NH Computer and Information Sciences, General. 

CIP#: 11.0101

# Computing Systems

* Apply concepts of 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.

| **Skill/Knowledge** | **Applying**  **(4)** | **Proficient**  **(3)** | **Developing**  **(2)** | **Emerging**  **(1)** |
| --- | --- | --- | --- | --- |
| **Core Concepts**  I can demonstrate a comprehensive understanding of core computing concepts, including the distinction between client and server systems, and apply this knowledge effectively in various contexts. |  | * I can explain the roles and responsibilities of client and server systems in network communication. * I can differentiate between client-side and server-side processes and interactions. * I can describe how client-server architecture is utilized in different applications and services. |  |  |
| **Disassembly / Reassembly**  I can proficiently disassemble and reassemble computer components while identifying and understanding their functions. |  | * I can identify and label major components of a computer system (e.g., CPU, RAM, motherboard). * I can explain the purpose and function of each component in the computer system. * I can safely disassemble and reassemble a computer system following best practices and guidelines. |  |  |
| **OS**  I can install, configure, and customize operating systems on various platforms, ensuring optimal functionality and performance. |  | * I can perform a clean installation of different operating systems (e.g., Windows, Linux, Raspberry Pi OS). * I can adhere to safety protocols and best practices during the OS installation process. * I can configure network settings, video settings, and printer settings according to specific requirements. * I can install and configure applications to extend the functionality of the operating system. |  |  |
| **Threading & GPU vs. CPU**  I can explain the concepts of threading and distinguish between GPU and CPU processing, applying this knowledge to optimize performance in computing tasks. |  | * I can define threading and explain its role in concurrent processing. * I can describe the differences between GPU and CPU in terms of architecture and functionality. * I can identify scenarios where GPU processing is advantageous over CPU processing, and vice versa. |  |  |
| **Troubleshooting**  I can systematically identify and resolve hardware and software issues in computer systems, ensuring smooth operation and performance. |  | * I can diagnose hardware issues using diagnostic tools and visual inspection. * I can troubleshoot common software problems related to operating systems and applications. * I can apply troubleshooting methodologies to isolate and resolve issues efficiently. * I can document troubleshooting steps and resolutions for future reference and knowledge sharing. |  |  |