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| --- |
| **COURSE INTRODUCTION:**  **Computer technology skills are vital to business; they permeate the entire workplace. Familiarity with computer programming is required in a growing number of firms and occupations primarily because of the increasingly widespread use of computerized management information systems.**  **This course focuses on converting problems into detailed plans, writing code into computer language, testing, monitoring, debugging, documenting and maintaining computer programs. Students will also design programs for specific uses.** |

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| **UNIT DESCRIPTION: Students will learn about the history of technology and the impact on society.** | | | | **SUGGESTED UNIT TIMELINE: 2 WEEKS**  **CLASS PERIOD (min.): 50 MINUTES** | | | | |
| **ESSENTIAL QUESTIONS:**   1. How do the components of a Computer represent a system? 2. What is the impact of operating systems on application programs? 3. How does technology impact society? | | | | | | | | |
|  | | | | | | | | |
| **ESSENTIAL MEASURABLE LEARNING OBJECTIVES** | | **CCSS LEARNING GOALS (Anchor Standards/Clusters)** | **CROSSWALK TO STANDARDS** | | | | | |
| **GLEs/CLEs** | | **PS** | **CCSS** | **NBEA** | **DOK** |
| 1. Trace the development of computers and their impact on society | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-I.1**  **IT-I.2**  **IT-I.3**  **IT-I.4**  **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-IX.1**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **3** |
| 1. Describe the categories and evolution of programming languages | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-I.1**  **IT-I.2**  **IT-I.3**  **IT-I.4**  **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-IX.1**  **IT-X.1**  **IT-X.2**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **2** |
| 1. Explain the functions of computer hardware and architecture | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-II.1**  **IT-II.2**  **IT-II.3**  **IT-II.4**  **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT.IX.1**  **IT.XII.1**  **IT.XII.2**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **1** |
| 1. Demonstrate an understanding of computer theory (e.g., bits, bytes, binary logic, memory, and storage) | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10**  **A-CED.1**  **A-CED.4**  **A-REI.1**  **A-REI.2**  **A-REI.3**  **A-REI.4** | **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-IX.1**  **IT-IX.2**  **IT-X.1**  **IT-X.2**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4**  **MGMT-VIII.A.1** | **4** |
| 1. Compare computer operating systems (e.g., DOS, Windows, Linux, Android) | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-III.1**  **IT-III.2**  **IT-III.3**  **IT-III.4**  **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-IX.1**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **3** |
| 1. Discuss legal/ethical issues related to computers | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-XV.1**  **IT-XV.2**  **IT.XV.3**  **IT.XV.4**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-III.E.3**  **COMM-III.E.4**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **2** |
| 1. Identify the application environment/interface for the specific language being covered (e.g., JCreator, BlueJay, and Visual Studio) | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-IV.1**  **IT-IV.2**  **IT-IV.3**  **IT-IV.4**  **IT-V.1**  **IT-V.2**  **IT-V.3**  **IT-V.4**  **IT-VI.1**  **IT-VI.2**  **IT-VI.3**  **IT-VI.4**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **1** |
| 1. Explain the concept of security and its relationship to programming | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  IT-XIV.1  IT-XIV.2  IT-XIV.3  IT-XIV.4  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **2** |
| 1. Identify components of the information system model (input, process, output, storage) | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-IV.1**  **IT-IV.2**  **IT-IV.3**  **IT-IV.4**  **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-X.3**  **IT-X.4**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4**  **COMM-I.A.1**  **COMM-I.A.2**  **COMM-I.A.3**  **COMM-I.A.4**  **COMM-I.B.1**  **COMM-I.B.2**  **COMM-I.B.3**  **COMM-I.B.4**  **COMM-I.C.1**  **COMM-I.C.2**  **COMM-I.C.3**  **COMM-I.C.4**  **COMM-I.D.1**  **COMM-I.D.2**  **COMM-I.D.3**  **COMM-I.D.4**  **COMM-II.B.1**  **COMM-II.B.2**  **COMM-IV.1**  **COMM-IV.2**  **COMM-IV.3**  **COMM-IV.4** | **1** |
| 1. Identify types of Network (Internet, LANs, and Wireless) | |  |  | |  | **RST.11-12.1**  **RST.11-12.2**  **RST.11-12.3**  **RST.11-12.4**  **RST.11-12.5**  **RST.11-12.6**  **RST.11-12.7**  **RST.11-12.8**  **RST.11-12.9**  **RST.11-12.10**  **WHST.11-12.1**  **WHST.11-12.2**  **WHST.11-12.4**  **WHST.11-12.5**  **WHST.11-12.6**  **WHST.11-12.7**  **WHST.11-12.8**  **WHST.11-12.9**  **L.11-12.1**  **L.11-12.2**  **L.11-12.3**  **L.11-12.4**  **L.11-12.5**  **L.11-12.6**  **SL.11-12.1**  **SL.11-12.2**  **SL.11-12.3**  **SL.11-12.4**  **SL.11-12.5**  **SL.11-12.6**  **RI.11-12.1**  **RI.11-12.2**  **RI.11-12.3**  **RI.11-12.4**  **RI.11-12.5**  **RI.11-12.6**  **RI.11-12.7**  **RI.11-12.10** | **IT-II.1**  **IT-II.2**  **IT-II.3**  **IT-II.4**  **IT-III.1**  **IT-III.2**  **IT-III.3**  **IT-III.4**  **IT-VIII.1**  **IT-VIII.2**  **IT-VIII.3**  **IT-XII.2**  **IT-XII.3**  **IT-XVI.1**  **IT-XVI.2**  **IT-XVI.3**  **IT-XVI.4** | **1** |
| **ASSESSMENT DESCRIPTIONS\*: (Write a brief overview here. Identify Formative/Summative. Actual assessments will be accessed by a link to PDF file or Word doc. )**  **Short quizzes in the BinaryHex folder (formative)**  **Hardware Project that is research and presentation (summative)**  **Ethics assignment that is primarily group discussion (formative)**  **\*Attach Unit Summative Assessment, including Scoring Guides/Scoring Keys/Alignment Codes and DOK Levels for all items. Label each assessment according to the unit descriptions above ( i.e., Grade Level/Course Title/Course Code, Unit #.)** | | | | | | | | |
| **Obj. #** | **INSTRUCTIONAL STRATEGIES (research-based): (Teacher Methods)** | | | | | | | |
| 2,3,6,7,9,10 | 1. Lecture | | | | | | | |
| 1 | 2. Video/movie | | | | | | | |
| 4 | 3. Independent Learning | | | | | | | |
| 5 | 4. Demonstration, cooperative learning | | | | | | | |
| 8 | 5. Lecture, demonstration, discussion, research | | | | | | | |
| **Obj. #** | **INSTRUCTIONAL ACTIVITIES: (What Students Do)** | | | | | | | |
| 2,3,6,7,9,10 | 1. Lecture using Computer Logic & Logic Operators ppt, Ethics ppt, Parts and types of computers ppt, terminology and types of software ppt and associated notes files. | | | | | | | |
| 1 | 2. Cambridge Education History of computers video and the teacher resource for the movie | | | | | | | |
| 4 | 3. Binary/Hex folder includes power points for practice and explanation and NASA Binary activity and Egg Carton Binary activity | | | | | | | |
| 5 | 4. OSLesson and Comparing OS lecture/demonstration/activity for the students | | | | | | | |
| 8 | 5. Program Development Security – demonstration/discussion/lecture with a student research activity | | | | | | | |
| **UNIT RESOURCES: (include internet addresses for linking)** | | | | | | | | |