

# Welcome to New Student Orientation



The Mississippi School  
for Mathematics and Science  
*An Opportunity for Excellence*

April 22, 2023



Mississippi School  
for Mathematics and Science



# The Mississippi School for Mathematics and Science



Mississippi School  
for Mathematics and Science



Dr. Donnie Cook

*Executive Director*

# MSMS: An Opportunity for Excellence

Our mission is to enhance the future of Mississippi in the global society by meeting the individual needs of gifted and talented students through providing innovative learning experiences and leadership development in a residential environment. In addition, we will provide quality educational leadership for other educators and aggressive outreach programs that impact students across Mississippi.

Click to add text



Mississippi School  
for Mathematics and Science



Mr. Brayden Coleman  
*Technology Technician*




## Technology

### Recommended Devices

- Windows Laptops
- MacBooks


### Unrecommended Devices

- Chromebooks
- iPads
- Tablets

 The Mississippi School  
for Mathematics and Science  
*An Opportunity for Excellence*

**A Windows Laptop is recommended**



**Minimum Specs**  
Hard Drive: 250GB or more  
Memory: 16GB or more  
Processor: INTEL I5 or equivalent



**MacBooks are supported, but may require additional support**

**NOT RECOMMENDED**  
iPads  
Tablets  
Chromebooks

**NEED HELP?**  
Student Email Login Assistance  
PowerSchool Login Assistance

 [it@themsms.org](mailto:it@themsms.org)  
 662-241-6978



Ms. Ginger Tedder

*Incoming Director for Academic Affairs*



- Ideals: Community, Creativity, Scholarship , Service
- Academic Introduction
  - Focused on Deep Learning
  - Daily Class Schedule
  - AP vs Dual Credit
  - Research Emphasis
  - Special Topics/Independent Study
  - Add/Drop Window in Fall
  - No Changes in Requests Until August
- Pathways Program: July 9-21







MSMS Graduation Requirements Classes of 2024 and 2025

CURRICULUM AREA	CARNEGIE UNITS	REQUIRED COURSES
ENGLISH	4	Courses must require substantial communication skills and may not be compensatory in nature.
MATHEMATICS	5	Algebra I or CCSS Algebra I or CCSS Integrated Math I (1 Carnegie Unit) Algebra II or CCSS Algebra II or Integrated Math III (1 Carnegie Unit) Unified Geometry or CCSS Geometry or CCSS Integrated Math II (1 Carnegie Unit) Trigonometry (1/2 Carnegie Unit) Foundations of Higher Math or its equivalent or CCSS Advanced Math (1/2 Carnegie Unit) Calculus or AP Calculus AB or AP Calculus BC (1/2 Carnegie Unit) or AP Statistics (1/2 Carnegie Unit)
SCIENCE	4	Biology I (1 Carnegie Unit) MSMS Biology (1 Carnegie Unit) MSMS Chemistry (1 Carnegie Unit) MSMS Physics (1 Carnegie Unit)  Please see course descriptions to view sequences that may result in excess CUs.
SOCIAL SCIENCES	4	U.S. History (1 Carnegie Unit) U.S. Government (1/2 Carnegie Unit) Mississippi Studies (1/2 Carnegie Unit) * World History (1 Carnegie Unit) Economics (1/2 Carnegie Unit) Geography (1/2 Carnegie Unit)
TECHNOLOGY and COMPUTER SCIENCE	1	Computer Applications (1/2 Carnegie Unit) and Keyboarding (1/2 Carnegie Unit) or Cyber Foundations 2 in the 8 <sup>th</sup> grade (1 Carnegie Unit)**
HEALTH	½	Comprehensive Health or Family and Individual Health (prior to first day of Junior year)
PHYSICAL EDUCATION	½	Class of 2024 and 2025****
THE ARTS	1	Examples: Band, Choral Music, Drama, Drawing, Painting, Sculpture***
WORLD LANGUAGE	2	Two units of the same World Language required
College and Career Readiness	1	1 Carnegie Unit will be completed in the junior year.
Swing Credit	½	Either a MSMS Mathematics, Science, Computer Science or Engineering Course
OTHER ELECTIVES	1	Your Choice
TOTAL UNITS REQUIRED	24 ½	



Mississippi School  
for Mathematics and Science

# Faculty Orientation

# World Languages: Two-years required

Great as electives!



Mississippi School  
for Mathematics and Science





## CS College Credit\* Courses

### CS 703 – Introduction to Programming

This course provides an introduction to the process of problem solving using the computer programming language Python.

- Prerequisite: Algebra II
- 1 Credit
- Length: 1 semester

### CS 704 – Intermediate Programming

This course explores object-oriented problem solving, design, and programming, transitioning the student from Python to C++.

- Prerequisite: Intro to Programming or consent of instructor
- 1 Credit
- Length: 1 semester

\*College credit provided through MSU

# Computer Science/Engineering



Mississippi School  
for Mathematics and Science

## Get **Creative** in CS

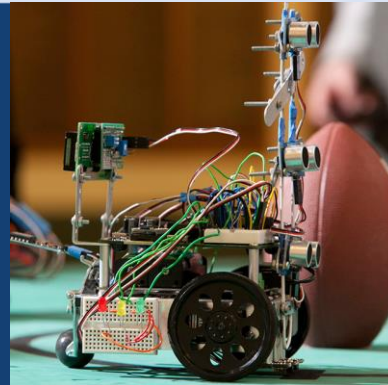
CS 706 App Design



CS 717 - Introduction to Game  
Design



CS 716 Introduction to Robotics





## CS minus the Programming

### CS 711 – Introduction to Artificial Intelligence

This class will give students the opportunity to learn about four forms of artificial intelligence. Each unit will end with students applying the recently learned AI strategy to solve a new problem.

