

HOWARD UNIVERSITY  
Department of Mathematics  
Course: College Algebra I (3 credits)

**COURSE DESCRIPTION:** This is an intensive college algebra course, with applications to the natural sciences. It begins with a review of algebraic manipulations, and then introduces linear, quadratic, exponential, and logarithmic equations and functions and their graphs.

This course requires the following:

- **Daily online homework:** This homework is available through ALEKS, for which you need to purchase a **student access code**. (See below for instructions.)

**REQUIRED TEXT:** Miller & Gerken, College Algebra & Trigonometry, e-book version with ALEKS code. The use of ALEKS as an online homework tool is required. Students who buy their books from the bookstore automatically receive an ALEKS code. Students should go to the website <https://www.aleks.com/> and enter their class code and buy the ALEKS license and ebook at that site.

**Do not purchase a book elsewhere.**

**COURSE GOALS:**

1. To enable the student to solve linear, quadratic, exponential, and logarithmic equations and use those functions to describe, graphically and quantitatively, appropriate applied problems.

**COURSE OBJECTIVES:** On completion of the course, students should be able to

- Solve linear and quadratic equations and inequalities
- Solve some simple exponential and logarithmic equations
- Describe a variety of applied problems, including geometry, velocity, mixing, finances, work, and variation problems
- Graph and understand the graphs of linear, quadratic, exponential, and logarithmic functions

**PREREQUISITE:** A satisfactory score in the mathematics placement exam.

**Instructor:** \_\_\_\_\_

**Office:** \_\_\_\_\_

**Extension:** \_\_\_\_\_

**Office Hours and method:** \_\_\_\_\_

**E-mail:** \_\_\_\_\_

**Class Code** \_\_\_\_\_

**Schedule of quizzes and exams:**

Quizzes \_\_\_\_\_

Exams: Exam 1 9/14

Exam 2 10/7

Exam 3 11/4

**FINAL EXAM**      Date December 6, 2022 3:30-5:30

**VIRTUAL MEETING POLICIES:**

1. *No cell phone or computer surfing during class, including texting.* Please turn your ringer off before the start of class.
2. Research has shown that students who regularly attend class tend to do better than those who do not. Please be on time.
3. Calculator policy: \_\_\_\_\_
3. Be polite to your classmates. Ask questions through the chat feature if the class is large.

**GRIEVANCE PROCEDURE:** If you have any problems with the policies or rules of this course, discuss your concerns with your instructor. If the two of you are unable to come to an agreement, please contact the course coordinator, [Dr.Mahop, cmahop@howard.edu](mailto:Dr.Mahop,cmahop@howard.edu). If you are still unable to come to a satisfactory arrangement, you may contact the Director of Undergraduate Studies, Dr. McGowan, [jmcgowan@howard.edu](mailto:jmcgowan@howard.edu), and then, finally, the Chair of the Department, Dr. Bourama Toni, [bourama.toni@howard.edu](mailto:bourama.toni@howard.edu).

**Academic Code of Student Conduct (please see the “Academic Code of Conduct” in the Howard University handbook or Directory of Classes):** No copying, unauthorized use of calculators, books, or other materials, or changing of answers or other academic dishonesty will be tolerated.

**American Disabilities Act (ADA):** Howard University is committed to providing an educational environment that is accessible to all students. In accordance with this policy, students who need accommodations because of a disability should contact Dr. Barbara Williams, Dean for Special Student Services (202-238-2420), as soon as possible after admission to the University or at the beginning of each semester. If you need a special accommodation required by the American Disabilities Act, please document and discuss your disability with me during the FIRST TWO WEEKS of classes.

**Statement on Interpersonal Violence:** Howard University takes sexual assault, dating violence, domestic violence, stalking and sexual harassment seriously. If a student reveals that he or she needs assistance with any of these issues, all responsible employees, including faculty, are required to share this information with the University Title IX Office (202-806-2550) or a student can be referred for confidential services to the Interpersonal Violence Prevention Program (IVPP) (202-238-2382) or the University Counseling Services (202-806-6870). For more information, please go to [www.CampusSafetyFirst.Howard.Edu](http://www.CampusSafetyFirst.Howard.Edu)

**COVID-19 STATEMENT:**

The wearing of a face mask in the classroom is **mandatory**. Students will be directed to leave the classroom if a face mask is not worn properly to cover the nose and mouth. Any student who refuses or fails to comply with the University’s requirements and precautions against COVID-19, and any other measures the University advances for the safety and protection of the Howard Community, will constitute a violation of the University’s Student Code of Conduct and could result in sanctions up to and including expulsion from the University.

**EVALUATION:**

|                                |                   |
|--------------------------------|-------------------|
| 3 Exams _____ pts each         | Total _____       |
| _____ Quizzes _____ pts each   | Total _____       |
| _____ ALEKS Homework _____ pts | Total _____       |
| 1 Final Exam 200 pts           | Total <u>200</u>  |
|                                | Grand Total _____ |

**Grading formula:**

|             |   |
|-------------|---|
| _____       | A |
| _____       | B |
| _____       | C |
| _____       | D |
| Below _____ | F |

Schedule of lectures and assignments: Each day, read the section that we will cover in the next class and do the problems highlighted with a pencil from that section. Be prepared to ask questions.

