

Course Overview
2017 - 2018

AP Computer Science Principles

course webpage: tiny.cc/WoodstockCS

Woodstock Union High School
Andrew Smith

1. Introduction	2. Creativity in Computing	3. Abstractions, Data, Algorithms	4. Programming	5. Performance Task 1	6. Internet & Innovations	7. Performance Task 2	8. Final Project
Aug 30 - Sep 29 20.5 days	Oct 2 - Nov 1 20 days	Nov 2 - Dec 7 19.5 days	Dec 8 - Jan 12 17.5 days	Jan 22 - Feb 16 18 days	Feb 26 - Mar 30 19 days	Apr 2 - May 8 19.5 days	May 9 - June 1 16 days
<u>Standards</u> EU 1.1 Creative development can be an essential process for creating computational artifacts. EU 1.2 Computing enables people to use creative development processes to create computational artifacts for creative expression or to solve a problem. EU 7.1 Computing enhances communication, interaction, and cognition. EU 7.3 Computing has global effects — both beneficial and harmful — on people and society.	<u>Standards</u> EU 1.1 (see left) EU 1.2 (see left) EU 1.3 Computing can extend traditional forms of human expression and experience. EU 2.1 Abstractions of binary sequences can represent all digital data. EU 2.2 Multiple levels of abstraction are used to write programs or create other computational artifacts. EU 4.1 Algorithms are precise instructions implemented using programming languages. EU 5.1 Programs can be developed for expression, curiosity, to create new knowledge, or to solve problems. EU 6.1 The Internet is a network of autonomous systems. EU 7.2 Computing enables innovation.	<u>Standards</u> EU 1.1 (see left) EU 1.2 (see left) EU 2.2 (see left) EU 3.1 People use computer programs to process information to gain insight and knowledge. EU 3.2 Computing facilitates exploration and the discovery of connections in information. EU 3.3 There are trade-offs when representing information digitally. EU 4.1 (see left) EU 4.2 Algorithms can solve many, but not all, computational problems. EU 5.1 (see left) EU 5.3 Programming is facilitated by appropriate abstractions. EU 5.4 Programs have different purposes. EU 5.5 (see left)	<u>Standards</u> EU 2.2 (see left) EU 5.1 (see left) EU 5.2 People write programs to execute algorithms. EU 5.3 (see left) EU 5.4 (see left) EU 5.5 (see left)	<u>Standards</u> EU 2.2 (see left) EU 5.1 (see left) EU 5.2 (see left) EU 5.3 (see left) EU 5.4 (see left) EU 5.5 (see left)	<u>Standards</u> EU 1.1 (see left) EU 1.2 (see left) EU 2.1 (see left) EU 2.2 (see left) EU 2.3 Models and simulations use abstraction to generate new understanding and knowledge. EU 6.1 The Internet is a network of autonomous systems. EU 6.2 Characteristics of the Internet influence the systems built on it. EU 6.3 Cybersecurity is an important concern for the Internet and the systems built on it.	<u>Standards</u> EU 7.1 (see left) EU 7.2 (see left) EU 7.3 (see left) EU 7.4 Computing innovations influence and are influenced by the economic, social, and cultural contexts in which they are designed and used. EU 7.5 An investigative process is aided by effective organization and selection of resources. Appropriate technologies and tools facilitate the accessing of information and enable the ability to evaluate the credibility of sources.	<u>Standards</u> EU 1.3 (see left) EU 2.3 (see left) EU 3.1 (see left) EU 7.1 (see left)
<u>Strands</u> BI 1 Creativity BI 7 Global Impact	<u>Strands</u> BI 1 Creativity BI 2 Abstraction BI 4 Algorithms BI 5 Programming BI 7 Global Impact	<u>Strands</u> BI 1 Creativity BI 2 Abstraction BI 3 Data BI 4 Algorithms BI 5 Programming	<u>Strands</u> BI 2 Abstraction BI 5 Programming	<u>Strands</u> BI 2 Abstraction BI 5 Programming	<u>Strands</u> BI 1 Creativity BI 2 Abstraction BI 6 The Internet	<u>Strands</u> BI 7 Global Impact	<u>Strands</u> BI 1 Creativity BI 2 Abstraction BI 3 Data BI 7 Global Impact