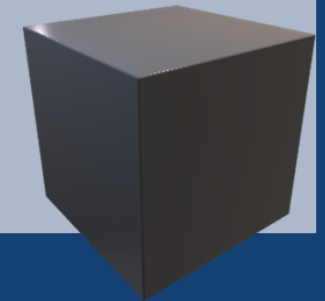
- Prerequisite: none
- Credit: 1/2
- Length: 1 semester



### CS 719 – 3D Modeling

The purpose of this class is to provide students with an introduction to computer aided design (CAD) concepts and to develop critical thinking and problem-solving skills. The course will use the website Onshape.com to create 3D models.

- Prerequisite: none
- Credit: ½ (elective credit)
- Length: 1 semester





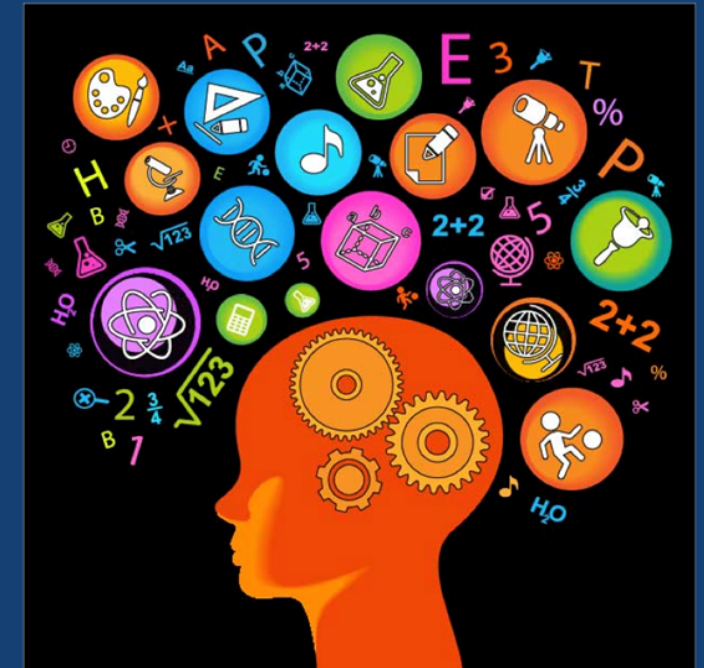
# Computer Science/Engineering

## Just a Taste of CS

### CS 705 - Integrating Computer Science concepts with other Sciences

This course is designed to introduce students to the central ideas of computing and computer science, to instill ideas and practices of computational thinking, to show how computing and computer science change the world, and to engage students in the creative aspects of the field. Students will learn the basics of programming in the python programming language so that they will be prepared for computational science in any field they wish to pursue.

- Prerequisite: Algebra II
- Credit:  $\frac{1}{2}$
- Length: 1 semester



# Computer Science/Engineering



Mississippi School  
for Mathematics and Science



Mississippi School  
for Mathematics and Science

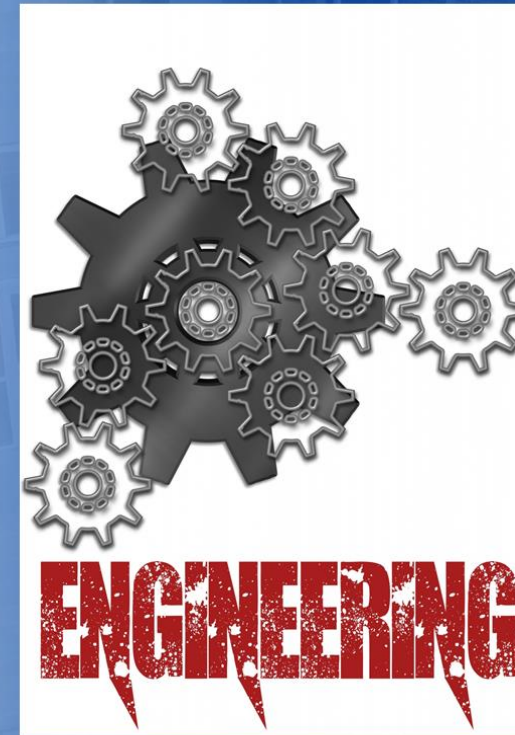
---

## SC 210 –Introduction to Engineering (College Credit from MSU)

---

This course introduces students to engineering. Students will learn the engineering design process, engineering concepts, and the different engineering majors and their applications. Through this course, students will be asked to conduct hands-on activities that will teach them the basics of engineering and will meet and discuss with professional engineers. This course will allow students to better understand engineering and its applications to their future careers.

- No prerequisites
- 1 Credit
- 1 Semester





# INTERESTED IN ELECTRICAL AND COMPUTER ENGINEERING?

## CS 716 INTRODUCTION TO ROBOTICS

- This course is required if students want to join the Robotics club. This course is an introduction to the study of Robotics and programming. Students will learn to program robots and the logic necessary to make robots interact with their environment. This class will focus on structures as well as basic programming, **No previous knowledge is required.**

- Prerequisites: None
- Credit: ½
- Length: 1 Semester



## SC 345 ELECTRONICS

This course is offered to allow students an opportunity to develop expertise in the area of electronics. Assignments will be made from both text and laboratory designs. Students can gain familiarity with basic DC and AC circuits, measuring voltage/current/resistance, measuring AC signals, assessing complex impedance, designing simple antennas, and other introductory electrical engineering practices. A major part of the grade will be a final project.

- Pre/Co requisites: Calculus 1 or equivalent
- Credit: 1/2
- Length: 1 Semester



## SC 214 MECHANICS OF MATERIALS

Students enrolled in this course will learn about materials science and how it is an integration of engineering, material science and physics. They will learn about the distinct types of materials, their properties, and how engineers choose materials for different projects. A substantial portion of this course will be hands-on.

- Prerequisites: None
- Credit: 1/2
- Length: 1 Semester

## SC 212 ENGINEERING DESIGN

Students will choose an engineering problem that they would like to solve. Through the first half of the class, they will research the problem they are attempting to solve as well as gather the skills necessary to design their solution. The second half of the class will be spent testing their designs and communicating their results. This course acts as a capstone course for students interested in pursuing Engineering.

