



Fall 2019

Mathematics 104

College Algebra 4 hour – 3 credits

Class Day: Tuesdays & Thursdays

Time: 8:00 am – 9:50 am

Instructor: Alexis Ondongo

Textbook: COLLEGE ALGEBRA by: Lial | Hornsby | Schneider | Daniels – Twelfth Edition; ISBN#978-013-421745-1

Course Description: Basic concepts of sets, algebra, graphs and functions; linear, rational, exponential, and logarithmic functions and their applications. Not to be used to satisfy the general education requirement and not to be used to satisfy the requirement for mathematics major.

Classroom Methodology: This will be a combination of student center instruction and teacher center instruction. To establish meaning when studying new concepts, students will receive direct instruction and practice the use of appropriate algorithms, mathematical procedures, and problem solving strategies. Daily assignments will give the practice needed to master skills. Strategies used to complete homework will be demonstrated by students daily. Following Direct Instruction Days, students will be working in groups and giving problems (directly related to the concepts and skills practiced in class) to solve. When groups have solved the problems, they will present, to the whole class, the strategies used and the solutions. Students will be assessed (tested) regularly.

Blackboard: This class has a site on Blackboard. Log into Blackboard through the CUNY Portal

(<https://cunyportal.cuny.edu/>). Using Blackboard, students can access their classwork, lab assignments, this syllabus as well as announcements pertaining to the class. Students unfamiliar with Blackboard can attend workshops given through the academic computing office (located on the 3rd floor in the G-Wing of the Library).

Learning Objectives: After completion of the course, students should be able to:

1. Understand sets and operations upon them.
 2. Understand basic concepts and properties of numbers.
 3. Combine, simplify and perform operations on polynomials.
 4. Use exponential notation including the use of negative and non-integer exponents.
 5. Solve simple equations of different types: linear equations in one variable and quadratic equations through factoring, completing the square and the quadratic formula.
1. Solve linear inequalities and absolute value inequalities.
 2. Describe functions, their domains, ranges, intervals on which they are

increasing/decreasing/constant and be able to recognize and graph functions of various types on the Cartesian plane.

3. Calculate function values and find inverses of simple functions.
4. Understand, solve, graph and apply exponential and logarithmic equations including familiarity with the change of base formula to evaluate logarithms.
5. Apply functions of various types to real-world problems and situations
6. Apply essential mathematics literacy in quantitative and mathematical reasoning

Course Requirements

Attendance & Participation: These assessments count for 10%. Students are expected to arrive on time and to attend class regularly. Please be aware that it is the student responsibility to cover the material whenever the student is absence or late. Being absence will not excuse any student from homework or taking a quiz or test. Students are expect to be prepare for class (Read and Study the material before class), complete all the required assignments and actively engage in activities.

Attendance will be taken at the beginning of every class. Success in this course requires a willingness to work and complete all homework assignments!

Absence and Lateness: Three absence will prevent you from getting a passing grade. Two late marks are considered as one absence.

Late: A late mark is received by missing 15 minutes of class.

Absence: An absence is received by missing 45 minutes of class.

Quizzes, Tests, Midterm and Final Exam: These assessments count for 70% on your grade in this class. There will be in-class exams each on specific topics covered in class. Additionally, the class will end with a cumulative, final exam. We will spend time practicing and preparing for assessments, so you will feel prepared.

Homework: These assessments count for 20% on your grade in this class. Students will be given homework in order to practice concepts learned. Homework will be assigned every day. Points will get deducted from the final score of homework if it's submitted passed the due date

Grading Policy:

| Area | Grade Percentage Points |
|----------------------------|-------------------------|
| Attendance & Participation | 10% |
| Homework | 20% |
| Quizzes & Tests | 30% |
| Midterm | 20% |
| Final | 20% |
| Total | 100% |

Teacher Evaluations: Student evaluation of teachers is now sent to the student's York College email addresses during the latter part of the semester. More will be said about this in class when the time comes.

Topics Covered and Outline of the Course (TENTATIVE)

The following table outlines the topics that will be covered as part of the course and the timeline for their completion. Please note that this is a tentative outline that is subject to change as the semester progresses. A revised schedule of topics will be distributed if subsequent changes are required.

| Week | Topics of Study |
|-----------------------------|--|
| Week 1 | Sets and their properties; Real numbers and their properties; Polynomials |
| Week 2 | Rational Expressions; Rational Exponents; |
| Week 3 | Linear Equations & Quadratic Equations |
| Week 4 | Inequalities; Absolute Value Equations and Inequalities |
| Week 5 | Applications of linear, quadratic and absolute value equations and inequalities |
| Week 6 | Rectangular Coordinates and Graphs |
| Week 7 | Graphs of Basic Functions; Graphing Techniques |
| Week 8 | Linear & Quadratic Functions; Inverse Functions |
| Week 9 | Exponential Functions |
| Week 10 | Applications of exponential functions |
| Week 11 | Evaluating Logarithms; Change of Base Formula |
| Week 12 | Logarithmic Equations |
| Week 13 | Applications of logarithms |
| Week 14 | Additional Applications of course content to real-world problems and situations |
| Week 15 Final Date - TBA | Final Exam Covers all topics discussed in class over the course of the semester. |

Important Policies

Policy on Academic Integrity, Cheating and Plagiarism.

Students can familiarize themselves with this policy by downloading a copy of it in pdf form at: <http://york.cuny.edu/president/legal-compliance/legal-affairs/cuny-legal-policies-procedures/Academic-Integrity-Policy.pdf/view>

Students with Disabilities

Students with documented disabilities are entitled to receive accommodations, including extra time on exams, test, projects and assignments. The office of Services for Students with Disabilities is located within the Counseling Center in AC 1G02. For more information, go to:

<http://www.york.cuny.edu/student-development/ossd>

Student support resources on campus

The following offices and programs are available on campus to support students as needed. Please note that this is not an exhaustive list and other programs and offices do exist. When unsure you can conduct a search on the York College website located at www.york.cuny.edu or access the York College Bulletin (also searchable) online at <http://york.cuny.edu/search?SearchableText=york+bulletin>

The Academic Achievement Center is located in the library (AC-3H13) offers tutoring for students in various subjects. Tutoring is free to students who schedule appointments with tutors at times that fit their schedule. The academic achievement center can also be reached by phone at (718) 262-2831 or via e-mail at aac@york.cuny.edu.

The Math Learning Center is located at AC-3E07. They provide educated and knowledgeable tutors to help students with their math classes. Services includes one-on-one tutoring, group sessions, class materials for most math courses and laptops preloaded with all CAS Math programs. They also can be reached by phone at 718-262-2710.

For a complete listing of Tutorial Services visit the web: www.york.cuny.edu/student/tutoring/

The Academic Computing and Educational Technology Center provides technical support for students in utilizing Blackboard, the CUNY portal, York e-mail and other programs. There is a help desk located in the G-Wing of the Library (located on the 3rd floor). The IT help desk can also be reached by phone at (718) 262-5300 or via e-mail at helpdesk@york.cun.edu. Additionally the center runs technology workshops for students. More information can be found online at <http://york.cuny.edu/it/acet/academic-computing-and-educational-technology/>