HOUSTON COMMUNITY COLLEGE

Division of Mathematics
Mathematics Department
https://learning.hccs.edu/programs/mathematics

MATH 1314: College Algebra | Lecture | #15806

Spring 2019 | 16 Weeks (1.14.2019-5.12.2019)
In-Person | Scarcella Building W118 | TuTh 11 a.m.-12:20 p.m.
3 Credit Hours | 48 hours per semester

Instructor Contact Information

Instructor:	Mini Mathew	Office Phone:	713-718-5572
Office:	LHub Building, Room 303.3	Office Hours:	M-W 12:30-3:00 p.m.
HCC Email:	mini.mathew@hccs.edu	Office Location:	SW College Math Dept.

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics.

Instructor's Preferred Method of Contact

By HCC Email address: mini.mathew@hccs.edu.

What's Exciting About This Course

In this course you will practice the skills and techniques to tackle rigorous algebraic problems and gain the practice and experience to do so comfortably.

My Personal Welcome

Welcome to Math 1314 course. I am looking forward to a happy and productive semester.

Prerequisites and/or Co-Requisites

A grade of C or better in Math 0312 or its equivalent or an acceptable placement score.
A grade of C or better in Math 0314 or its equivalent or an acceptable placement score.

Eagle Online Canvas Learning Management System

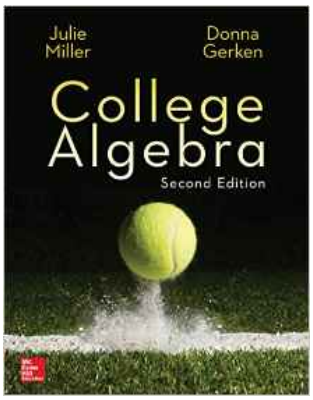
This section of MATH 1314 will use Eagle Online Canvas (https://eagleonline.hccs.edu) to supplement in-class assignments, exams, and activities.
HCCS Open Lab locations may be used to access the Internet and Eagle Online Canvas. It is recommended that you **USE FIREFOX OR CHROME AS YOUR BROWSER**.

Sample Assignments, Reviews, etc.

Look in Eagle Online Canvas for information to assist you in the course.
https://eagleonline.hccs.edu/login/ldap

Instructional Materials

Textbook Information



The textbook listed below is ***required*** for this course.
College Algebra Math 2nd ed. (by Julie Miller and Donna Gerken, McGraw Hill Publishing, 2016).
ISBN: 9781260029604 (textbook and access code for Connect Math)
ISBN: 9781260029611 (access code with e-book)
It is included in a package that contains the text as well as an access code and are found at the HCC Bookstore. You may either use a hard copy of the book or the e-book through Connect Math.

Temporary Free Access to E-Book

For temporary free access to Connect Math and the online eBook, go to www.connectmath.com and register using the Connect Math Course ID: QNANT-TPF3D

Other Instructional Resources

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the HCC Tutoring Services website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at http://library.hccs.edu.

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of

the specified course, and who earned a grade of A or B. Find details at http://www.hccs.edu/resources-for/current-students/supplemental-instruction/.

Course Overview

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 as math credit for non-science majors to other disciplines.

Core Curriculum Objectives (CCOs)

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

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

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

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

Program Student Learning Outcomes (PSLOs)

Students in the Mathematics Program will:

1. Engage in problem solving strategies, such as organizing information, drawing diagrams and modeling.
2. Use symbolic representations to solve problems. This includes manipulating formulas, solving equations, and graphing lines.
3. Build the foundational mathematical skills that will enable a student to successfully complete a college level mathematics course.

Course Student Learning Outcomes (CSLOs)

Upon completion of MATH 1314, 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

Learning Objectives

Upon completion of MATH 1314, the student will be able to:

1. Solve Quadratic Equations in one variable by the method of factoring, square root property, completing the square and the quadratic formula.
2. Solve radical equations, fractional equations, and equations of quadratic form.
3. Solve linear inequalities and linear equations involving absolute value, state the solution in interval notation, and graph the solution
4. Solve non-linear (quadratic and rational) inequalities, state the solution in interval notation, and graph the solution.
5. Solve exponential and logarithmic equations.
6. Solve systems of linear and nonlinear in two variables.
7. Find the distance and midpoint between two points in the Cartesian Plane.
8. 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
9. Graph linear functions, quadratic functions, piecewise-defined functions, absolute value functions, polynomial functions, rational functions, exponential functions, and logarithmic functions.
10. Understand vertical and horizontal shifts, stretching, shrinking, and reflections of graphs of functions.
11. Recognize the equation of a circle, sketch the graph of a circle, and find the equation of a circle.
12. Determine the rational zeros of a polynomial.
13. 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, and use the definition.
14. Understand the inverse relationship between the exponential and logarithmic functions.
15. Perform operations with matrices.
16. Solve and apply systems of linear equations using matrices.