- Prerequisites: Intro to Engineering or Instructor's approval.
- Credit: ½
- Length: 1 YEAR



To graduate you need at least

- 1 semester of AP/University Calculus
- 1 semester of AP Statistics
- 2 total credits of math
- $\frac{1}{2}$  credit math or science "Swing Credit."

The math department plans your junior math courses based on prior coursework and grades, the MSMS placement test, and ACT score .



## Pathway 1

- Fall: Foundations (AP Pre-Calculus Part 1)
- Spring: Trigonometry (AP Pre-Calculus Part 2) (possible AP/University Calculus 1)

## Pathway 2

- Fall: Foundations, Trigonometry (AP Pre-Calculus Parts 1 and 2)
- Spring: AP/University Calculus 1

## Pathway 3

- Fall: Accelerated Algebra 2
- Spring: Foundations, Trigonometry (AP Pre-Calculus Parts 1 and 2)

# Math



Mississippi School  
for Mathematics and Science

## 1) AP Statistics:

Will not need to take Statistics at MSMS.

## 2) AP or other Calculus:

Fall & Spring:

AP Calculus BC OR AP/University Calculus II and III

This is for students who have AP Calculus credit OR by MSMS teacher recommendation based on the placement test and prior coursework

## AP Statistics 1

- Schedule permitting

## Math Modeling (Fall)

- For students with a background and interest in computer programming

## Discrete Mathematics (Spring)

- For students interested in STEM fields

## Logic and Game Theory (Spring)

- For students who want to remember that math is fun





*Calculator usage is regulated by teachers.*

Acceptable calculators:

- TI-84 Plus CE (RECOMMENDED)
- TI-83 or TI-84

Allowed but not supported in class:

- Nspire
- Casio graphing calculators

No calculators with CAS are permitted

# Fine and Performing Arts



Mississippi School  
for Mathematics and Science



Hi!  
I'm virtual  
Ms. Barham.

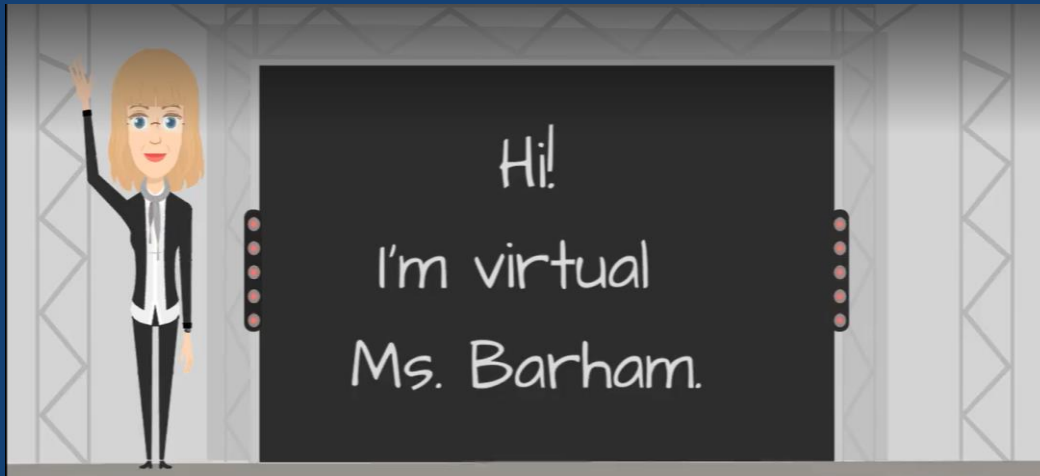


# Fine and Performing Arts



Mississippi School  
for Mathematics and Science

## Music & Creative Movement



[Barham Courses Vid.mp4](#)

Strings  
Independent  
Study



## Theater class or club



## Art classes and club





## One full year to graduate from MSMS Three paths\* to graduation

Path	Fall Semester	Spring Semester
Path #1 ACT $\geq$ 25	AP Bio 1	AP Bio 2
Path #2 ACT $\geq$ 22	University General Bio 1	University General Bio 2
Path #3 No requirements	Cell Biology	Elective
Path #4 AP score $\geq$ 4 Successful completion of dual credit biology	Elective	Elective



## Electives

Intro to Research Methods I & II –  
Full Year, ½ credit elective only (not part of MSMS 13)

All electives below have the prerequisite of Cell Biology OR one semester of AP Bio or UGen Bio  
All electives below are ½ credit, one semester courses

Genetics (Spring)

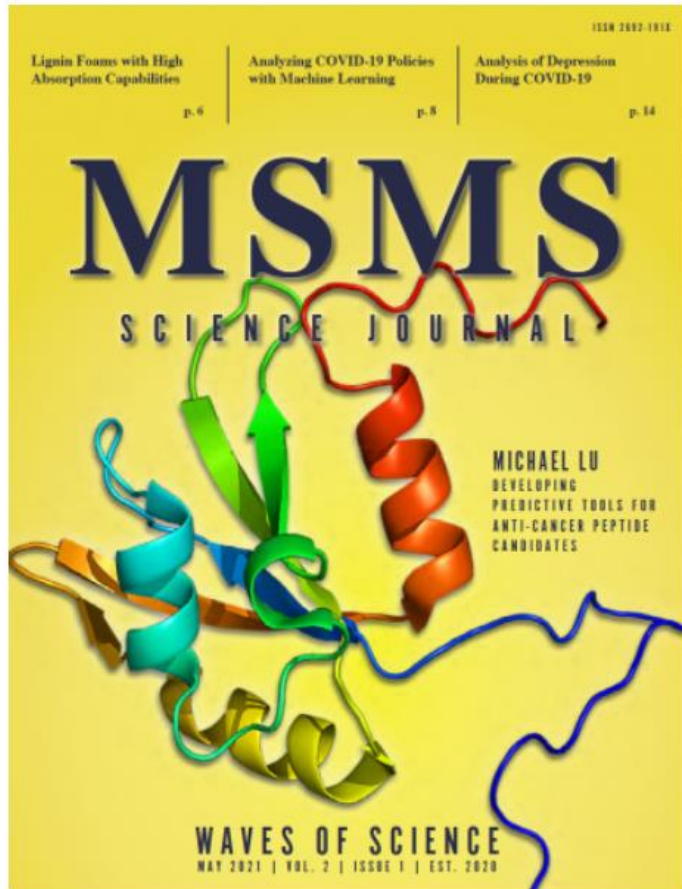
Introduction to  
Plant Physiology (Fall)

