematics requirement for the core curriculum and to provide a basis for further study in mathematics.

Course Requirements: To maximize the potential to complete this course, a student should attend all class and laboratory meetings, take notes and participate in class, complete all homework assignments and examinations including final examinations.

Course Evaluation:
- There will be in-class assignments collected daily. By their very nature, in-class assignments can NOT be made up. The in-class average is worth 10% of your grade, and the lowest 2 in-class grades will be dropped.
- Daily online homework assignments will be due weekly by beginning of class on Mondays. Late homework will be accepted with 10% per day late submission penalty! The homework average is worth 10% of your grade, and the lowest 3 homework grades will be dropped.
- Daily online PreClass assignments will be posted, worth 5% of your grade. The lowest 2 PreClass grades will be dropped.
- There will be 6 online Quizzes. The quiz average is worth 10% of your grade, and the lowest quiz grade will be dropped.
- There will be 3 in-class hour exams. These will each be worth 15% of your grade.
- There will be 1 in-class, two-part cumulative final exam, worth 20% of your grade.

Letter Grades:

90%	-	100%	A
80%	-	89%	B
70%	-	79%	C
60%	-	69%	D
59% & below			F

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.

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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

Attendance Policy:

Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus. [*Absences for this course are considered excessive if you have 4 in a row or a total of 7. If you reach 4 consecutive absences or a total of 7 absences, you will be administratively withdrawn from the class with a grade of 'X' or 'F'.*]

When an unavoidable reason for class absence arises, such as illness, an official trip authorized by the college or an official activity, the instructor may permit the student to make up work missed. It is the student's responsibility to complete work missed within a reasonable period of time as determined by the instructor. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first class meeting.

Students who enroll in a course but have "Never Attended" by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census

Attendance Policy (Continued):

date of the semester, may be administratively withdrawn from that course and receive a grade of "X" or "F" as determined by the instructor. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student's responsibility to be aware of that policy.

It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.

Last day to drop is Thursday, November 17th.

SPC School Holidays:
    Monday, 9/5, Labor Day
    Friday, 10/14, Fall Break
    Wednesday-Friday, 11/23-11/25, Thanksgiving Break

FHS School Holidays:
    Monday, 9/5, Labor Day
    Monday, 10/10, Columbus Day/Staff Development
    Wednesday-Friday, 11/23-11/25, Thanksgiving Break
    Monday, 11/28, Staff Development

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 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 the Student Services Building, 716-2529 or 716-2530.

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COURSE OUTLINE / CALENDAR*

Problems are assigned online for each section of the textbook that we cover. To access online assignments, you must have an access code (you can buy a code for MyMathLab bundled with your textbook or you can buy just the code at www.mymathlab.com) and register for our course (Course ID: **johansen30666**) at www.mymathlab.com Assignments have due dates, and you will lose 10% per day for work completed after the due date passes. To master the material and prepare for the exams, you **MUST** work extra problems!

*   Assignments and deadlines are subject to change at instructor's discretion, and all changes will be announced in class and posted in MyMathLab.

Date	Content	Required Readings
Week 1 8/29 8/31 9/2	**Equations and Inequalities (Part 1)** • Syllabus Overview • Linear Equations and Rational Equations • Models and Applications	**Readings/Videos** Chapter 1: 1.2-1.3
Week 2 9/5 9/7 9/9	**Equations and Inequalities (Part 2)** • **Labor Day Holiday – No Class!** • Complex Numbers • Quadratic Equations	**Readings/Videos** Chapter 1: 1.4-1.5
Week 3 9/12 9/14 9/16	**Equations and Inequalities (Part 3) & Functions and Graphs (Part 1)** • Other Types of Equations • Linear Inequalities and Absolute Value Inequalities • Basics of Functions and Their Graphs	**Readings/Videos** Chapter 1: 1.6-1.7 Chapter 2: 2.1
Week 4 9/19 9/21 9/23	**Functions and Graphs (Part 2)** • Linear Functions and Slope • More on Slope • Transformations of Functions	**Readings/Videos** **Quiz 1 Due** (Chapter 1) Chapter 2: 2.3-2.5
Week 5 9/26 9/28 9/30	**Functions and Graphs (Part 3) & Exam I** • Combinations of Functions; Composite Functions • Review for Exam I • **Exam I**	**Readings/Videos** Chapter 2: 2.6
Week 6 10/3 10/5 10/7	**Polynomial and Rational Functions (Part 1)** • Quadratic Functions • Polynomial Functions and Their Graphs • Dividing Polynomials; Remainder and Factor Theorems	**Readings/Videos** **Quiz 2 Due** (Chapter 2) Chapter 3: 3.1-3.3

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Week 7 10/10 10/12 10/14	**Polynomial and Rational Functions (Part 2)** • **Columbus Day Holiday – No Class!** • Zeros of Polynomial Functions • **SPC Fall Break – No Class!**	<u>**Readings/Videos**</u> Chapter 3: 3.4
Week 8 10/17 10/19 10/21	**Polynomial and Rational Functions (Part 3) &** **Exponential and Logarithmic Functions (Part 1)** • Rational Functions and Their Graphs • Polynomial and Rational Inequalities • Exponential Functions	<u>**Readings/Videos**</u> Chapter 3: 3.5-3.6 Chapter 4: 4.1
Week 9 10/24 10/26 10/28	**Exponential and Logarithmic Functions (Part 2)** • Logarithmic Functions • Properties of Logarithms • Exponential and Logarithmic Equations	<u>**Readings/Videos**</u> **Quiz 3 Due** (Chapter 3) Chapter 4: 4.2-4.4
Week 10 10/31 11/2 11/4	**Exponential and Logarithmic Functions (Part 3)** **& Exam II** • Exponential Growth and Decay; Modeling Data • Review for Exam II • **Exam II**	<u>**Readings/Videos**</u> Chapter 4: 4.5
Week 11 11/7 11/9 11/11	**Systems of Equations and Inequalities (Part I)** • Systems of Linear Equations in Two Variables • Systems of Linear Equations in Three Variables • Systems of Nonlinear Equations in Two Variables	<u>**Readings/Videos**</u> **Quiz 4 Due** (Chapter 4) Chapter 5: 5.1-5.2, 5.4
Week 12 11/14 11/16 11/18	**Systems of Equations and Inequalities (Part II) &** **Matrices and Determinants (Part I)** • Systems of Inequalities • Matrix Solutions to Linear Systems • Inconsistent and Dependent Systems and Their Applications	<u>**Readings/Videos**</u> Chapter 5: 5.5 Chapter 6: 6.1-6.2
Week 13 11/21 11/23 11/25	**Matrices and Determinants (Part II) &** **Thanksgiving Holidays** • Determinants and Cramer's Rule • **Thanksgiving Holiday – No Class!** • **Thanksgiving Holiday – No Class!**	<u>**Readings/Videos**</u> **Quiz 5 Due** (Chapter 5) Chapter 6: 6.5

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Week 14 11/28 11/30 12/2	**Exam III** • **FHS Student Holiday – No Class!** • Review for Exam III • **Exam III**	**<u>Readings/Videos</u>** **Quiz 6 Due** (Chapter 6)
Week 15 12/5 12/7 12/9	**Binomial Theorem & Review for Final Exam** • The Binomial Theorem • Review for Final Exam • Review for Final Exam	**<u>Readings/Videos</u>** Chapter 8: 8.5
Week 16 12/12 12/14	**Final Exam** • **Final Exam – Part I** • **Final Exam – Part II**	

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