| Competency | I can statements | Standards | Assessments |
| --- | --- | --- | --- |
| * **Algorithms and Programming**: Students will demonstrate the techniques and strategies used to make sense of problems and solve them by developing algorithms to implement the solutions in code following the software design life cycle. | * I can critically think about a problem that can be solved with software and write pseudocode to solve the problem * I can work with a team using project management protocols (Agile,Scrum) * I can choose and use an IDE (repl.it, BlueJay,Eclipse) * I can write a simple program in Python * I can use comments to make my code readable and easier to modify * I can write a complex program in Python * I can test/debug a program using IDE tools * I can use self and peer assessment * I understand and can identify bias in algorithms and data |  | Formative:   * Stand-ups/PMRs   Summative: |
| **Networks and the Internet:** | * I can explain how the internet works * I can model how information is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the Internet, and reassembled at the destination. * I can evaluate the scalability and reliability of networks, by describing the relationship between routers, switches, servers, topology, and addressing. * I can describe the issues that impact network functionality (bandwidth, load, delay, topology) |  | Formative:   * Stand-ups/PMRs   Summative: |
| **Computing Systems:**Demonstrate an understanding of the physical components and software that make up a computing system which communicate and process information in digital form, along with practices and methodology for troubleshooting issues in those systems. |  |  | Formative:   * Stand-ups/PMRs   Summative: |
| **Data and Analysis**: Demonstrate the concepts, practices and process of data collection, resource management, applying statistical and graphical techniques to different types of data in order to discover useful information that can communicate storytelling and to inform decision-making. | * I know how to use data for analysis * I can use programming to analyze data |  | Formative:   * Stand-ups/PMRs   Summative: |
| **Cybersecurity:** | * I can explain CIA triad * I can explain the 7 layers of the OSI model * I can explain and use cryptography/encryption protocols * I know basic cybersecurity practices |  | Formative:   * Stand-ups/PMRs   Summative: |
| Use correct terminology, vocabulary and appropriate language to communicate effectively in the workplace | * I can present on a technical topic to my peers |  |  |
| Select and safely use appropriate tools, supplies, and equipment for a specific task or set of tasks. |  |  |  |
| Employ effective time and project management strategies to complete work efficiently and proficiently. |  |  |  |
| Apply math concepts, including measurement, operations, and higher mathematics to relevant applications and specific tasks. |  |  |  |
| Demonstrate awareness strategies to safely work in a variety of workspaces and locations. |  |  |  |
| Explore careers within the cluster to include developing individual career documents. |  |  |  |
|  |  |  |  |