Ecology of  
Environmental Problems (Spring)

Animal Physiology (TBD)

# Introduction to Research Methods I and II


- This course can be taken both years at MSMS.
- Students will develop their own research project and MUST defend it at their regional/state/and possibly the international science fair.
- Students can work in a research lab, but their research project MUST be their own work, not a project in a lab that does not give them ownership.
- Students work will be published in the MSMS Science Journal.
- The course meets once a week on either Tuesday or Thursday for the entire year.





## Three Groups of Students

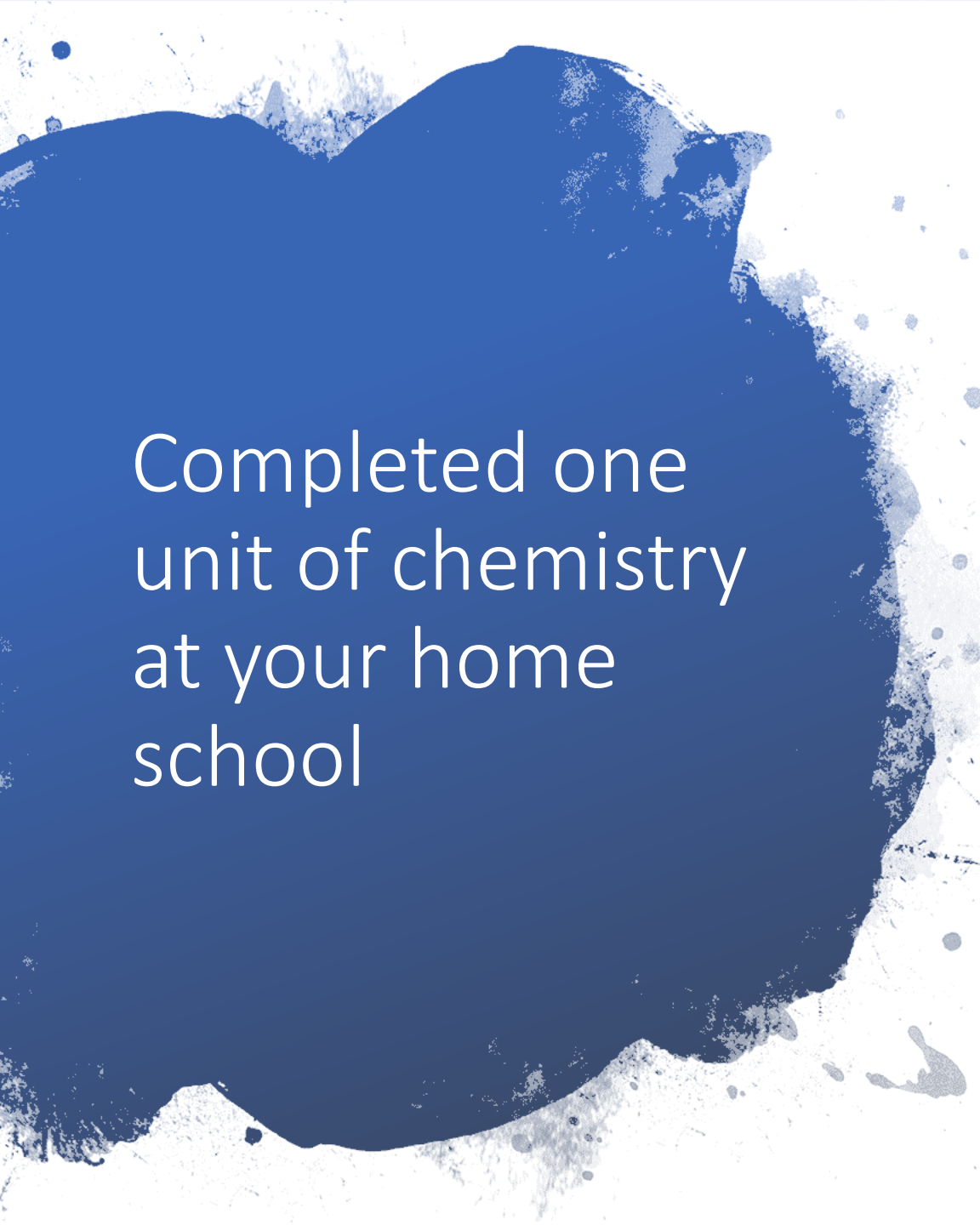
1. One who has never taken a chemistry course
2. One who has completed a 1 CU chemistry course
3. One who has completed the AP Chemistry course



