

Computer Science Information

Computer science classes are meant for a wide variety of students. Obviously those interested in math, science, engineering, art animation, and computer fields should take at least 1 CS class. However, those interested in liberal arts will also benefit. It will provide them with logic and problem solving skills that will help in any job. It is also recommended that students take at least some technology classes in college regardless of their major. Taking them here at CHS first will give them a higher probability of success in college level courses.

M256 (Introduction to Computer Science)

An introduction to coding class. It concentrates on learning the fundamentals of programming. While there is some work outside of class, the vast majority of the “B” level work can be done without work at home. “A” level work typically requires a commitment to working outside of class on average of 20-30 minutes a night.

Students will explore 2 programming languages with an emphasis on making projects. There are few if any tests and quizzes. Grades are based on daily performance, homework, and projects. The goal is to provide a fun atmosphere to explore coding. It can be a difficult topic so an emphasis is placed on how well you learn over time, not just what you know today.

Type of Student that should sign-up:

- Students placed in any 17 level math class or below that have not taken another computer programming class.
- Students that are accelerated that do not want another AP/Accelerated level class.
- Accelerated students that would benefit from an introduction class before diving into the AP level.

M319 (AP Computer Science Principles)

While this class is an introduction course with no knowledge needed before hand, it is AP. Therefore, it is rigorous. However, it is also fun because it not only teaches coding but also a range of CS topics. These include, coding, cybersecurity, network transmission, data analysis, simulations, cryptography, and more. It has programming mixed a wide variety of computer science topics. Students need to be motivated and willing to work for an average of 30 minutes outside of class every night.

Type of student that should sign-up:

- Any student currently enrolled in an 18/19 level math course.
- Any student that got an A or B in M256.
- A student that got a C in M256 that is motivated to change their work ethic and succeed at the AP level. Students that work hard in M256 typically get a B or above.
- If a student is not accelerated and has not taken M256, they do not meet the pre-requisite. Only the department chair can approve a student in this category to take the course.

M359 (AP Computer Science A)

This is an advanced coding class. It is taught in the language of Java and uses a graphical library called JavaFX. The course reviews the basics of coding. After this an emphasis is placed on large projects where students can use their creativity to truly learn in depth coding. Projects range from 2 weeks to 2 months in length. Because of the freedom given to students, self-motivation is a key to success.

The assumption is that students that take this course have had learned programming before. It is not an introduction class and should not be the first programming class they have seen. Students should have taken M319 already.

Type of student that should sign-up:

- Any student that has completed M319 with an A or B.
- Any student that has completed M319 with a C that has worked in the summer to improve their understanding of coding.
- M256 students that have received a solid A and have been recommended to skip M319 by their M256 teacher and the department chair.
- Highly accelerated Sophomores(current) or Juniors(current) that have previous programming knowledge from an **approved** source outside of CHS **and** have been approved by the department chair.

M448 (Mobile Application Development)

An applications of computer science class. This is a capstone course. The goal is to take all of the knowledge you have learned and apply it to building complete applications. These applications are in Android, IOS, and Web Based systems.

Type of student that should sign-up:

- Any student that has taken both M319 and M359
- Sophomores(current) or Juniors(current) that have taken M359.
- Juniors(current) that have taken M319 and have department chair approval.

M468

An independent study CS course. Students must have department chair approval.