**Instructions for homework component:** Please be aware that in addition to quizzes and exams, there is an **online homework component** for this course. The deadlines for online homework assignments follows the schedule for the course lectures (below). The homework will be inaccessible after its due date, so do your

homework promptly. If you are not able to purchase your access code immediately, approach your instructor about a **financial aid code**. This will allow you access for the first two weeks of the course. The course is MATH 006 202108; the Class Code is \_\_\_\_\_; use this information and go to [WWW.ALEKS.COM](http://WWW.ALEKS.COM) There, you will be able to register and then login to the homework content of the course.

An approximate schedule of lectures follows. This schedule is designed for face-to-face classes; if your course is online, your instructor may adapt it.

| Miller & Gerken         |           |                                   |                              |
|-------------------------|-----------|-----------------------------------|------------------------------|
| ALGEBRA I FALL SCHEDULE |           |                                   |                              |
| Month                   | Date      | Sections                          | Homework –ALEKS              |
| AUG                     | 22        | R.1 Sets and the Real Number Line |                              |
| AUG                     | 24        | R.2 Integer Exp & Scien. Not.     |                              |
| AUG                     | 26        | R.3 Rational Exponents & Radicals |                              |
| AUG                     | 29        | R.3 Rational Exponents & Radicals |                              |
| AUG                     | 31        | R.4 Polynomials                   |                              |
| SEP                     | 2         | R.5 Factoring                     |                              |
| <b>SEP</b>              | <b>5</b>  | <b>Labor Day</b>                  |                              |
| SEP                     | 7         | R.6 Rational Expressions          |                              |
| SEP                     | 9         | R.6 Rational Expressions          |                              |
| SEP                     | 12        | Review                            |                              |
| SEP                     | 14        | <b>Exam 1</b>                     |                              |
| SEP                     | 16        | <b>Convocation</b>                | <b>10-1 classes canceled</b> |
| SEP                     | 19        | 1.1 Linear and Rational Eqns      |                              |
| SEP                     | 21        | 1.2 Applications Lin & Rat'l      |                              |
| SEP                     | 23        | 1.3 Complex Numbers               |                              |
| SEP                     | 26        | 1.4 Quadratic Equations           |                              |
| SEP                     | 28        | 1.5 Applic Quadratic              |                              |
| SEP                     | 30        | 1.6 More Eqns & Apps              |                              |
| OCT                     | 3         | 1.7 Linear & Abs Val Ineql        |                              |
| OCT                     | 5         | Review                            |                              |
| OCT                     | 7         | <b>Exam 2</b>                     |                              |
| OCT                     | 10        | <b>Mental Health Day</b>          |                              |
| OCT                     | 12        | 2.1 Rectangular Coords & Graph    |                              |
| OCT                     | 14        | 2.2 Circles                       | <b>Midterm grades</b>        |
| OCT                     | 17        | 2.3 Functions & Relations         |                              |
| OCT                     | 19        | 2.3 & 2.4 Linear Eqns & Fns       |                              |
| OCT                     | 21        | 2.4 Linear Eqns in 2 var & Fns    |                              |
| OCT                     | 24        | 2.5 Apps Linear Eqns              |                              |
| OCT                     | 26        | 2.6 Transformations of Graphs     |                              |
| OCT                     | 28        | 2.7 Analysing Graphs              |                              |
| OCT                     | 31        | 2.8 Algebra & Composition of Fns  |                              |
| NOV                     | 2         | Review                            |                              |
| NOV                     | 4         | <b>Exam 3</b>                     |                              |
| NOV                     | 7         | 3.1 Quadratic Fns & Apps          |                              |
| NOV                     | 9         | 3.7 Variation                     |                              |
| <b>NOV</b>              | <b>11</b> | 4.1 Inverse Fns                   |                              |
| NOV                     | 14        | <b>Veterans' Day</b>              |                              |

|     |    |                          |                  |
|-----|----|--------------------------|------------------|
| NOV | 16 | 4.2 Exponential Fns      |                  |
| NOV | 18 | 4.3 Logarithmic Fns      |                  |
| NOV | 21 | 4.4 Properties of Logs   |                  |
| NOV | 23 | 4.4 & 4.5 Exp & Log Eqns | half day         |
| NOV | 25 | 4.5 & 4.6 Modeling       |                  |
| NOV | 28 | Thanksgiving (halfday)   |                  |
| NOV | 30 | 4.6 Modeling             |                  |
| DEC | 2  | Review**                 |                  |
| DEC | 6  | <b>Final Exam</b>        | <b>3:30-5:30</b> |

\*\* See old finals online [http://www.coas.howard.edu/mathematics/more\\_pexams.html](http://www.coas.howard.edu/mathematics/more_pexams.html)