Never taken a  
chemistry  
course

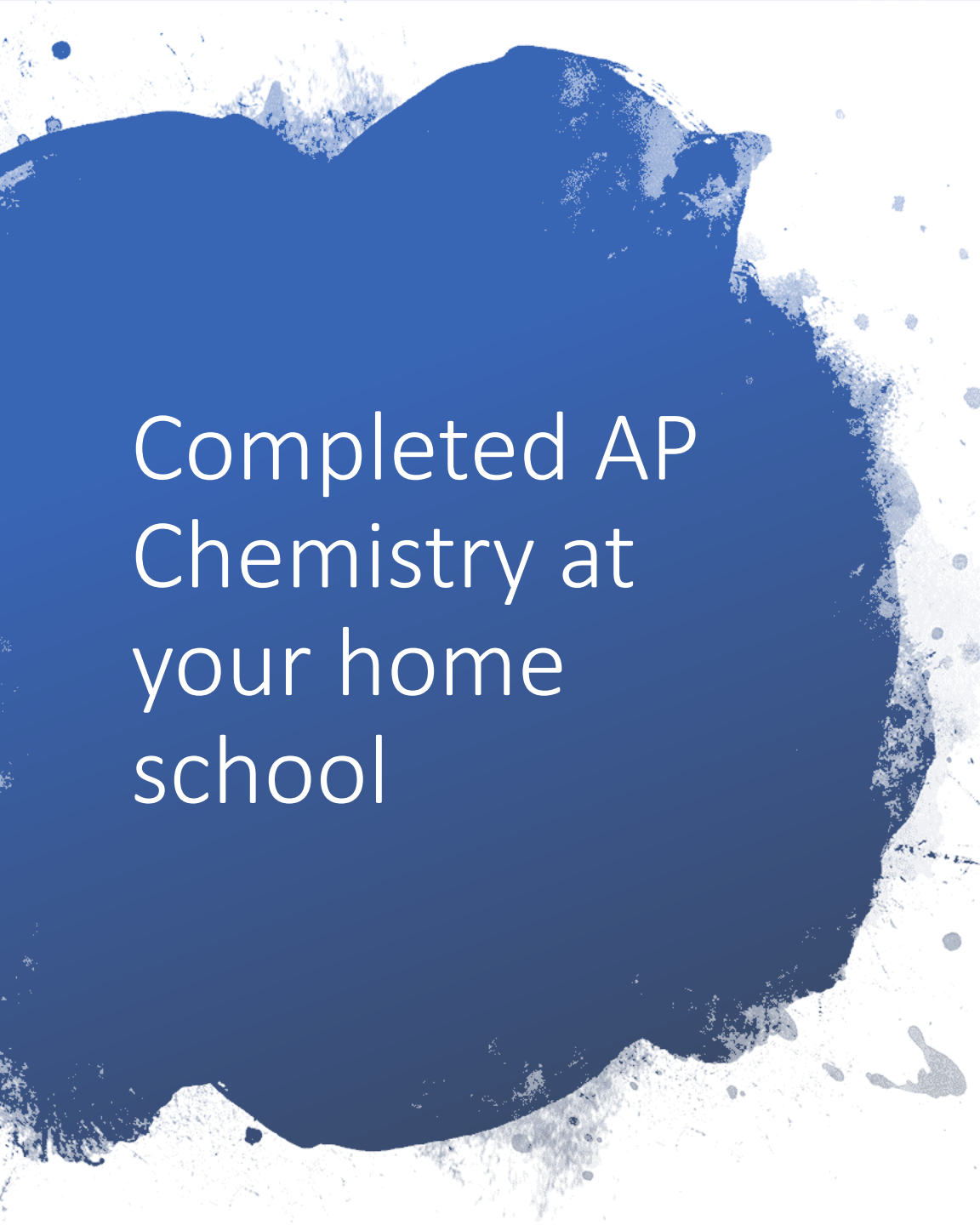
**Course sequence is:**

- Advanced Chemistry I (fall)
- Advanced Chemistry II (spring)



Completed one  
unit of chemistry  
at your home  
school

- **Students with ACT < 22**
  - Advanced Chemistry I and II
  - University General Chemistry I/II with concurrent enrollment in Adv. Math Plus: Trig (requires approval)
- **Students with ACT  $\geq$  22 but < 25 and concurrent enrollment in Adv. Math Plus: Trig**
  - University Chemistry I and II
- **Students with ACT > 25 or appropriate placement test score and completion of Algebra II**
  - AP Chemistry



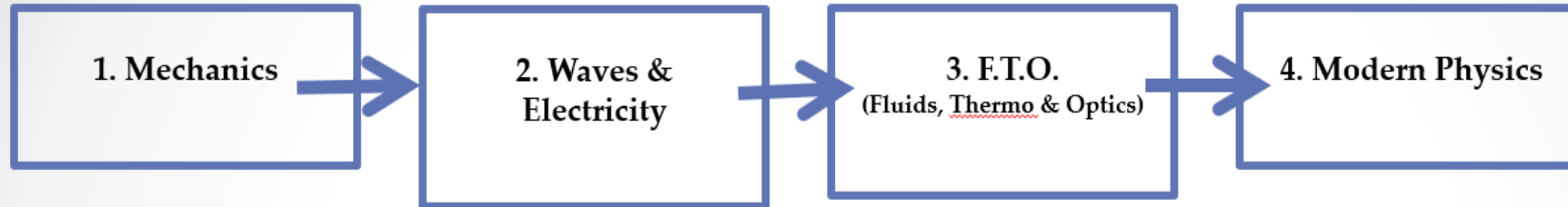
Completed AP  
Chemistry at  
your home  
school

- **AP Score  $\geq 3$** 
  - Organic Chemistry (senior year)
  - Analytical Chemistry (senior year)
- **AP Score  $\leq 2$  or no score**
  - Dual Credit Chemistry (junior or senior year)

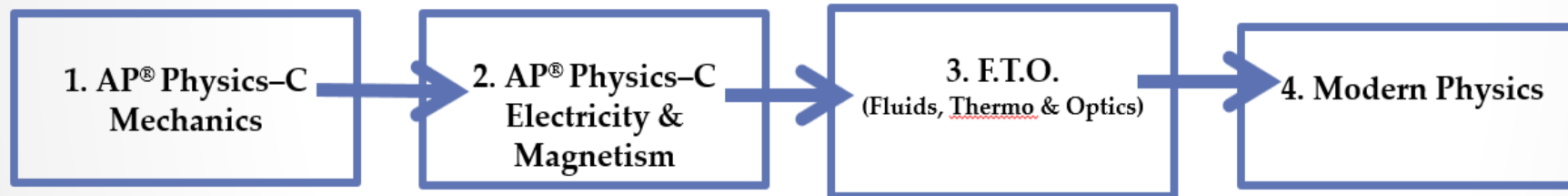




Only the first two semesters are required for graduation. But here is the sequence of physics courses at MSMS.



