

# Bachelor of Science in Mathematics (Math Education)

Howard University

College of Arts & Sciences

*Catalog: Fall 2023 – Present*

## Quick Summary - What You Need to Graduate

Total Credits <b>120</b>	Minimum GPA <b>2.0</b>	Math Credits <b>33</b>	Last 30 Credits <b>At Howard</b>
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### Your Degree Breakdown:

- Major Requirements: 33 credits (approximately 14 courses)
- General Education: 30+ credits (approximately 15 courses)
- Free Electives: Remaining credits to reach 120 (varies by track)
- Complete all 7 ELOs (can overlap with courses)
- COAS Experiential (1 course) & COAS Innovative Learning (1 course)
- Undergraduate Comprehensive Exam

### Important: Double-Dipping Made Simple!

One course can fulfill BOTH a General Education requirement AND an Essential Learning Outcome (ELO) at the same time. You don't need separate courses for each! This helps you graduate efficiently without taking extra classes.

Major credits **cannot** be double dipped with minor credits. While students are not required to declare a minor, those who choose to do so must complete **15–18 credits that are not applied toward their major requirements**. Minor coursework must remain distinct and separate from major coursework.

## University-Wide Requirements

- **Minimum GPA:** 2.0 for all undergraduate coursework
- **Residency:** Complete last 30 credits at Howard University
- **Exit Requirement:** Undergraduate Comprehensive Exam
- **Total Credits:** 120 credits required

## General Education Requirements (30+ Credits / ~15 Courses)

### Essential Learning Outcomes (ELOs)

Students must complete courses covering all seven outcome areas. Remember, these can overlap with other requirements!

- **ELO 1:** U.S. and Global African Diasporic Developments
- **ELO 2:** Human Cultures and Creative Expression
- **ELO 3:** The Physical and Natural World
- **ELO 4:** Intellectual and Practical Skills
- **ELO 5:** Social Responsibility and Political Institutions
- **ELO 6:** Leadership and Applied Learning
- **ELO 7:** Comprehensive Wellness Practices

**Note:** ELO courses are tagged in Bison Hub under the course description

### Freshman Experience (1 Credit / 1 Course)

- **FRSM 001** - Freshman Seminar (1 credit)

### Core Writing & Communication (12 Credits / 4 Courses)

4 courses needed (each 3 credits)

- **ENGW 101, 102, or 104** - First-Year English Writing I (3 credits)
- **ENGW 103 or 105** - First-Year English Writing II (3 credits)
- **Third Writing MATH 795** - Upper-level writing (3 credits)
- **Principles of Speech (AS)** - (3 credits)

### Health & Wellness (2 Credit / 2 Courses)

2 courses needed (each 1 credit)

- **Two HHPL Course** - Health, Human Performance, and Leisure (1 credit each)

### Cultural and Global Awareness (12 Credits / 4 Courses)

- **African American Cluster Course** - 1 course (3 credits)
- **Foreign Language** - 3 courses (9 credits total, same language)  
(3 credits can be an intercultural knowledge)

### Humanities, Social Sciences & Philosophy (21 Credits / 7 Courses)

- **Two Humanities Courses** - 2 courses (6 credits)
- **Four Social Science Courses** - 4 courses (3 credits each)
- **One Philosophy Elective**- 1 course (3 credits)

## **Free Electives**

Remaining credits to reach 120 total (varies based on math track and elective choices)

## **COAS Special Requirements**

### **Experiential Learning (1 course required)**

Examples of COAS Experiential Learning Course but are not limited to:

- Any 890 course
- Internships
- Study abroad

### **Innovative Learning Requirement (1 course required)**

- Complete at least one course marked as 'innovative'

**Note:** COAS Special Requirements courses are tagged in Bison Hub under the course description

# **Total Math Education Major Requirements (64-67 Credits / 18 Courses)**

## **Foundation Courses (30 Credits / 6 Courses)**

- **MATH 103** – Proof & Problem Seminar (3 credits)
- **MATH 156** - Calculus (4 credits)
- **MATH 157** - Calculus II (4 credits)
- **MATH 158** - Calculus III (4 credits)
- **MATH 150** – Modern Geometry (3 credits)
- **MATH 180**– Intro to Linear Algebra (3 credits)
- **MATH 181** – Discrete Structures (3 credits)
- **MATH 189** – Probability & Statistics I (3 credits)
- **MATH 195/795** – Intro to Analysis I / Intro to Analysis Writing (3 credit)

