



67
AL Counties
Represented

100%
College
Acceptance

16:1
Student:Teacher
Ratio

STEM
CERTIFIED
through
Cognia

100%
of faculty have
Ph.D. or
Master's degree

200+
courses taught
at honors level
or university
equivalent



ALABAMA SCHOOL OF MATH AND SCIENCE

Educating the next generation of leaders, scholars, an innovators

2021 - 2022 SCHOOL PROFILE

OUR MISSION

The Alabama School of Mathematics and Science offers students educational opportunities they will not find anywhere else in the state of Alabama. ASMS is set apart by its academic rigor, residential learning environment, leadership opportunities, and research focus for students.

ABOUT ASMS

The Alabama School of Mathematics and Science is the state of Alabama's only fully public residential high school for highly motivated sophomores, juniors, and seniors seeking advanced studies in math, science, and the humanities. The Alabama State Legislature founded ASMS in 1989 to "better prepare Alabama's future leaders" for STEM (science, technology, engineering, and math) careers. ASMS's mandate encourages it to offer a challenging academic environment for students from all across Alabama and especially to those from underserved counties.

ADMISSIONS

Rising 10th and 11th graders from across Alabama apply to attend ASMS. The Admissions Committee receives nearly 600 applications per year and selects approximately the top 17% of applicants. The committee considers ACT score, GPA, extracurricular activities, motivation, maturity, and campus diversity in choosing the best students from the state's 67 counties.

ASMS DEPARTMENT OF ACADEMIC AFFAIRS

1255 DAUPHIN STREET | MOBILE, AL 36604 | 251.441.2100 | MFRYE@ASMS.NET | SCHOOL CODE 011793 |

Curriculum

ASMS operates on an accelerated system of three academic terms per year. Students benefit from a challenging curriculum that includes AP courses, honors courses, electives modeled on university seminars, and individualized independent study courses. Access to AP courses and upper-level electives requires department or instructor approval. All students are required to enroll in at least five academic courses per term, but many choose to take on additional research hours and electives in their areas of interest.

Students complete a minimum of 27 Carnegie Units in coursework. Those who surpass the curriculum requirement in a subject area by 1.5 CU may graduate with a "Concentration" in the subject, while those who exceed the requirement by 3.0 CU may earn a "Concentration with Distinction" designation. All concentration coursework must meet subject-area GPA requirements set by the department.

Required Academic Coursework

Biology	1.5 CU
Chemistry	1.5 CU
Computer Science	0.5 CU
English	4.5 CU
History	4.0 CU
Mathematics	4.0 CU
Physics	1.5 CU
Special Projects	.75 CU
World Languages	2.0 CU
Electives	5.0 CU

Student Body Demographics

RACE / ETHNICITY	STUDENTS	PERCENT
Black or African American	29	12.28%
Caucasian	145	61.44%
Hispanic	10	4.23%
Asian	32	13.55%
Arab American	3	1.3%
Multiracial	14	5.93%
Other	2	.85%
Prefer not to answer	1	.42%
Total	236	100%

YEAR IN SCHOOL	TOTAL STUDENTS
Seniors	82
Juniors	94
Sophomores	78
Total	254

College Preparedness

All ASMS instructors hold advanced degrees in their subject areas and most have experience teaching at postsecondary institutions. All courses are taught at the Honors level or above. Most academic courses are modeled on university equivalents and are taught using college textbooks. Students must maintain a 2.5 GPA. Thanks to ASMS's challenging academics and college-like residential environment, our graduates begin their college experience uniquely prepared to succeed.



Grading

ASMS reports both weighted and unweighted cumulative GPA, which includes transfer coursework from the freshmen and, possibly, sophomore years. ASMS does not rank students. For the 2020-2021 school year, ASMS responded to the COVID-19 pandemic by adopting hybrid instructional methods. Effective Fall 2021, ASMS courses are fully in-person.

Research Fellows

ASMS students are eligible to apply and be selected for the Research Fellows program. Working with the ASMS Research Coordinator and a faculty mentor, participants choose a research topic and then compile a bibliography, conduct research, prepare a paper, deliver a presentation, and defend their work. ASMS encourages students to submit their work to conferences and publications when possible.

Special Projects

Between the Winter and Spring Terms, ASMS students participate in a five-day academic event known as Special Projects Week. Each student enrolls in a single intensive course that meets for six hours per day. These specialized courses are designed around the research interests of ASMS faculty, and they introduce students to the exciting challenge of academic and professional labor.

Student Life and Leadership

Students at ASMS hold leadership positions that empower them to improve their learning and residential environments. Student Government manages a total annual budget of \$39,500, which it uses to host events, invite guest speakers, and install amenities. Student Ambassadors escort visitors on campus and serve as hosts during official functions. Peer Advisers acclimate new students to dorm life, plan hall activities, and supervise cleaning responsibilities. Students invent and perpetuate memorable campus traditions from the Geekfest convention to Goofy Olympics.

