Kentucky CTE

Computer Science: AP Computer Science Principles

Use computing tools and techniques to create artifacts. APCS1	**1 Use computing tools and techniques to create artifacts.** APCS1
Collaborate in the creation of computational artifacts. APCS2	**2 Collaborate in the creation of computational artifacts.** APCS2
Analyze computational artifacts; use computing tools and techniques for creative expression. APCS3	**3 Analyze computational artifacts; use computing tools and techniques for creative expression.** APCS3
Use programming as a creative tool. APCS4	**4 Use programming as a creative tool.** APCS4
Describe the combination of abstractions used to represent data. APCS5	**5 Describe the combination of abstractions used to represent data.** APCS5
Explain how binary sequences are used to represent digital data. APSC6	**6 Explain how binary sequences are used to represent digital data.** APSC6
Develop an abstraction. APSC7	**7 Develop an abstraction.** APSC7
Use multiple levels of abstraction in computation. APCS8	**8 Use multiple levels of abstraction in computation.** APCS8

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Use models and simulations to raise and answer questions. APCS9	**9** **Use models and simulations to raise and answer questions.** APCS9
Use computers to process information to gain insight and knowledge. APSC10	**10** **Use computers to process information to gain insight and knowledge.** APSC10
Collaborate when processing information to gain insight and knowledge. APCS11	**11** **Collaborate when processing information to gain insight and knowledge.** APCS11
Communicate insight and knowledge gained from using computer programs to process information. APCS12	**12.** **Communicate insight and knowledge gained from using computer programs to process information.** APCS12
Use computing to facilitate exploration and the discovery of connections in information. APCS13	**13** **Use computing to facilitate exploration and the discovery of connections in information.** APCS13
Use large data sets to explore and discover information and knowledge. APCS14	**14** **Use large data sets to explore and discover information and knowledge.** APCS14
Analyze the considerations involved in the computational manipulation of information. APCS15	**15** **Analyze the considerations involved in the computational manipulation of information.** APCS15
Develop an algorithm designed to be implemented to run on a computer. APCS16	**16** **Develop an algorithm designed to be implemented to run on a computer.** APCS16
Express an algorithm in a language. APCS17	**17** **Express an algorithm in a language.** APCS17

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Appropriately connect problems and potential algorithmic solutions. APCS18	**18** **Appropriately connect problems and potential algorithmic solutions.** APCS18
Evaluate algorithms analytically and empirically APCS19	**19** **Evaluate algorithms analytically and empirically** APCS19
Explain how programs implement algorithms. APCS20	**20** **Explain how programs implement algorithms.** APCS20
Use abstraction to manage complexity in programs. APCS21	**21** **Use abstraction to manage complexity in programs.** APCS21
Evaluate a program for correctness. APCS22	**22** **Evaluate a program for correctness.** APCS22
Develop a correct program. APCS23	**23** **Develop a correct program.** APCS23
Collaborate to solve a problem using programming. APCS24	**24** **Collaborate to solve a problem using programming.** APCS24
Employ appropriate mathematical and logical concepts in programming. APCS25	**25** **Employ appropriate mathematical and logical concepts in programming.** APCS25
Explain the abstractions in the Internet and how the Internet functions. APCS26	**26** **Explain the abstractions in the Internet and how the Internet functions.** APCS26
Explain characteristics of the Internet and systems built on it. APCS27	**27** **Explain characteristics of the Internet and systems built on it.** APCS27
Analyze how characteristics of the Int bu use. APCS28	**28** **Analyze how characteristics of the Internet and system built on it influence their use.** APCS28

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Connect the concern of cybersecurity with the Internet and the systems built on it. APCS29	**29** **Connect the concern of cybersecurity with the Internet and the systems built on it.** APCS29
Analyze how computing affects communication, interaction, and cognition APCS30	**30** **Analyze how computing affects communication, interaction, and cognition** APCS30
Collaborate as part of a process that scales. APCS31	**31** **Collaborate as part of a process that scales.** APCS31
Connect computing with innovations in other fields. APCS32	**32** **Connect computing with innovations in other fields.** APCS32
Analyze the beneficial and harmful effects of computing APCS33	**33** **Analyze the beneficial and harmful effects of computing** APCS33
Connect computing within economic, social, and cultural context APCS34	**34** **Connect computing within economic, social, and cultural context** APCS34