

Computer Science

RCAS Policies/Procedures:

Students will be required to follow all RCAS policies and procedures. To view the RCAS High School Student Handbook, click [handbook](#).

Course Description:

An interactive computer science course for students brand new to programming that teaches the foundations of computer science using the Python language. Not only will this year-long course prepare students for AP Computer Science A and AP Computer Science Principles, but it will teach students how to think computationally and solve complex problems, skills that are important for every student. This course may count as either one credit of Career and Technical Education or as a science elective towards the Advanced Career Endorsement only.

Textbook:

ProjectStem.org

Required Resources:

“Limited Choice” Resources: (students will be asked to choose at least one title from this list)

Student Choice:

Will student be asked to choose additional reading material from the classroom or school library?

No

Essential Questions:

- What is Computer Science?
- How to apply number calculations and data?
- How to make decisions with coding?
- How to incorporate Ifs, Booleans, Else-ifs, and Min/Max
- How to program with repetition and loops?
- How to program in EarSketch?
- How to incorporate graphics?
- What are functions?
- What are arrays?
- What is a 2D array?
- What is the Internet?
- Career Connections – Who Uses Computer Science?

Essential Learning Intentions:

- Upon successful completion of this course, you will:
- Have the basic technical vocabulary of computer science.
- Understand basic principles of thinking and solving problems with computers and computation.
- Be able to use fundamental elements of computer programs, such as commands, variables, conditionals, and loops.
- Understand the representation of data in computer memory.
- Design, plan, implement and test programming projects.
- Be able to use principles of programming to write and edit musical compositions in EarSketch.