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as your guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and make up

- Provide the course outline and class calendar which will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to**:**

- Attend class in person and/or online (on time and stay for the duration of the class)
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Exams

There will be 5 exams including a final departmental exam.
However one exam grade (excluding the final) will be dropped. In other words you may take only three exams and the final.

Home Work

Online Homework is in ConnectMath.com. Go to connectmath.com to register to do the homework. You need an access code which you can buy online or buy from the book store. You need to enter a course id for this class. The Connect Math Course ID is: QNANT-TPF3D Homework has to be done regularly. Do not wait for the last hour to finish the homework.

Final Exams

All students will be required to take a cumulative departmental Final exam consisting of 33 multiple choice questions. Students must provide their own Scantron. Students will be provided with a departmental study guide for the final exam which will be covered during the MATH DAYS on Friday May 3, and Saturday May 4.

Final Exam Review Sessions: HCC MATH DAYS

The Math Department will offer *several* Final Exam Review sessions (i.e., **HCC Math Days**) for this course on **Friday, May 3, 2019** and **Saturday, May 4, 2019**. We encourage you to attend at least one of these sessions as you prepare for the comprehensive Final Exam. In addition, your instructor will provide a link to the departmental final exam review document, (i.e., the **Final Exam Study Guide**). Your professor will provide you with specific information regarding HCC Math Days locations and session times later in this semester.
While the full-time Math Department faculty leading the review sessions are prepared to answer students' questions on a variety of course topics, the Final Exam Study Guide will provide the basis for the HCC Math Days sessions. Therefore, to get the most out of these review sessions, be sure to work through the Final Exam Study Guide ***before*** you attend the review session(s). Please ask your professor if you have any questions regarding these sessions.

Grading Formula

Final course grade will be the average of highest 3 exams (will drop one of the lowest exam grade out of 4 exams), Homework and Final exam as shown in the following formula.

(Highest 3 Exams + H.W +2* Final)/6 = Course Grade
(Final will be counted twice)

Grade	Overall Percentage
A	90% +
B	80%-89%
C	70%- 79%
D	60%-69%
F	<60%

HCC Grading Scale can be found on this site under Academic Information:
http://www.hccs.edu/resources-for/current-students/student-handbook/

Course Calendar

APPROXIMATE TIME	TEXT REFERENCE

Unit I - Equations and Inequalities *Sections: 1.4, 1.5, 1.6, 1.7*
(8 hours)
This unit includes graphs of equations, quadratic equations and applications, complex numbers, other types of equations, linear inequalities in one variable, and other types of inequalities.

Notes: 1. Section 1.4: This section includes quadratic equations with both real and complex solutions, as complex arithmetic is covered in section 1.3.
2. Section 1.3: Operations with complex numbers (*Optional*).

Unit II – Functions and Their Graphs *Sections: 2.2 → 2.8*
(10 hours)

This unit includes linear equations in two variables, functions, analyzing graphs of functions, a library of Parent functions, transformations of functions, combinations of functions, and composite functions.

Notes:1. Section 2.5: The latter half of this section on applications of linear equations and linear regression should be omitted.

Unit III - Polynomial Functions *Sections 3.1 → 3.6*
(8 hours)

This chapter includes quadratic functions and models, polynomial functions of higher degree, synthetic division, zeros of polynomial functions, rational functions, and inequalities.

Unit IV - Exponential and Logarithmic Functions *Sections: 4.1 → 4.5*
(6 hours)

This unit includes inverse functions, exponential functions and their graphs, logarithmic functions and their graphs, properties of logarithm and exponential and logarithmic equations.

Unit V – Systems and Matrices *Sections: 5.1, 5.4,6.1, 6.3 6.5(exclude Cramer's rule)*

(4 hours)

This unit includes linear and nonlinear systems of equations, two variable linear systems, solving system of equations using matrices, operations with matrices and the determinant of a square matrix.

