

Moon Area School District Curriculum Map

Course: AP Computer Science Principles

Grade Level: 9-12

Content Area: Computer Science

Frequency: Full-Year Course

Big Ideas

1. Creative Development
2. Data
3. Algorithms and Programming
4. Computing Systems and Networks
5. Impact of Computing

Essential Questions

6. How is information digitized for computer use?
7. How does the Internet effect our everyday lives, at home, school, and work?
8. What are some of the necessary components to make a usefully, well designed and meaningful application?
9. How should we use data in decision making, whether it be personal, financial, political or spiritual?
10. What are some global impacts that programming and computer has made? Are they positive or negative? Who do they benefit or hinder?
11. How will cybersecurity evolve over the next 5 years as this has become a new type of warfare used by actors around the globe?

Primary Resource(s) & Technology:

Code.org online software, Microsoft Teams,
Promethean Boards, Student Laptops/Computer Lab

Pennsylvania and/or focus standards referenced at:

<https://www.csteachers.org/Page/standards> - CSTA Standards Used

Big Ideas/ EQs	Focus Standard(s)	Assessed Competencies (Key content and skills)	Timeline
1,5	2-DA-07 2-IC-20 3B-IC-27 3A-DA-09 3A-DA-10 3A-IC-28 3A-IC-24	<ul style="list-style-type: none">• Explore how computer store complex information like numbers, text, images and sound.• Debate the impacts of digitizing information	Weeks 1-3

4,5	2-NI-04 3A-NI-04 3A-IC-24 3A-IC-28 3A-IC-30 3B-NI-03 3B-IC-26	<ul style="list-style-type: none"> • Learn about the Internet works • Discuss the impacts on politics, culture, and the economy 	Weeks 4-5
1,3	2-AP-17 3A-AP-16 3A-AP-19 3A-AP-21 3A-AP-22 3A-AP-23 3A-AP-13	<ul style="list-style-type: none"> • Design applications while learning programming concepts and collaborative software development processes 	Weeks 6-8
3	2-AP-10 2-AP-11 2-AP-12 2-AP-19 3A-AP-15 3A-AP-16 3A-AP-17 3B-AP-14 3B-AP-21 3B-AP-23	<ul style="list-style-type: none"> • Expand the types of applications you can create by adding the ability to store information, make decisions, and better organize code 	Weeks 9-15
3,4	3A-AP-14 3A-AP-15 3A-DA-12 3A-AP-14 3A-AP-16 3A-AP-22 3B-AP-23 3B-AP-10	<ul style="list-style-type: none"> • Build applications that use large amounts of information. • Pull in data from the web to create a variety of applications 	Weeks 16-17
3,	2-AP-14 2-AP-17 3A-AP-18 3B-AP-10 3B-AP-11 3B-AP-11 3B-AP-23 3B-AP-16	<ul style="list-style-type: none"> • Learn how to design clean and reusable code • Learn how to create sharable code and applications 	Weeks 18-20
1,2,3	3A-AP-16 3A-AP-18 3A-AP-19 3A-AP-21 3A-AP-23 3B-AP-14	<ul style="list-style-type: none"> • Practice and complete the Create Performance Task 	Weeks 21-25

2	3A-DA-11 3B-DA-05 3B-DA-06 3A-DA-10	<ul style="list-style-type: none"> • Explore and visualized datasets from a wide variety of topics • Use patterns and data to learn more about the world around you 	Weeks 26-27
4,5	2-IC-23 3A-IC-24 3A-IC-27 3A-IC-29 3A-IC-30 3A-NI-05 3A-NI-06 3A-NI-07 3B-IC-25 3B-IC-28 3B-NI-04	<ul style="list-style-type: none"> • Research and debate current events at with topics that may include: data, public policy, law, ethics, and societal impact. 	Weeks 28-30