

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 **ALEKS instructions on update page**.)

**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.

**Class Code** AF3GQ-X3MTV

**Schedule of quizzes and exams:**

Exams: Exam 1 9/15  
Exam 2 10/8  
Exam 3 11/3

**FINAL EXAM**    **Date** December 7, 2021 3:30-5:30

**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: NO CALCULATORS

**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. 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).

Schedule of lectures and assignments: Each day, read the section that we will cover in the next class and do the problems in ALEKS from that section. Be prepared to ask questions. 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	23	R.1 Sets and the Real Number Line	
AUG	25	R.2 Integer Exp & Scien. Not.	
AUG	27	R.3 Rational Exponents & Radicals	
AUG	30	R.3 Rational Exponents & Radicals	
SEP	1	R.4 Polynomials	
SEP	3	R.5 Factoring	
<b>SEP</b>	<b>6</b>	<b>Labor Day</b>	
SEP	8	R.6 Rational Expressions	
SEP	10	R.6 Rational Expressions	
SEP	13	Review	
SEP	15	<b>Exam 1</b>	
SEP	17	<b>Convocation</b>	<b>10-1 classes canceled</b>
SEP	20	1.1 Linear and Rational Eqns	
SEP	22	1.2 Applications Lin & Rat'l	
SEP	24	1.3 Complex Numbers	
SEP	27	1.4 Quadratic Equations	
SEP	29	1.5 Applic Quadratic	
OCT	1	1.6 More Eqns & Apps	
OCT	4	1.7 Linear & Abs Val Inequ	
OCT	6	Review	
OCT	8	<b>Exam 2</b>	
OCT	11	2.1 Rectangular Coords & Graph	
OCT	13	2.2 Circles	
OCT	15	2.3 Functions & Relations	<b>Midterm grades</b>
OCT	18	2.3 & 2.4 Linear Eqns & Fns	
OCT	20	2.4 Linear Eqns in 2 var & Fns	
OCT	22	2.5 Apps Linear Eqns	
OCT	25	2.6 Transformations of Graphs	
OCT	27	2.7 Analysing Graphs	
OCT	29	2.8 Algebra , Composition of fns	
NOV	1	Review	
NOV	3	<b>Exam 3</b>	
NOV	5	3.1 Quadratic Fns & Apps	
NOV	8	3.7 Variation	
NOV	10	4.1 Inverse Fns	
NOV	12	4.2 Exponential Fns	
NOV	15	4.3 Logarithmic Fns	
NOV	17	4.4 Properties of Logs	
NOV	19	4.4 & 4.5 Exp & Log Eqns	
NOV	22	4.5 & 4.6 Modeling	
NOV	25	Thanksgiving (halfday)	
NOV	26	Thanksgiving	
DEC	1	4.6 Modeling	
DEC	3	Review**	
DEC	7	<b>Final Exam</b>	<b>3:30-5:30</b>