

Mathematics & Science Academy

*“Building A
Great
Tradition”*



**OCEAN LAKES
HIGH SCHOOL**

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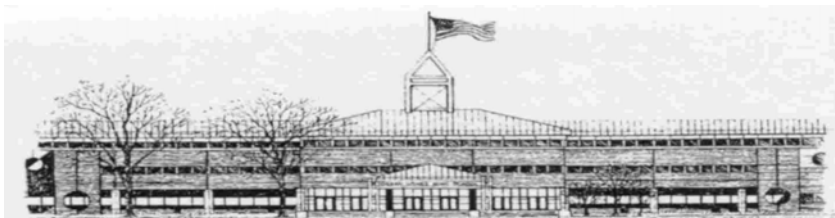
The **Mathematics & Science Academy** was created to provide students who have demonstrated a strong interest and proficiency in mathematics and science an environment where they can extend their knowledge beyond the typical high school curricula. Offering unique courses in math, science, technology, computer science, and English, the program gives students the latitude to pursue a broad spectrum of specialty areas while meeting the challenges of a highly academic course load.

The Mathematics & Science Academy courses are designed to challenge students with rigorous curricula, integrated technologies, and extensive problem-solving strategies. Students are able to complete the requirements for the Mathematics & Science Academy and the Advanced Studies diploma by taking at least 6 courses each year and maintaining a 3.0 GPA. The diagram on the reverse side lists the course sequence required of all Mathematics & Science Academy students.

The **Senior Mentorship/Research Project** is truly a defining part of this advanced academic program of study. Each student is given the opportunity to pursue an in-depth research project or mentorship that will culminate in a public defense of the experience. This process begins in the junior year with a proposal and concludes with a multimedia presentation during the senior year. After completing a minimum of 140 hours of work under the supervision of an adult, an anecdotal logbook, a thesis paper, a multimedia presentation and an oral defense, our seniors are well-prepared to meet the challenges of college.

Applications for the Mathematics & Science Academy are available at each Virginia Beach City middle or high school and the school division Web site — vbschools.com. To be eligible to apply, eighth grade students must complete Algebra I. Completion of one year of a foreign language is recommended. Eligible eighth grade students are encouraged to obtain an application from their middle school guidance counselor or to contact the Academy's coordinator at Ocean Lakes High School. Completed application packets include a student profile sheet, an Admissions Agreement, parent, teacher, and counselor's recommendation forms, student transcripts, most recent report card, and standardized test scores.

Completed applications are due in February of the 8th grade year. Entrance testing is conducted in late February or early March. Students accepted into the program are provided transportation to Ocean Lakes High School by the school division.



Mathematics & Science Academy

Student Schedule

9 th Grade	10 th Grade	11 th Grade	12 th Grade
Magnet Honors English 9 Magnet Advanced Algebra Magnet Chemistry { World Geography World History/Geography P1 Foreign Language Health/PE 1 Elective	Magnet Honors English 10 { Magnet Geometry Magnet Precalculus I & Magnet Precalculus II { World History/Geography P2 AP European History AP Human Geography Magnet Molecular Biology Foreign Language Health/PE 2 Elective	{ Honors English 11 AP English Language and Composition Magnet Physics { Magnet Precalculus I & Magnet Precalculus II Magnet Data Analysis & Magnet Math Modeling AP Statistics AP Calculus AB or BC { VA & U.S. History AP U.S. History Magnet Foundations of Technology Magnet Technology Elective Foreign Language Elective	{ Honors English 12 AP English Literature and Composition Magnet Science (1 credit) { AP Calculus AB or BC AP Statistics Magnet Data Analysis & Magnet Math Modeling Multivariable Calculus & Differential Equations { VA & U.S. Government AP U.S. Government & Politics Electives Senior Research Project/ Mentorship

- Academy students select the most appropriate course(s) from the bracketed selections and must take a minimum of six classes each year. The Senior Project counts as a credit, but it does not count as one of the six classes.
- Algebra I must be completed prior to entering 9th grade. A full credit of mathematics must be taken each year. The sequence of mathematics courses followed by a student is dependent upon the student's coursework prior to entering Ocean Lakes High School and his/her achievement in the courses each year in the Academy program.
- The four-year science sequence includes Magnet Chemistry (9th), Magnet Molecular Biology (10th), Magnet Physics (11th), and a full credit of magnet science electives. The magnet science electives selected by each Academy student should correlate with his/her interests. If an Academy student desires to take an AP science course in the senior year, the requirement for a full credit of magnet science may be decreased to one-half credit. AP Physics B may replace Magnet Physics only if the student agrees to take the May AP exam for the course and secures the coordinator's permission.
- Although three years of a foreign language are required, four years are recommended.
- Graduation requirements not offered within the Mathematics & Science Academy curriculum will be met from courses available in the established curricula at Ocean Lakes High School.
- A cumulative 3.0 GPA must be maintained. Students who meet the graduation requirements for the Academy program will have exceeded the state-mandated requirements for the 24-credit Advanced Studies Diploma. Students will receive both a Mathematics & Science Academy seal and the Governor's seal on their diploma.

Academy Courses include:

ENGLISH

Magnet Honors English 9
 Magnet Honors English 10

SCIENCE

Magnet Chemistry
 *Magnet Molecular Biology
 *Magnet Physics
 *Magnet Analytical Chemistry (s)
 *Magnet Astronomy (s)
 *Magnet Biochemistry (s)
 *Magnet Human Anatomy (s)
 *Magnet Human Physiology (s)
 *Magnet Meteorology (s)
 *Magnet Microbiology (s)
 *Magnet Organic Chemistry (s)
 Magnet Physical Geology (s)
 *AP Physics C

MATHEMATICS

Magnet Advanced Algebra
 Magnet Geometry
 Magnet Precalculus I (s) & Magnet Precalculus II (s)
 *Multivariable Calculus (s) & *Differential Equations (s)
 *Magnet Data Analysis (s)
 *Magnet Math Modeling (s)
 *Magnet Computer Architecture (s)

TECHNOLOGY

Magnet Foundations of Technology (s)
 Magnet Materials of Science (s)
 Magnet Electrical Engineering (s)
 Magnet Multimedia Communications (s)

* *Weighted Course*
 (s) *Semester Course*