



**Division of Mathematics
Mathematics Department**

<https://learning.hccs.edu/programs/mathematics>

MATH 1314: College Algebra | Lecture | CRN: 12193

Summer I 2019 | 5 Weeks (6/3/2019-7/7/2019)

Online | 3 Credit Hours | 48 hours per semester

Instructor Contact Information

Instructor: Houssam Kalajo

HCC Email: houssam.kalajo@hccs.edu

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

If you need to contact me, email me at my school email: houssam.kalajo@hccs.edu. I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

What's Exciting About This Course

Overall, math is a subject which requires practice, and, in math, logic is a much-needed thing. This makes math a very interesting subject. The joy of seeing what math can do, not just how it is done.

My Personal Welcome

Welcome to Math 1314. This course requires diligent and consistent work, and the only way to learn math is to work problems. I hope this semester will be a good learning experience for you, and I wish you all a wonderful and successful semester.

Prerequisites and/or Co-Requisites

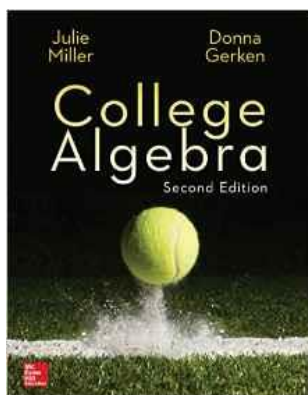
A grade of C or better in Math 0312 or its equivalent or an acceptable placement score.
A grade of C or better in Math 0314 or its equivalent or an acceptable placement score.

Eagle Online Canvas Learning Management System

This section of MATH 1314 will use [Eagle Online Canvas](https://eagleonline.hccs.edu) (<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.**

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.

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

Homework Assignments

All homework assignments for this class must be completed online using Connect Math. The Connect Math Course Code is to be used for registration purposes only. To register for Connect Math and to access the homework, go to www.connectmath.com and the course code you need is available on HCC - Canvas.

Exams

There will be four major examinations plus the final exam. You will be allowed 2 hours to complete each exam. Exam 1, Exam 2, and Exam 4 are online and may be taken at home. Exam 3 is a paper exam and the final exam is online and both exams must be taken in person at the testing locations. If you are an out of town student, you can arrange for a proctor for Exam 2 and final exam at a college or university near you. You have to do that by getting in touch with Mr. Wayne Moten at wayne.moten@hccs.edu to make arrangements. *Your professor CANNOT help you make those out-of-town arrangements*, as soon as the class starts. You must take it at an HCC-approved institutional proctored testing center during the same days as the rest of the class. Please check Canvas for the proctor form. For additional questions, you may contact: de@hccs.edu

Final Exams

All students will be required to take a cumulative departmental Final exam consisting of 33 multiple choice questions.

Grading Formula

Your course grade will be computed as follows:

| | |
|-------------------------|--|
| Exam 1, Online | 15% |
| Exam 2, Online | 15% |
| Exam 3, Paper & Pencil | 15% (Administered in the Testing Center) |
| Exam 4, Online | 15% |
| Homework (Connect Math) | 20% |
| Final exam | 35% (Administered in the Testing Center) |

One lowest major exam out of 3 (Exam 1, Exam 2, or Exam 4) will be dropped.
Exam 3 and the Final exam will not be dropped, replaced, nor substituted for any reason.

Final Average Score = (Sum of 2 highest exams out of 3 + Exam 3) / 3 X 0.45 + HWK (Connect Math) X 0.20 + Final Exam X 0.35

Your final course grade is based on the following standard HCC scale.

| | | | | | |
|--------------------|-------------------------------|---------------------------|---------------------------|---------------------------|-------------------|
| Final Average | $90 \leq \text{Avg} \leq 100$ | $80 \leq \text{Avg} < 90$ | $70 \leq \text{Avg} < 80$ | $60 \leq \text{Avg} < 70$ | $\text{Avg} < 60$ |
| Final Course Grade | A | B | C | D | F or FX |

Notes:

- ❖ Be sure that your name in Connect Math exactly matches your name on Class Roster.
- ❖ No extra work is given for extra credit.
- ❖ No extra work is given to "bring up my grade" or because this is the "last class I need to graduate".

FINAL GRADE OF FX: Students who stop attending class and do not withdraw themselves prior to the withdrawal deadline may either be dropped by their professor for excessive absences or be assigned the final grade of "FX" at the end of the semester. Students who stop attending classes will receive a grade of "FX", compared to an earned grade of "F" which is due to poor performance. Logging into a DE course without active participation is seen as non-attending.

