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| <u>High School Graduation Years 2021-2023</u> | |
| <p style="text-align: center;"> Computer Programming CIP 11.0201 Task Grid Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level </p> | <p style="text-align: center;"> Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level </p> |
| NOCTI Task or Duty | |
| General Information and Concepts | |
| Apply general design and programming concepts | |
| Identify various hardware platforms and runtime environments | |
| Identify human aspects in information systems | |
| Identify general information technology (IT) definitions and terms | |
| Adhere to best programming practices and methodologies | |
| Exhibit understanding of data hierarchy, access methods, and manipulation | |
| Ethics, Legal Compliance, and Security | |
| Identify concepts of ethics and legal compliance | |
| Identify security concepts | |
| Identify appropriate safety procedures | |
| Analyze Programming Problems, Manage Projects, and Create Flowchart Solutions | |
| Analyze user requirements for a given outcome | |
| Determine input and output formats for a given code segment | |
| Identify and describe a data flow diagram | |
| Describe steps in the system development cycle | |
| Describe steps and roles in the project management life cycle | |
| Define key terminology related to computer programming | |
| Design Program Solutions | |
| Determine appropriate data types and requirements | |

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| Determine where data is to be accessed or stored | |
| Design data storage and layout | |
| Apply principles of quality, efficient programming | |
| Explain the importance of a design review | |
| Assess impact of change on existing systems | |
| Code Programs | |
| Distinguish and identify different types of programming languages | |
| Determine the variables and data types for a program | |
| Prepare and code routines using structured logic | |
| Apply appropriate computer language syntax | |
| Create and identify unit testing requirements | |
| Document appropriate comments and programmer notes | |
| Test Programs | |
| Explain system testing requirements | |
| Design and analyze test plan for use in program testing | |
| Test programs and evaluate results for accuracy | |
| Correct programming errors discovered during testing | |
| Apply implementation plans for a new system | |
| Maintain Programs and Implement Change Management Procedures | |
| Change existing programs as requirements change | |
| Update documentation for changes made to existing programs | |
| Provide user instructions on changes made to existing programs | |
| Complete User Documentation and Technical Writing | |
| Develop documentation narrative | |
| Document data use and storage | |
| Develop help resources for users | |