MONARCH HS COMPUTER SCIENCE COURSES

GUIDE FOR INCOMING 9TH GRADERS

Monarch's Computer Science program offers a variety of opportunities in software development, cybersecurity, web development, and IT support. The courses below are most appropriate for 9th graders and represent a selection of the offerings in the program.

CODING PATHWAY COURSES

These courses focus on software, web, and mobile development and how they fit in the field of Computer Science.

CODING 1

Coding 1 is a semester-long introduction to the field of Computer Science and the skill of developing computer programs to solve real-world problems in. This course's goal is to provide equitable access to all students to explore the field of Computer Science in a fun, yet rigorous and challenging environment. Students can choose Python or a block-based programming language. This course is best for students who have no prior programming background or would like to explore the field for just a semester.
Length: Semester

AP COMPUTER SCIENCE PRINCIPLES

AP Computer Science Principles is a college-level introduction to Computer Science topics and the art of computer programming. This AP course is a very approachable AP course for 9th graders. Students explore a variety of Computer Science topics and learn to program in Python. Students can earn college credit through concurrent enrollment with Front Range Community College and/or by earning a qualifying score on the end of year exam. This course is best for students who have some prior programming experience and are willing to keep up with the pace of an AP course.
Length: Year | Weighted Credit
Concurrent Enrollment: CSC 1060 (Intro to Programming in Python)

WEB DESIGN

Web Design is a semester-long introduction to authoring web pages and the basics of information architecture. Students create a variety of different web pages to solve different problems in HTML and CSS and add interactivity using Javascript. Students also learn about networking basics and the structure and design of the internet.
Length: Semester
Concurrent Enrollment: CWB 1010 (Web Authoring)

NETWORKING SYSTEMS AND SECURITY PATHWAY COURSES

These courses focus on IT support, networking, and information security.

COYOTE TECH SQUAD (TECH ASSIST)

The Coyote Tech Squad is Monarch HS's in-house Chromebook repair team. Students learn troubleshooting and repair techniques for common issues. Throughout the semester each student works one to two weekly shifts during class time where they resolve fellow students' Chromebook issues. When students are not working a shift, they prepare for industry certifications including CompTIA ITF+ and Google Certified IT Professional.
Length: Semester (Repeatable)

CYBERSECURITY 1

Cybersecurity 1 provides an introduction to core ideas in the field of information security including the CIA triad, risk identification/assessment/mitigation, encryption, intrusion detection, as well as ethical, social, and legal issues that arise. Students learn about common operating systems and their configurations, including Linux. The course provides hands-on practice through capture the flag, red/blue team, and other exercises.
Length: Year (some programming experience is helpful)

CONTACT INFORMATION

Jon Cihlar
Computer Science Teacher
Monarch Technology Student Association Chapter Advisor
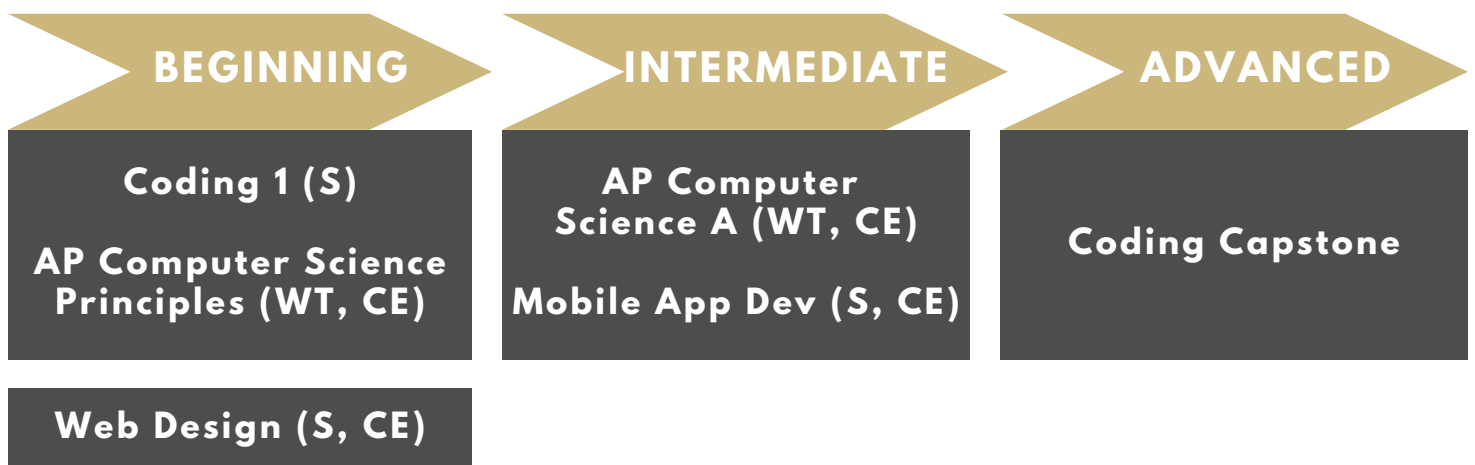jonathon.cihlar@bvsd.org

MONARCH HS
COMPUTER SCIENCE PATHWAYS

COURSE PROGRESSION

The Computer Science program at Monarch HS offers two skill pathways: Coding and Networking & Security. Students without any prior experience can take beginning courses. Intermediate and advanced courses are available to students who have taken courses in the prior level or can demonstrate equivalent proficiency.

CODING PATHWAY

BEGINNING	INTERMEDIATE	ADVANCED
Coding 1 (S)	AP Computer Science A (WT, CE)	Coding Capstone
AP Computer Science Principles (WT, CE)	Mobile App Dev (S, CE)	
Web Design (S, CE)		

NETWORKING AND SECURITY PATHWAY

BEGINNING	INTERMEDIATE	ADVANCED
Cybersecurity 1	Cybersecurity 2	
Coyote Tech Squad (S)		

(S) Semester-long course

(WT) Weighted GPA credit

(CE) Concurrent Enrollment Credit with Front Range Community College