## **Math Electives Select 1 (3 Credits / 1 Courses)**

- **MATH 164** – Numerical Analysis (3 credits)
- **MATH 184** – Intro to Number Theory (3 credits)
- **MATH 190** – Probability & Statistics II (3 credits)
- **MATH 197** – Intro to Modern Algebra I (3 credits)

## **Education Electives (24-27 Credits / 6 courses)**

- **EDUC 210** – Foundations & Urban Education (3 credits)
- **EDUC 212** – Educational Psych: Learning & African Amer (3 credits)
- **EDUC 311** – Special Educ & Classroom Mgmt (3 credits)
- **EDUC 410** – Pedagogy & Content Literacy (3 credits)
- **EDUC 450** – Internship & Classroom Mgmt (9-12 credits)
- **EDUC 430** – Methods & Instruc Tech (3 credits)

## **Computer Science Electives (7 Credits / 2 courses)**

- **CSCI 100** – Introduction to Computer Science (3 credits)
- **CSCI 135** – Computer Science I (4 credits)

## **Sample Degree Progress Checklist**

**Always consult with your academic advisor for personalized guidance**

### **Freshman Year (30 Credits)**

### **Fall Semester (15 Credits)**

- FRSM 001 - Freshman Seminar (1 credit)
- ENGW 101/102/104 - First-Year Writing I (3 credits)
- MATH 156 Calculus I (4 credits)
- CSCI 100 Intro to Computer Science (3 credits)
- Social Science (3 credits)
- HHPL (1 credit)

### **Spring Semester (15 Credits)**

- ENGW 103/105 - First-Year Writing II (3 credits)
- MATH 103 Calculus (4 credits)
- MATH 157 Calculus II (4 credits)
- Social Science (3 credits)
- HHPL (1 credit)

## **Sophomore Year (32 Credits)**

### **Fall Semester (16 Credits)**

- MATH 158 Calculus III (4 credits)
- MATH 150 Modern Geometry (3 credits)
- EDUC 210 Education (3 credits)
- Foreign Language I (3 credits)
- Humanities Course (3 credits)

### **Spring Semester (16 Credits)**

- MATH 180 Linear Algebra (3 credits)
- CSCI 135 Computer Science I (4 credits)
- Foreign Language II (3 credits)
- Principles of Speech (3 credits)
- Social Science (3 credits)

## **Junior Year (30 Credits)**

### **Fall Semester (15 Credits)**

- MATH 195/795 Intro to Analysis I (3 credit)
- EDUC 311 Education (3 credits)
- Experiential Learning Elective (3 Credits)
- Foreign Language III (3 credits)
- Humanities Course (3 credits)

### **Spring Semester (15 Credits)**

- MATH 181 Discrete Structures (3 credits)
- Philosophy (3 credits)
- EDUC 212 Psychology: Learning & African American Learners (3 credits)
- African Diasporic Cluster (3 credits)
- Free Elective (3 credits)

## Senior Year (24-30 Credits)

### Fall Semester (12-15 credits)

- MATH 189 Prob & Stat I (3 Credits)
- EDUC 410 Pedagogy & Content Literacy (3 credits)
- MATH Elective
- COAS Innovative Learning (if not completed)
- Free Electives as needed to reach 120 credits
- Take Undergraduate Comprehensive Exam

### Spring Semester (12-15 credits)

- EDUC 450 Internship & Classroom Management (9 credits)
- EDUC 430 Methods & Instructional Technology (3 credits)
- Free Electives as needed to reach 120 credits
- Apply for graduation

## Key Requirements Summary

- **Minimum Overall GPA:** 2.0
- **Credits in Math:** 33 minimum
- **Residency:** Last 30 credits at Howard University

## Important Notes for Success

- **Experiential Learning:** Can often be satisfied through 890 courses, internships, etc. Please speak with your advisor for all options.
- **ELO Requirements:** Many built in general electives will automatically satisfy ELO requirements.
- **Advisor Consultation:** Consult with your academic advisor each semester for course planning.
- **Scholarship Requirements:** Students are required to successfully pass a minimum of 15 credits each semester. There is an exception for students in their final term to take less than 15 credits and still be awarded their scholarship.
- **Freshman** 0-29 completed credits
- **Sophomore:** 30-59 completed credits

- **Junior:** 60-89 completed credits
- **Senior:** 90 or more completed credits

## Resources & Support

- **Academic Advisor:** Contact Office of Undergraduate Studies for assignment
- **Department Office:** Mathematics of Arts & Sciences
- **Pre-Health Advising:** Available for students interested in medical/dental/veterinary school.
- **Research Opportunities:** Speak with faculty about laboratory research positions

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