**OR**



Note: If you want three semesters of physics but only have your senior year to take them, you may enroll in FTO concurrently with Waves & E in the Spring Semester.



Go to [www.themsms.org/physics](http://www.themsms.org/physics) to find a quick description of all courses offered, including the physics electives.

## Courses offered

SC 331 – MECHANICS

+

SC 332 – WAVES AND ELECTRICITY

+

SC 334- ADVANCED PROBLEMS IN CALCULUS-BASED PHYSICS

+

SC 337 – AP® PHYSICS C: MECHANICS

+

SC 338 - AP® PHYSICS C: ELECTRICITY AND MAGNETISM

+

SC 434 – FLUIDS, THERMODYNAMICS, & OPTICS

+

SC 339 – MODERN PHYSICS

+

SC 344 – ASTRONOMY/ASTROPHYSICS

+

SC 345 – ELECTRONICS

+

SC 346 – SPECIAL TOPICS IN PHYSICS

+



# English at MSMS

## Welcome, Class of 2025!





## University English Courses (full-year pairings)

### University Composition I & II

OR

### U. American Literature I & II

- Requires a 21 ACT composite
- Focuses on developing writing skills
- Earns EN 101 and 102 credit from MUW

- Most rigorous option available
- Requires a 25 ACT composite
- Earns EN 203 and 204 credit from MUW



## University offerings not for you? We have options...

### FALL

- Classical Literature I
- Contemporary Literature
- Shakespeare I

### SPRING

- Classical Literature II
- American Poetry
- Shakespeare II

Pick one from each column! No prerequisites necessary.



## But wait...there's more!

- MSMS English teachers also offer electives that do not count towards required English credit:
  - Journalism I & II
  - Creative Writing I & II
  - Dramatic Performance
  - Introduction to American Film
  - Introduction to Philosophy



- If you need US History 1877-Present, you have three options:
  - **OPTION 1: SS 600 US History**
    - Possible projects include: MS Fallen Heroes Research Project; *MoreStory* Monuments Project; or a project developed by faculty
  - **OPTION 2: SS 603 US History**
    - *Tales from the Crypt* Research/Presentation Project
  - **OPTION 3: SS 605 University History of the US II**
    - Dual high school and MUW credit
    - National History Day Research project



## *MS Fallen Heroes Research Project*

Partner with American Battle  
Monument Commission Cemeteries



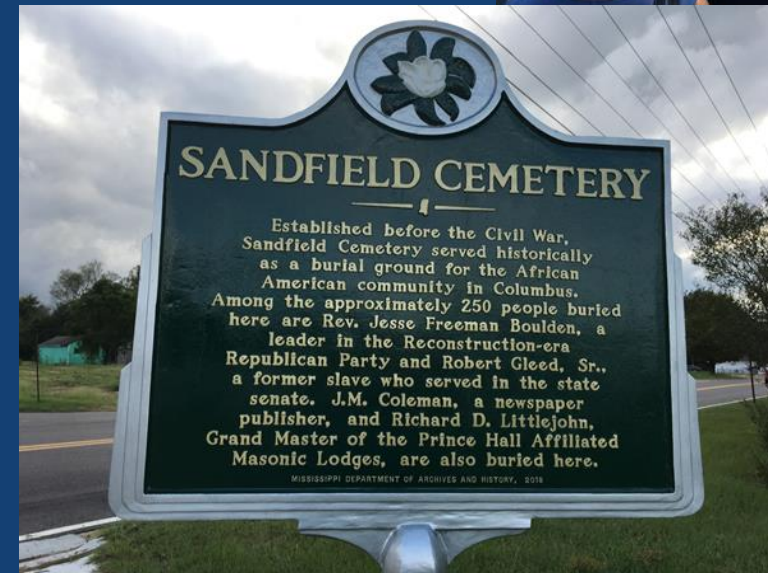
- Research WWII Mississippians who perished in the war and are interred overseas
- Website serves as a lasting legacy
- Paper sent to ABMC American Cemeteries as a handout to visitors



## *MoreStory Monuments Project*

*A Historical Research/Documentation project*

Students research history and honor those who helped create this community by attempting to uncover aspects of our story not yet included as part of the Mississippi Department of Archives and History's state historic marker program.





*What is SS 603 US History w/*

## *Tales from the Crypt?*

A Nationally-Acclaimed, Award-Winning  
Research / Writing / Performance/ Community Service Project

Conduct primary & secondary research...

Complete college-level research paper...

Develop presentation skills through performance...

Practice community service by raising thousands of \$ for charitable causes...

<https://themsms.org/tales-from-the-crypt/>

# Social Sciences



Mississippi School  
for Mathematics and Science



*Tales from the  
Crypt  
2023*  
<https://themsms.org/tales-from-the-crypt/>



# Social Sciences



Mississippi School  
for Mathematics and Science



## *Tales from the Crypt 2023*

[https://themsms.org/tales-  
from-the-crypt/](https://themsms.org/tales-from-the-crypt/)

## SS 605 University History of the US II

- Dual high school and MUW college credit
- Students complete a National History Day research project with the option to submit it to NHD competition the following spring

National History Day is an international program that provides student with an opportunity to pursue original research on a historical topic of their choice. They then present their conclusions and evidence through papers, exhibits, performances, documentaries, or websites, moving through a series of contest levels where they are evaluated by professional historians and educators.



