COURSE SYLLABUS

MATH 1314: College Algebra

Instructor: Dr. Shagroni
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Office hours: Monday-Friday 7:00 am – 12:00 am
Office location: Stafford Campus, Room N108
Feel free to contact me, or come to see me about any problems or questions you may have regarding the course. Your performance in my class is important to me.

Textbook:
College Algebra, 11/E
Margaret Lial, John Hornsby, David I. Schneider
You do not have to buy the book, buy MyMathLab code, it comes with the eBook.
ISBN-10: 0321671791

Catalog Description:
Topics include quadratic, polynomial, rational, logarithmic, and exponential functions; systems of equations; matrices; and determinants. A departmental final examination will be given in this course.

Credits: 3 credit hours.

Course Intent & Audience:
This course is designed as a review of advanced topics in algebra for science and engineering students who plan to take the calculus sequence in preparation for their various degree programs. It is also intended for non-technical students who need college mathematics credits to fulfill requirements for graduation and prerequisites for other courses. It is generally transferable to other disciplines as math credit for non-science majors.
Testing policy: There will be three major tests, a homework grade, and a comprehensive final examination.

Make-up policy:
NO makeup tests will be given.

Grading policy:
Your final course grade is based on the following standard HCCS scale.

Final Average = (Exam 1 + Exam 2 + Exam 3 + Homework Grade + Final Exam) / 5

Final Examination:
The final examination is departmental and comprehensive and covers all the material required in the course.

Homework policy:
All homework must be completed online using MyMathLab. Instructions are provided on the instructor's home page for getting started with MyMathLab. **The MyMathLab course ID is found in Eagle Online when you log in**, and the school zip code is 77477. To register for MyMathLab and to access the homework, go to www.coursecompass.com. Practice is essential to the mastery of mathematics, and homework assignments must be done in order to learn the concepts well. At the beginning of the next class, be prepared to ask questions about any problems that you are unable to work or any material in the textbook that you do not understand. As part of your homework, be sure to read in the textbook the next section(s) to be covered in class. Your homework grade will be the equivalent of one test grade.

Calculators:
Scientific Graphing calculators are allowed on exam.

Withdrawal policy:
The State of Texas imposes penalties on students who drop courses excessively. Students are limited to no more than SIX total course withdrawals throughout their educational career at a Texas public college or university.
To avoid having to drop/withdraw from a class, contact your professor regarding your academic performance. You may also want to contact a counselor to learn about helpful HCC resources (e.g. online tutoring, child care, financial aid, job placement, etc.).

- If you decide to drop or withdraw from a class after careful review of other options, you can drop yourself online prior to the drop deadline through the HCC Student Center.
- HCC and/or the instructor may drop students for excessive absences without notification (see Class Attendance below).
- Students should check HCC's Academic Calendar by Term to review drop/withdrawal

Dates and Deadlines.
After the withdrawal deadline has passed, you will receive a grade. Zeros averaged in for required coursework that is not submitted will lower your semester average significantly, most likely resulting in a failing grade of "F". It is the responsibility of the student to withdraw from the class.

Academic dishonesty:
All students are required to exercise academic honesty in completion of all tests and assignments. Cheating involves deception for the purpose of violating testing rules. Students who improperly assist other students are just as guilty as students who receive assistance. All students are required to follow and be familiar with HCC Policies & Procedures and the Student Code of Conduct for Scholastic Honesty as stated in the Student Handbook. If you are charged with an offense, pleading ignorance of the rules will not help you.
During a test or quiz, activities such as talking to another student, looking on another student's paper, using the book or notes, failure to cover your work or answer sheet, or using a cell phone or other recording device will be considered as cheating. In addition, students should remain in their seats during a test or quiz. To answer questions, the instructor will come to the student. A student guilty of a first offense will receive a grade of "F" on the quiz or test involved. For a second offense, the student will receive a grade of "F" for the course.
The use of recording devices, including camera phones and tape recorders, is prohibited in all locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Disability Support Service Office for information.

Resources and supplemental instruction:
Any student enrolled in Math 1314 at HCC has access to the math tutoring labs which are staffed with student assistants who can aid students with math problems and offer help with MyMathLab. In addition, free online tutoring is provided using AskOnline. With Mymathlab, the free Math Tutoring Center is provided, and MYMATHLAB provides guided solutions, online lectures, and study plans. For more information and for tutoring hours and locations, go to the math department web page at http://swc2.hccs.edu/math/, and select the tutoring and

MyMathLab links.
Another helpful resource is the student solutions manual that may be obtained from the bookstore. For additional help, you can see the instructor before or after class or during office hours.
Students with Disabilities: Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Support Service Office at this college at the beginning of the semester. To make an

appointment, please call 713-718-7910. Professors are authorized to provide only the accommodations requested by the Disability Support Service Office.
Advisement:
Beginning of semester – MATH 0312 (Intermediate Algebra) is the course prerequisite. See the prerequisites section above. End of semester – Students will be advised about upcoming courses. Refer to the math courses flow chart on the math department home page.