Test Schedule:

Test	**Sections Covered on Test**	**Exam dates**
Exam 1	Sections: 1.4, 1.5, 1.6, 1.7, 3.6	Tuesday, February 5
Exam 2	Sections: 2.2 → 2.8, 4.1	Tuesday, March 5
Exam 3	Sections 3.1, 3.2, 3.3, 3.4, 3.5	Tuesday, April 9
Exam	Sections: 4.2, → 4.5, Sections: 5.1, 5.4, 6.1, 6.3, 6.5	Tuesday, April 30
Final Exam	***Comprehensive(all sections)***	**Tuesday, May 7 , 11:00am – 12:50pm**

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments

There are no make-up exams.

Academic Integrity

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:
. Copying from another students' test paper;
. Using materials not authorized by the person giving the test;
. Collaborating with another student during a test without authorization;
. Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test not yet administered;
. Bribing another person to obtain a test that is to be administered.
Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System.
Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):
http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/

Attendance Procedures

It is important that you come to class! Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to be on time at the beginning of each class period. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences.

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, students may be dropped from a course after accumulating absences in excess of six (6) hours of instruction. The six hours of class time would include any total classes missed or for excessive tardiness or leaving class early.

The last day to withdraw from this course is April 1, 2019.

Student Conduct

It is our shared responsibility to develop and maintain a positive learning environment for everyone. As your instructor, I take this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Electronic Devices

The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for the purposes other than student learning is strictly prohibited unless authorized as an appropriate ADA accommodation from the ADA Counselor. **The use of a calculator during any exam, including the final exam, is prohibited.**

Mathematics Program Information

- HCC Math Student Organizations: Mu Alpha Theta: Application: https://www.hccs.edu/resources-for/current-students/stem--science-technology-engineering--mathematics/stem-clubs/mu-alpha-theta-application/
- Mathematics related Scholarships: T-Stem: https://www.hccs.edu/t-stem

HCC Policies

Here's the link to the HCC Student Handbook http://www.hccs.edu/resources-for/current-students/student-handbook/ In it you will find information about the following:

Academic Information	Incomplete Grades
Academic Support	International Student Services
Attendance, Repeating Courses, and Withdrawal	Health Awareness
Career Planning and Job Search	Libraries/Bookstore
Childcare	Police Services & Campus Safety
disAbility Support Services	Student Life at HCC
Electronic Devices	Student Rights and Responsibilities
Equal Educational Opportunity	Student Services
Financial Aid TV (FATV)	Testing
General Student Complaints	Transfer Planning
Grade of FX	Veteran Services

EGLS^3

The EGLS^3 (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS^3 surveys are only available for the Fall and Spring semesters. –EGLS3 surveys are not offered during the Summer semester due to logistical constraints.
http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/

Campus Carry Link

Here's the link to the HCC information about Campus Carry:
http://www.hccs.edu/departments/police/campus-carry/

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to HCC Eagle ID and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (http://www.hccs.edu/departments/institutional-equity/)

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/support-services/disability-services/

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
(713) 718-8271
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/

Department Chair Contact Information

College - Level Math Courses

Chair of Math	Susan Fife	SW Campus	713-718-7241	Stafford, Scarcella, N108
- Admin. Assistant	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
- Admin. Assistant	Christopher Cochran	SW Campus	713-718-2477	Stafford, Scarcella, N108
Math Assoc. Chair	Jaime Hernandez	CE Campus	713-718-7772	San Jacinto Building, Rm 369
Math Assoc. Chair	Ernest Lowery	NW Campus	713-718-5512	Katy Campus Building, Rm 112

Math Assoc. Chair	Mahmoud Basharat	NE Campus	713-718-2438	Codwell Hall Rm 105

Developmental Math Courses

Chair of Dev. Math	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Hien Nguyen	SE Campus	713-718-2440	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	NE Campus	713-718-2434	Northline Building, Room 321
Technical Support Specialist	Douglas Bump	SE Campus	713-718-7317	Angela Morales Building, Rm 101

For issues related to your class, please first contact your instructor.
If you need to contact departmental administration, then contact the appropriate Associate Chair.
If further administrative contact is necessary, then contact the appropriate Department Chair.