*Regional NHD Competition, 2023*



- If you need World History for graduation, there are two options:
  - OPTION 1: SS 625 Modern European History
  - OPTION 2: SS 626 University World Civilization II
    - Dual high school and MUW credit

**These courses may also be taken for elective credit!**



- Other Required Courses for Graduation (depending on previous credit earned):
  - SS 650 Economics & Entrepreneurship
  - SS 615 Mississippi Crossroads I

**These courses may also be taken for elective credit!**



## Elective Courses

SS 609 History of Science

SS 610 60s-Decade of Change





# Social Sciences



Mississippi School  
for Mathematics and Science

## Elective Courses (continued)

### SS 665 - African American History

\*Includes: <https://themsms.org/8th-of-may-emancipation-celebration/>



### SS 667 World War II



# Mentorship (Available only after interest meeting)



Mississippi School  
for Mathematics and Science

## Job shadowing program

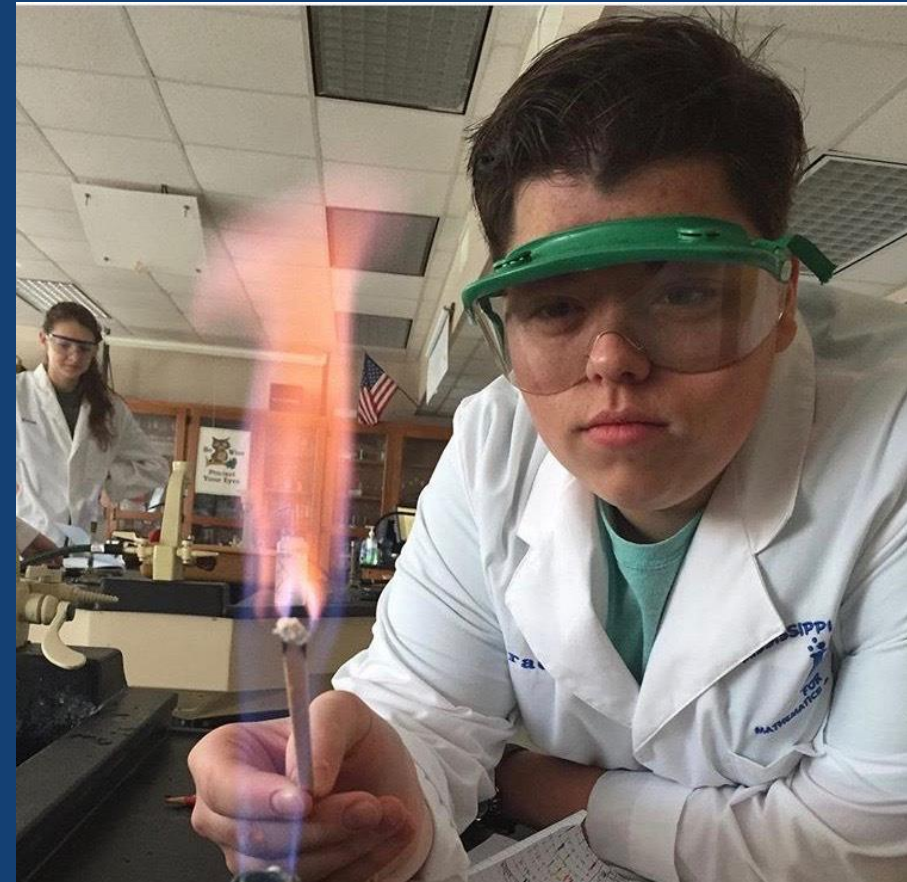
- Can apply for at the end of fall semester and begin in the spring
- 2 semesters =  $\frac{1}{2}$  elective credit





## MSU Research

- Students must have successfully completed one semester of course work at MSMS.
- A maximum of three semesters of work at MSU are possible.
- An interest meeting will be held near the end of fall semester to prepare for spring 2024.
- Transportation can be provided



After a 15-minute break:

- Parents return to the auditorium.
- Students visit teachers

## Rooms

- Shack 204 – Social Sciences
- Shack 101 – Fine Arts
- Shack Auditorium – Performing Arts
- Shack 102 – Fine Arts
- Hooper 109 – World Language
- Hooper 113 - Math
- Hooper 106 - English
- Hooper 211 - Chemistry
- Hooper 212- Biology
- Hooper 207 - Physics



Mississippi School  
for Mathematics and Science



Mississippi School  
for Mathematics and Science

Susan Barlow

*PLUS President*

---

**PARENTS LENDING UNITED  
SUPPORT (PLUS)**



## WINTER FORMAL 2022





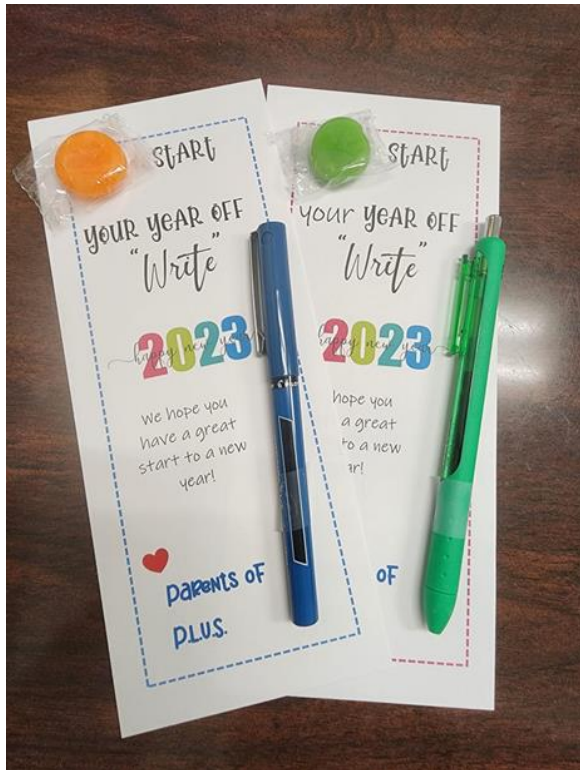
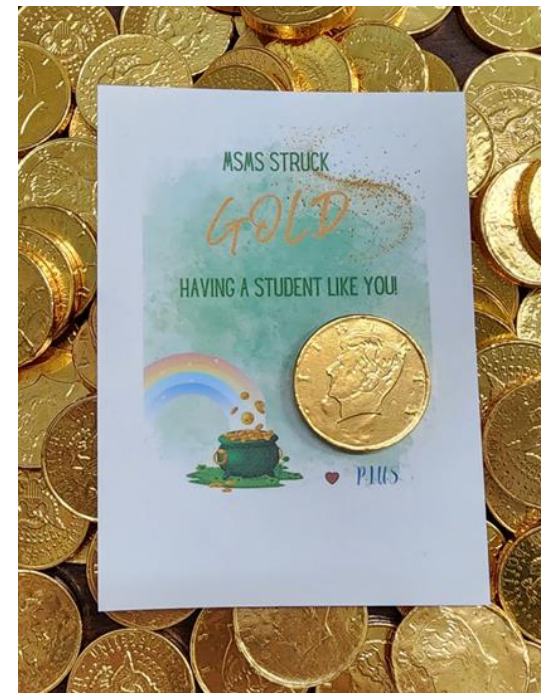