Instructional Methods:

The instructor will strive to facilitate an effective learning environment through lectures, classroom practice activities, discussions, and review sessions.

Student Responsibilities:

To be successful in this class, it is the student's responsibility to complete the following tasks.

- Attend class and be on time.
- Participate in class discussions and activities.
- Read and study the textbook.
- Complete the MyMathLab homework and required assignments.
- Work the reviews and study before taking the tests.
- Take all the tests.
- Pass the Final Exam.
- Keep copies of all paperwork, including this syllabus, handouts, and all homework assignments in a binder. Work your homework problems showing each step on paper, and enter the answer in MML.

Chapters and Sections

Chapter 1 Equations and Inequalities

1.4 Quadratic Equations
1.5 Applications and Modeling with Quadratic Equations
1.6 Other Types of Equations
1.7 Inequalities
1.8 Absolute Value Equations and Inequalities

Chapter 2 Graphs and Functions

2.1 Rectangular Coordinates and Graphs
2.2 Circles
2.3 Functions
2.4 Linear Functions
2.5 Equations of Lines; Curve Fitting
2.6 Graphs of Basic Functions
2.7 Graphing Techniques
2.8 Function Operations and Composition

Chapter 3 Polynomial and Rational Functions

3.1 Quadratic Functions and Models
3.2 Synthetic Division
3.3 Zeros of Polynomial Functions
3.4 Polynomial Functions: Graphs, Applications, and Models
3.5 Rational Functions: Graphs, Applications, and Models
3.6 Variation

Chapter 4 Exponential and Logarithmic Functions

4.1 Inverse Functions
4.2 Exponential Functions
4.3 Logarithmic Functions

4.4 Evaluating Logarithms and the Change-of-Base Theorem
4.5 Exponential and Logarithmic Equations
4.6 Applications & Models of Exponential Growth & Decay (doubling time problems)

Chapter 5 Systems and Matrices
5.1 Systems of Linear Equations (two variables only)
5.3 Determinant Solution of Linear Systems (Omit Cramer's Rule.)
5.5 Nonlinear Systems of Equations
5.7 Properties of Matrices

Course Objectives & Student Learning Outcomes:

Student Learning Outcomes	Course Objectives
1. Solve algebraic equations and inequalities involving linear and nonlinear expressions.	1.1 Solve Quadratic Equations in one variable by the method of factoring, square root property, completing the square and the quadratic formula. 1.2 Solve radical equations, fractional equations, and equations of quadratic form. 1.3 Solve linear inequalities and linear equations involving absolute value, state the solution in interval notation, and graph the solution. 1.4 Solve non-linear (quadratic and rational) inequalities, state the solution in interval notation, and graph the solution. 1.5 Solve exponential and logarithmic equations. 1.6 Solve systems of linear and non linear in two variables.
2. Examine and interpret the graphs of circles, polynomial functions, rational functions, basic functions, and their transformations.	2.1 Find the distance and midpoint between two points in the Cartesian Plane. 2.2 Recognize the equation of a straight line, graph the equation of a straight line, find the slope and intercepts of a line, know the relationship between the slopes of parallel and perpendicular lines, and be able to determine the equation of a line from information such as two points on the line, or one point on the line and the slope of the line. 2.3 Graph linear functions, quadratic functions, piecewise-defined functions, absolute value functions, polynomial functions, rational functions, exponential functions, and logarithmic functions. 2.4 Understand vertical and horizontal shifts, stretching, shrinking, and reflections of graphs of functions. 2.5 Recognize the equation of a circle, sketch the graph of a circle, and find the equation of a circle. 2.6 Determine the rational zeros of a polynomial.
3. Apply the basic knowledge of a function in order to simplify functions, combine functions, and solve application problems involving linear and nonlinear functions.	3.1 Apply the definition of a function, determine the domain and range of a function, evaluate expressions involving functional notation, simplify expressions involving the algebra of functions, graph functions by plotting points, use the definition of inverse functions, and given a function find its inverse. 3.2 Understand the inverse relationship between the exponential and logarithmic functions.
4. Perform basic matrix operations.	4.1 Perform operations with matrices.