

## PATHWAY COURSES

### Prerequisite

AP COMPUTER SCIENCE  
PRINCIPLES \*\*\*

### Level 1

ADVANCED COMPUTER  
SCIENCE I

### Level 2

AP COMPUTER SCIENCE A

AP<sup>®</sup>



### Level 3

ADVANCED STUDIES  
COMPUTER SCIENCE

\*\*\* AP Computer Science Principles can be taken in place of Computer Science and Applications ½ credit requirement for graduation. The full year of Principles must be taken to count for this requirement.

## RESOURCES

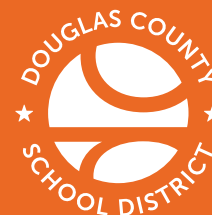


**CollegeBoard AP**  
[apcentral.collegeboard.org](http://apcentral.collegeboard.org)

**Code**  
[code.org](http://code.org)

**Project Stem**  
[projectstem.org](http://projectstem.org)

**NDE - CTE**  
[doe.nv.gov/cte/programs/  
information-and-technology/](http://doe.nv.gov/cte/programs/information-and-technology/)



## ADVANCED COMPUTER SCIENCE

**The Advanced Computer Science program provides students a deeper exploration in the study of computer science and computational thinking to include algorithms and programming, computing systems, data and analysis, the impacts of computing, and networks and the internet.**

**DOUGLAS HIGH SCHOOL**  
1670 HWY 88  
MINDEN, NEVADA 89423  
775-782-5136



## PREREQUISITE 1

### AP COMPUTER SCIENCE PRINCIPLES

This course follows The College Board Advanced Placement curriculum and prepares students for the AP Computer Science Principles exam. This course will introduce students to the essential ideas of computer science and show how computing and technology can influence the world. This course focuses on technology and programming as a means to solve computational problems and find creative solutions. Students will creatively address real-world issues and concerns while using the same processes and tools as artists, writers, computer scientists, and engineers to bring ideas to life.

## LEVEL 1

### ADVANCED COMPUTER SCIENCE I

This course will introduce students to the essential concepts of computer science and show how computing and technology can influence the world. This course focuses on using technology and programming to solve computational problems and find creative solutions that reduce bias and equity deficits. Topics include classic algorithmic design, control structures, decomposition, modularity, abstraction, hardware and software, data analysis, developing programs, and troubleshooting.

## LEVEL 2

### AP COMPUTER SCIENCE A

This course follows The College Board Advanced Placement curriculum and prepares students for the AP Computer Science exam. This course provides advanced computer science students with instruction in advanced topics that include problem solving, design strategies and methodologies, data structures, algorithms, analysis of potential solutions and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design. Students will learn to write, run, and debug solutions in the Java programming language, utilizing standard Java library classes.

## LEVEL 3

### COMPUTER SCIENCE ADVANCED STUDIES

This course is offered to students who have achieved all content standards in a program whose desire is to pursue advanced study through investigation and in-depth research. Students are expected to work independently or in a team and consult with their supervising teacher for guidance.

## AP COURSES AND CREDITS

**The Advanced Computer Science pathway offers incoming freshman an opportunity to experience an Advanced Placement course and begin earning college credit with a score of 3 or better on the AP exam.**

**Students who complete this pathway will have the opportunity to take an additional AP course at level 2, AP Computer Science A.**

#### AP Courses Value Added GPA

**A = 4.050**

**B = 3.050**

**C = 2.050**

**D = 1.050**

#### End of Program Certification Workplace Readiness = College Credit

*Credits Transferable to Western Nevada College (6 credits), Truckee Meadows Community College (9 credits), and Great Basin College (12 credits)*