# Fall Faculty/Staff Appreciation



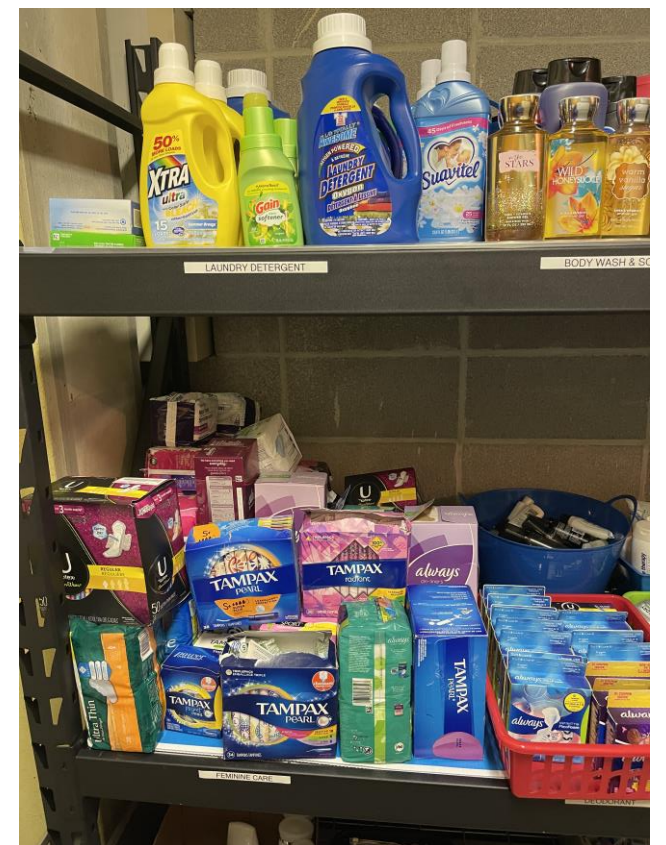
# Game Night



# LOBBY LOVE

---

" A TOUCH of HOME"



# Care Closet

# Double Good Popcorn Fundraiser



# PLUS Events & partnerships

OCTOBER:	LOBBY LOVE: HALLOWEEN CANDY BAGS (31 <sup>ST</sup> ) POPCORN SALES (POP UP ONLINE STORE)
NOVEMBER:	TEACHER APPRECIATION MEAL LOBBY LOVE: HIGHLIGHTER CARD
DECEMBER:	WINTER FORMAL (DELTA REGION) DECEMBER 3 <sup>RD</sup> LOBBY LOVE: HOLIDAY COOKIE EXAM MEALS: (WED) DECEMBER 14 <sup>TH</sup> AND 15 <sup>TH</sup> (THURS)
JANUARY:	JANUARY 13 <sup>TH</sup> RIDE SHARE WEEKEND JANUARY 16 <sup>TH</sup> WELCOME BACK GAME NIGHT LOBBY LOVE
FEBRUARY	VALENTINE MAIL! (14 <sup>TH</sup> )
MARCH	LOBBY LOVE
APRIL	APRIL 15 <sup>TH</sup> PROM LOBBY LOVE
MAY	TEACHER APPRECIATION MEAL/PROGRAM LOBBY LOVE TAKI TIKI SENIOR REVEAL DAY



- How to reach us: PLUS@theMSMS.org; Facebook page: "MSMS Parents Lending United Support"
- Registration In person, by mail or online
- PLUS Activities: Amazon Wish List; Care Closet; Staff Appreciation Week; Exam snacks; Winter Formal; Taki Tiki, Tales from the Crypt
- Fundraiser Opportunity: Double Good Popcorn Fundraiser
- Officers for Next Year: President Elect, Secretary Elect, Treasurer Elect
- 5 Regions: Seeking Junior and Senior Regional Representatives
- **Shopping Money-Back Programs**
  - Kroger Community Rewards #88399
  - Target Red Card-Look for MISSISSIPPI MATH-SCI SCH in Columbus, MS
  - Amazon Smile Program-smile.amazon.com/64-0775561
  - Office Depot-Office Depot-School ID: 70058492
  - Coke rewards

# PLUS REGIONS

## Regions

**DELTA:** Bolivar, Carroll, Grenada, Holmes, Humphreys, Leflore, Montgomery, Sunflower, Washington, and Webster

**NORTHEAST:** Chickasaw, Choctaw, Clay, Kemper, Lowndes, Neshoba, Noxubee, Oktibbeha, Winston

**NORTHWEST:** Alcorn, Benton, Itawamba, Lee, Monroe, Pontotoc, Prentiss, Tippah, Tishomingo, Union, Calhoun, Coahoma, Desoto, Lafayette, Marshall, Panola, Quitman, Tallahatchie, Tate, Tunica, Yalobusha

**SOUTH:** Forrest, George, Green, Hancock, Harrison, Jackson, Lamar, Pear River, Perry, Stone, Adams, Amite, Claiborne, Copiah, Franklin, Jefferson, Jefferson Davis, Lawrence, Lincoln, Marion, Pike, Walthall, Wilkinson

**CENTRAL:** Clarke, Covington, Jasper, Jones, Lauderdale, Newton, Scott, Smith, Wayne, Attala, Hinds, Issaquena, Leake, Madison, Rankin, Sharkey, Simpson, Warren, Yazoo





Mississippi School  
for Mathematics and Science