Class of 2021 Statistics

GRADUATES

77 Students
100% College Bound

STANDARDIZED TEST PERFORMANCE

ACT Average Composite Score: 29
SAT Mean Evidence-Based Reading & Writing: 660
SAT Mean Mathematics: 672
SAT Mean Total Score: 1323

NATIONAL MERIT

7 National Merit Finalists
6 Commended Scholars

GPA

4.0 - 3.7 = 50 students
3.74 - 3.5 = 21 students
3.49 - 3.0 = 4 students

AP Data for 2021 Test Takers

Total AP Students: 119
Number of Exams: 277
Average AP Exam Score: 3.3
% of Exams with Scores 3+: 77%



Academic Course Offerings

BIOLOGY

Honors Biology
AP Biology
Anatomy and Physiology
AP Environmental Science
Zoology
Classical Genetics
Intro to Microbiology
Marine Biology
Biological Systems
Microbial Ecology
Oceanography
Veterinary Medicine

CHEMISTRY

Introductory Chemistry
General Chemistry
Organic Chemistry
AP Chemistry
Intro to Organic Chemistry
Biochemistry
Inorganic Chemistry
Environmental Chemistry

COMPUTER AND INFORMATION SCIENCE

Computer Science: Principles
AP Computer Science
Database Design & SQL
Data Science w/ Python
Webpage Development
App Development
Advanced C#
Advanced Java
Advanced Web Development
Computer Ethics
Computer Security Fundamentals
Cybersecurity
Fundamentals of Programming
Microcomputer Applications

ENGLISH

AP English Language
Sophomore English
American Literature 19th Century
American Literature 20th Century
Dystopian Novel
AP English Literature
British Literature I & II
African-American Literature
Speech Communication
Journalism, Media Literacy,
& Mass Communication
Creative Writing
Shakespeare on Stage
Adv Speech Communications
Out of the Canon
Victorian Women's Studies
Writing about Film
Gothic Studies

FINE ARTS

AP Studio Art
Graphic Design
Survey of the Arts: Music
Survey of the Arts: Visual Arts
Intro Music Theory
Advanced Music Theory I, II, III
Broadway Blues & Jazz

Theater Arts/Production
Advanced Art I, II, III
Sight Singing & Ear Training
Intro to Sociology
Walt Disney's America

GENERAL ELECTIVES

ASMS Research Fellows
Debate
History of Microbiology
Evolution and Biodiversity
Qualitative Research Methods
Mythology
Molecular Biology
Intro to Psychology

HISTORY

Adv American Studies I & II
Economics
Adv American Government
American Minority Relations
Rock-n-Roll
Revolutions
World War I & II
AP US History
Post-1945 US History
Civil War
America in the 1950s
Heroes & History
Ethics & Govt Policy
Comparative Religions
Human Geography
Human Geography II
Terrorism & Violence
The New South
The Romantic Era
Western Thought II
Women of the Renaissance

MATHEMATICS

Geometry
Intermediate Algebra
Accelerated Algebra
Trigonometry
Precalculus
AP Calculus Review
AP Statistics Review
Differential Calculus
Integral Calculus
BC Calculus
Introduction to Statistics
Visual Mathematics
Number Theory
Multivariable Calculus I & II
Differential Equations
Linear Algebra
Problem Solving
Topology
Advanced Geometry
Complex Analysis
Finite Math
Geometric Design
Intro Real Analysis I & II
Intro to Game Theory

PHYSICS

Intro to Physics
Flight Studies
Honors Physics

AP Physics 1 & 2
Robotics
AP Physics C
Intro to Astronomy
Intro to Materials Science
Intro to Medical Physics
Mechanical Engineering
Quantum & Relativity
Principles of Biophysics
Lasers and Holography
Computational Materials Science

WORLD LANGUAGES

Beginning French
Intermediate French
Advanced French
French IV & V
Readings in French
Beginning German
Intermediate German
Advanced German
German IV & V
German for Engineers
Readings in German
Beginning Spanish
Intermediate Spanish
Spanish IV
Advanced Spanish Reading
Program Abroad: Germany & Spain

Five-Year Matriculation

Alabama A & M University
Alabama State University
Amherst College
Auburn University
Barnard College
Baylor University
Berklee College of Music
Birmingham Southern College
Brandeis University
Brigham Young University
Case Western University
Centre College
Coastal Alabama Community College
Colorado School of Mines
Colorado State University
Columbia University
Cornell University
Dillard University
Duke University
Embry-Riddle Aeronautical University
Emory University
Florida A & M University
Florida Southern College
Furman University
George Washington University
Georgia Institute of Technology
Harvard University
Harvey Mudd College
Hendrix College
Howard University
Illinois Institute of Technology
Jacksonville State University
James Madison University
Johns Hopkins University
Kenyon College
Lehigh University
Louisiana State University
Macalester College
Massachusetts Institute of Technology
Mississippi College
Mississippi State University
Mississippi Valley State University
New York University
Oberlin College
Oglethorpe University
Oxford College of Emory University
Parsons School of Design
Pepperdine University
Pomona College
Rice University
Rose Hulman Institute of Technology
Samford University
Santa Fe Community College
Sarah Lawrence College
Southern Union Community College
Southern University and A & M College
Stanford University
Swarthmore College
Sweet Briar College
Texas A & M University
Tougaloo College
Trevecca Nazarene University
Trinity University
Troy University
Tulane University
Tuskegee University
United States Merchant Marine
United States Military Academy
United States Naval Academy
University of Alabama
University of Alabama at Birmingham
University of Alabama in Huntsville
University of California - Davis
University of California - Los Angeles
University of Central Florida
University of Florida
University of Miami
University of Mississippi
University of Dundee
University of Maine
University of Montevallo
University of North Alabama
University of North Carolina - Chapel Hill
University of North Carolina - Charlotte
University of Notre Dame
University of Oklahoma
University of Pittsburgh
University of Rochester
University of South Alabama
University of South Florida
University of Southern California
University of Tennessee
University of Texas - Austin
University of Texas - El Paso
University of Van Amsterdam
University of West Florida
Vanderbilt University
Washington University in St. Louis
Wellesley College
William Carey University
Williams College
Yale University