Please note that HCC will not disperse financial aid funding for students who have never attended class. Students who receive financial aid but fail to attend class will be reported to the Department of Education and may have to pay back their aid. A grade of "FX" is treated exactly the same as a grade of "F" in terms of GPA, probation, suspension, and satisfactory academic progress.

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

Course Calendar

Exam Schedule:

| | | |
|---------------------------|-------------------------|--|
| Exam 1 - Online | 06/06/2019 – 06/08/2019 | Sections 1.3 – 1.7 and 2.2 – 2.3 |
| Exam 2 - Online | 06/13/2019 – 06/15/2019 | Sections 2.4 – 2.8 and 3.1 – 3.2 |
| Exam 3 - (Proctored) | 06/21/2019 – 06/23/2019 | Sections 3.3 – 3.6 and 4.1 – 4.2 (Administered in the Testing Center) |
| Exam 4 - Online | 06/27/2019 – 06/29/2019 | Sections 4.3 – 4.5, 5.1, 5.4, 6.1, 6.3, and 6.5 |
| Final Exam (Proctored) | 07/05/2019 – 07/06/2019 | Comprehensive - Chapters 1 - 6 (Administered in the Testing Center) |

Calculators

Calculators and formulas are NOT allowed to be used on any examinations, including the final exam.

Technical Support

If you should experience technical difficulties during the semester, these problems are not under the control of the instructor. Such technical problems should be directed to technical support. For Canvas- Eagle Online tech support, go to the HCC Canvas - Eagle Online support website, call 713-718-2000, options 4, 2, 3 (available 24/7). For Connect Math, please contact Connect Math Support at <http://support.connectmath.com> or call (949) 390-2095.

Course Outline

Pre-Test on Connect Math must be taken by all students. This test is given to measure the student readiness for the course only. **This grade will not be used to calculate your final average score in the course.**

| APPROXIMATE TIME | TEXT REFERENCE |
|------------------|----------------|
|------------------|----------------|

**Unit I - Equations and Inequalities
(8 hours)**
Sections: 1.3, 1.4, 1.5, 1.6, 1.7

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
(10 hours)**
Sections: 2.2 → 2.8

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
(8 hours)**
Sections 3.1 → 3.6

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
(6 hours)**
Sections: 4.1 → 4.5

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
(4 hours)**
*Sections: 5.1, 5.4, 6.1, 6.3
6.5 (exclude Cramer's rule)*

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.

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

Exams must be taken on the specified day. **No MAKE-UP** examinations will be given. The final examination grade will be substituted for one missed test only, **regardless of the reason**. If a second test is missed, the score for that test is zero.

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 that has not been 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. (See the Student Handbook)

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

As stated in the HCC Catalog, all students are expected to attend classes regularly. Students in DE courses must log into their Canvas class (at least 3 times a week), or they will be counted as absent. Just like an on-campus class, your regular participation is required. The participation requirement is given below. Although it is the responsibility of the student to withdraw officially from a course, the instructor also has the authority to block a student from accessing Eagle Online, and/or to drop a student for excessive absences or failure to participate regularly. DE students who do not log into their Canvas class before the Official Day of Record will be AUTOMATICALLY dropped for nonattendance. Completing the DE online orientation does not count as attendance. Logging into a DE course without active participation is regarded as non-attending. ***Do not submit a request to discuss withdrawal options less than a day before the deadline. Neither you nor your instructor will be able to perform the drop after the final drop date.***

The last day to withdraw from this course with a grade of W is June 24, 2019.

Participation Requirement:

Students must complete the entire Syllabus & Orientation Section in the Canvas- Eagle Online course **by the Official Day of Record**. Evidence that the student has completed the participation requirement will be completion of the Introductory Quiz with a perfect score before the Official Day of Record.

Student Conduct

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes 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 asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Electronic Devices

All personal communication devices (any device with communication capabilities including but not limited to cell phones, blackberries, cameras, palmtop computers, lap tops, PDA's, radios, headsets, recorders, organizers, databanks, and electronic dictionaries or translators) must be muted or turned off during class. Such activity during class time is deemed to be disruptive to the academic process. Personal communication devices are to not be on the student desk during examinations. Usage of such devices during exams is expressly prohibited during examinations and will be considered cheating.

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 |

EGLS³

The EGLS³ ([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. EGLS³ 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.