



## 2019-2020 SCHOOL PROFILE

### ***Educating Alabama's future leaders since 1989***

The Alabama School of Mathematics and Science is our state's only fully public and residential high school for sophomores, juniors, and seniors seeking advanced studies in math, science, and the humanities.

**WWW.ASMS.NET**



OFFICE OF ACADEMIC AFFAIRS

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# Welcome to 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.

## 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

## Student Body Demographics

Race / Ethnicity	Students	Percentage
Black or African American	37	15%
Caucasian	159	62%
Hispanic	11	4%
Asian	32	13%
Arab American	2	1%
Multiracial	9	4%
Other	2	1%
Prefer not to answer	3	1%
Total	255	100%

## Year in School

Year in School	Total Students
Seniors	80
Juniors	93
Sophomores	82
Total	255

those who exceed the requirement by 3 CU may earn a "Concentration with Distinction" designation. All concentration coursework must meet subject-area GPA requirements set by the department.

## Required ASMS Coursework

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





## 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 to remain enrolled. 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.

## Research Fellows

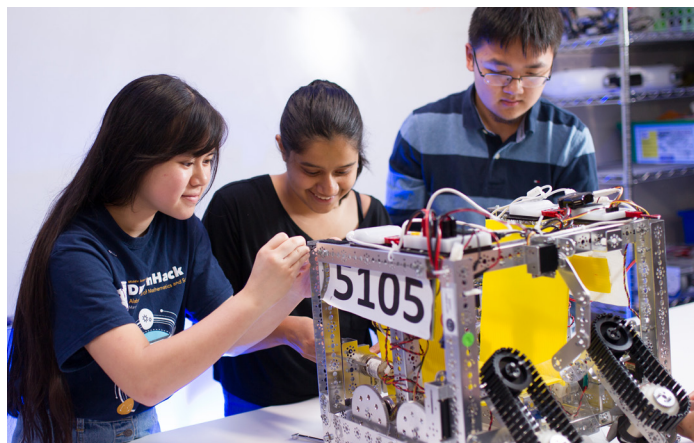
ASMS juniors are eligible to apply and be selected for the Research Fellows program. Students conduct scholarly research and complete a bibliography, literature review, conference paper, poster, presentation, and portfolio. Faculty members serve as mentors who advise students on their research. The program is in a limited pilot stage at present but will be open to all juniors for the 2020-2021 school year.

## 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 and areas of expertise of ASMS faculty, and their purpose is to expose 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. Members of the Residence Life Support Team 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 the charity musical chairs event.



### Class of 2019 Statistics

#### Graduates

79 Students

100% College Bound

#### Standardized Test Performance

ACT Average Composite Score: 30

SAT Mean Evidence-Based Reading & Writing: 691

SAT Mean Mathematics: 652

SAT Mean Total Score: 1343

#### National Merit

5 National Merit Finalists

6 Commended Scholars

#### GPA

4.0-3.75 50 students

3.74-3.5 20 students

3.49-3.0 9 students

### AP Data for 2019 Test Takers

Total AP Students	127
Number of Exams	252
AP Students with Scores 3+	103
% of Total AP Students with Scores 3+	81.1%



## Course Offerings

### BIOLOGY

Honors Biology  
AP Biology  
Anatomy and Physiology  
AP Environmental Science  
Zoology: Vertebrate, Invertebrate  
Classical Genetics  
Molecular Genetics and Genomics  
Intro to Microbiology  
Marine Biology

### 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  
Programming w/ Alice  
AP Computer Science  
Database Design & SQL  
Programming w/ Python  
Java I, II, III  
C#  
HTML/CSS  
App Inventor for Android

### ENGLISH

AP English Composition  
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

### FINE ARTS/GENERAL ELECTIVES

AP Studio Art  
Graphic Design  
Survey of the Arts: Music  
Survey of the Arts: Visual Arts  
Health  
Debate  
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

### FOREIGN LANGUAGE

Beginning French  
Intermediate French  
Advanced French  
French IV & V  
Readings in French  
Beginning German  
Intermediate German  
Advanced German  
German IV & V  
Readings in German  
Beginning Spanish  
Intermediate Spanish  
Adv. Spanish Reading & Writing  
Program Abroad: Germany & Spain  
Spanish Grammar & Comp. I & II  
Spanish Conver. & Phonetics I & II  
Hispanic Literature & Culture I & II  
Spanish IV

### HISTORY

Intro to Western Thought  
Adv American Studies I & II  
Economics  
Adv American Government  
American Minority Relations  
American Pop Culture:  
Rock-n-Roll Revolutions  
World War I & II  
AP US History  
Post-1945 US History  
Civil War

### 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

### PHYSICS

Intro to Physics  
Flight Studies  
Honors Physics  
AP Physics 1 & 2 (AP Physics B)  
Robotics  
AP Physics C

## Five-Year Matriculation

Agnes Scott College  
Alabama A & M University  
Alabama State University  
Amherst College  
Auburn University  
Baylor University  
Berklee College of Music  
Birmingham Southern College  
Brandeis University  
Brigham Young University  
Brown University  
Case Western University  
Centre College  
Coastal Alabama Community College  
Colorado State University  
Columbia University  
Cornell University  
Embry-Riddle Aeronautical University  
Emory University  
Florida A & M University  
Florida Southern College  
George Washington University  
Georgia Institute of Technology  
Hendrix College  
Howard University  
Illinois Institute of Technology  
Jacksonville State University  
James Madison University  
Johns Hopkins University  
Kenyon College  
Lake Erie College  
Lehigh University  
Louisiana State University  
Macalester College  
Massachusetts Institute of Technology  
Millsaps College  
Mississippi State University  
New York University  
Oberlin College  
Oglethorpe University  
Oxford College of Emory University  
Parsons School of Design  
Pomona College  
Rice University  
Santa Fe Community College  
Southern University and A & M College  
Stanford University  
Sweet Briar College  
Texas A & M University  
Tougaloo College  
Trevecca Nazarene University  
Trinity University  
Tulane University  
United States Merchant Marine  
United States Military Academy  
United States Naval Academy  
University of Alabama  
University of Alabama at Birmingham  
University of Alabama at Huntsville  
University of Florida  
University of Miami  
University of Mississippi

University of Montevallo  
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 Southern California  
University of Texas - El Paso  
University of Texas - Austin  
University of West Florida  
Vanderbilt University  
Wellesley College  
Williams College  
Yale University

