# Computer Programming Course No. 10152 Credit: 1.0

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| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes:Programming & Software Development (11.0201); Web & Digital Communications (11.1004)

Course Description: **Technical Level:** Computer Programming courses provide students with the knowledge and skills necessary to construct computer programs in one or more languages. Computer coding and program structure are often introduced with the BASIC language, but other computer languages, such as Visual Basic (VB), Java, Pascal, C++, and COBOL, may be used instead. Initially, students learn to structure, create, document, and debug computer programs, and as they progress, more emphasis is placed on design, style, clarity, and efficiency. Students may apply the skills they learn to relevant applications such as modeling, data management, graphics, and text-processing.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Click or tap here to enter text.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Summarize the process of IT product and service design. |  |
| 1.2 | Plan for products/services using reliability factors. |  |
| 1.3 | Create products/services using reliability factors. |  |
| 1.4 | Test new products/services for reliability. |  |
| 1.5 | Maintain the reliability of new products/services. |  |
| 1.6 | Identify input and output requirements, |  |
| 1.7 | Identify system processing requirements. |  |
| 1.8 | Define scope of work to meet customer needs. |  |
| 1.9 | Demonstrate knowledge of the key functions and subsystems of the software product. |  |
| 1.10 | Demonstrate knowledge of cross- functional team structures and team members' roles. |  |
| 1.11 | Assess the importance of new technology to future developments. |  |
| 1.12 | Identify data communication trends and major current issues. |  |
| 1.13 | Identify new technologies relevant to information technology. |  |
| 1.14 | Identify system processing requirements. |  |
| 1.15 | Determine compatibility of hardware and software. |  |
| 1.16 | Identify new and emerging classes of software. |  |
| 1.17 | Identify the elements of the information processing cycle (i.e., input, process, output, storage) |  |
| 1.18 | Demonstrate knowledge of software development environment. |  |
| 1.19 | Develop programs using appropriate language. |  |
| 1.20 | Demonstrate knowledge of the information system life cycle. |  |
| 1.21 | Demonstrate knowledge of the concepts of data and procedural representations. |  |
| 1.22 | Demonstrate knowledge of key constructs and commands specific to a language. |  |
| 1.23 | Demonstrate knowledge of how programming control structures are used to verify correctness. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

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