Angelina College
Division of Science and Mathematics
MATH 1314 – College Algebra
Instructional Syllabus – Summer 2018 (Internet)

I. BASIC COURSE INFORMATION:

A. College Algebra – MATH 1314 – In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Students are required to have a graphing calculator. Three lecture hours each week.

B. The intended audience is any student needing the fundamentals of college algebra.

C. Instructor: Julie Mays
Office Location: B102-K
Office Hours: by appointment only
Phone: 936-633-5460
E-mail Address: jmays@angelina.edu

II. INTENDED STUDENT OUTCOMES:

A. Core Objectives Required for this Course

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

2. Communication: to include effective development, interpretation and expression of ideas through written, oral and visual communication

3. Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

B. Course Learning Outcomes for all Sections

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.

III. ASSESSMENT MEASURES

A. Assessments for the Core Objectives

1. **Critical thinking:** For a given project, students will analyze given information, evaluate methods for solving the problem, calculate results, and analyze the solution. A rubric will be used to assess critical thinking skills and correctness of the solution.
2. **Communication:** Students will solve an assigned problem, discuss the solution in a group setting and present the solution and reasoning. A rubric will be used to assess written, oral, and visual communications skills.

3. **Empirical and Quantitative Skills:** Students will be given data, organize it into systems of equations and use matrices to solve the systems within the given constraints. A rubric will be used to assess the empirical and quantitative skills.

B. Assessments for Course Learning Outcomes

1. Students will demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses within imbedded test questions.
2. Students will recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations within embedded test questions.
3. Students will apply graphing techniques within embedded test questions.
4. Students will recognize, solve and apply a system of linear equations using matrices within an embedded test question.

IV. INSTRUCTIONAL PROCEDURES:

The course is taught using a combination of lectures, discussions, and practice exercises. The amount of time spent using any one technique will vary from class to class and from lesson to lesson as determined to be most appropriate by the instructor.

V. COURSE REQUIREMENTS AND POLICIES:

A. Required Textbooks and Recommended Readings, Materials and Equipment

1. College Algebra, Paul Sisson (Hawkes Learning Systems), 2nd ed.
2. Access to Hawkes Learning Systems (included with new book bought at AC bookstore)
3. Graphing calculator – A TI (Texas Instruments) graphing calculator is required or highly recommended. The TI-84 graphing calculator will be used by the instructor in classroom demonstrations.

B. Course Policies – This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.

1. **Academic Assistance** – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you should see Maria Lopez or Steve Hudman in room 200 of the Student Center. At a post-secondary institution, you must self-identify as a person with a disability within the first two weeks of the semester; Ms. Lopez and Mr. Hudman will assist you with the necessary information to do so. To report any complaints of discrimination related to disability, you should contact Mr. Steve Hudman, Dean of Student Affairs, in Room 101 of the Student Center. You may also contact Dean Hudman by phone at (936)633-5292 or by email shudman@angelina.edu.

2. **Attendance –** This class conforms to the Angelina College attendance policy as stated in the Angelina College Policies and Procedures Manual. Records will be turned in to the academic dean at the end of the semester. Do not assume that non-attendance in class will always result in an instructor drop. **You must officially drop a class or risk receiving an F**. This is official Angelina College Policy.

3. **Additional Policies Established by the Instructor**

   MAKE-UP EXAMS
   No make-up exams will be allowed. The grade on the final exam can replace any one missed test or the lowest test grade during the semester.

INTERNET COURSE

Internet classes require a greater degree of independence and responsibility than traditional classes. You must find time in your schedule to work on the class as much as you would in a traditional class. Do not allow yourself to fall behind on your assignments. **Computer problems are NOT an acceptable excuse for not completing assignments.** If you do not have access to a reliable computer, you should not be taking an internet course.

Cheating on tests is not tolerated as per Angelina College policy and may result in expulsion from the course. No electronic devices of any kind may be accessible during assessments. Failure to adhere will result in a zero for the assessment which will not be eligible for test replacement. Plagiarism is not tolerated and will result in a zero for any assignment in which it is detected.

VI. COURSE OUTLINE:

See schedule of assignments

VII. <u>EVALUATION AND GRADING:</u>

1. Your grade will be assessed by:
   a. Five tests (the fifth test is the comprehensive final exam) which account for 75% of final grade
   b. Homework on Hawkes Learning Systems (20% of final grade).
   c. Other assignments (5% of final grade)
   NOTE: TI-89, TI-92, or any calculator with CAS-software may not be used on the final.

2. **Exams will be taken at a college testing center or with a proctor approved by the Office of Distance Learning and must be taken within the scheduled week.** Proctor-U cannot be used at this time with this course due to scratch paper and formula sheets provided for some exams. Exams may only be reviewed in person with Mrs. Mays.

3. Homework will be completed on Hawkes Learning Systems and **is required**.
   a. Hawkes Learning System comes with new books from the AC bookstore. It may also be purchased with a major credit card on the website.
   b. The homework should be done on your home computer if possible. If not, there are campus sites available at the library and the math labs in Rooms S223 and S110. These may be used on a limited space available basis. (No printing or surfing may be done except in the library.)
   c. Missing 5 assignments is considered a lack of participation and may result in an instructor drop.

4. Those who drop the course on or before June 4th will not receive a grade for the class. Those dropping between June 4th and July 11th (inclusive) will receive a W in the course. July 11th is the last day for dropping a course.

The instructor may modify the provisions of the syllabus to meet individual class needs by informing the class in advance as to the changes being made

Math 1314 Schedule

Lesson	Dates	Sections	Description
1	05/29 – 06/03	1.3	Properties of Exponents
		1.4	Properties of Radicals
		1.5	Polynomials and Factoring
		1.6	The Complex Number System
		2.1	Properties of Radicals
2	06/04 – 06/10	2.2	Linear Inequalities in One Variable
		2.3	Quadratic Equations in One Variable
		2.4	Higher Degree Polynomial Equations
		2.5	Rational Expressions and Equations
		2.6	Radical Equations
3	**06/11 – 06/17**	**Exam #1**	**Exam #1 (Sections 1.3 – 1.6, 2.1 – 2.6)**
		3.1	The Cartesian Coordinate System
		3.2	Linear Equations in Two Variables
		3.3	Forms of Linear Equations
		3.4	Parallel and Perpendicular Lines
4	06/18 – 06/24	3.5	Linear Inequalities in Two Variables
		4.1	Relations and Functions
		4.2	Linear and Quadratic Functions
		4.3	Other Common Functions
		4.4	Transformations of Functions
5	06/25 – 07/01	4.5	Combining Functions
		4.6	Inverses of Functions
		5.1	Introduction to Polynomial Equations and Graphs
		5.2	Polynomial Division and the Division Algorithm
		5.3	Locating Real Zeros of Polynomials
6	**07/02 – 07/08**	**Exam #2**	**Exam #2 (Sections 3.1 – 3.5, 4.1 – 4.6)**
		5.4	The Fundamental Theorem of Algebra
		6.1	Rational Functions
		7.1	Exponential Functions and Their Graphs
7	**07/09 – 07/15**	**Exam #3**	**Exam #3 (Sections 5.1 – 5.4, 6.1)**
8	07/16 – 07/22	7.2	Applications of Exponential Functions
		7.3	Logarithmic Functions and Their Graphs
		7.4	Properties and Applications of Logarithms
		7.5	Exponential and Logarithmic Equations
9	**07/23 – 07/29**	**Exam #4**	**Exam #4 (Sections 7.1 – 7.5)**
		8.2	Matrix Notation
10	**07/30 – 08/02**	**Final Exam**	**Comprehensive Final Exam**