| Student's Name/Initials | / | Date | Teacher's Initials | Date |
|---|---|---|---|---|

# Computer Programming 2 with C++ STUDENT PROFILE

DIRECTIONS: Evaluate the student using the applicable rating scales below and check the appropriate box to indicate the degree of competency. The ratings 3, 2, 1, and N are not intended to represent the traditional school grading system of A, B, C, and D. The description associated with each of the ratings focuses on the level of student performance or cognition for each of the competencies listed below.

PERFORMANCE RATING
3 - Skilled--can perform task independently with no supervision
2 - Moderately skilled--can perform task completely with limited supervision
1 - Limitedly skilled--requires instruction and close supervision
N - No exposure--has no experience or knowledge of this task

COGNITIVE RATING
3 - Knowledgeable--can apply the concept to solve problems
2 - Moderately knowledgeable--understands the concept
1 - Limitedly knowledgeable--requires additional instruction
N - No exposure--has not received instruction in this area

## A. Safety and Ethics

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. Identify major causes of work-related accidents in offices. |
| __ | __ | __ | __ | 2. Describe the threats to a computer network, methods of avoiding attacks, and options in dealing with virus attacks. |
| __ | __ | __ | __ | 3. Identify potential abuse and unethical uses of computers and networks. |
| __ | __ | __ | __ | 4. Explain the consequences of illegal, social, and unethical uses of information technologies (e.g., piracy; illegal downloading; licensing infringement; and inappropriate uses of software, hardware, and mobile devices). |
| __ | __ | __ | __ | 5. Differentiate between freeware, shareware, and public domain software copyrights. |
| __ | __ | __ | __ | 6. Discuss computer crimes, terms of use, and legal issues such as copyright laws, fair use laws, and ethics pertaining to scanned and downloaded clip art images, photographs, documents, video, recorded sounds and music, trademarks, and other elements for use in Web publications. |
| __ | __ | __ | __ | 7. Identify netiquette including the use of e-mail, social networking, blogs, texting, and chatting. |
| __ | __ | __ | __ | 8. Describe ethical and legal practices in business professions such as safeguarding the confidentiality of business-related information. |

## B. Employability Skills

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. Identify positive work practices (e.g., appropriate dress code for the workplace, personal grooming, punctuality, time management, organization). |
| __ | __ | __ | __ | 2. Demonstrate positive interpersonal skills (e.g., communication, respect, teamwork). |

## C. Student Organizations

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. Explain how related student organizations are integral parts of career and technology education courses. |
| __ | __ | __ | __ | 2. Explain the goals and objectives of related student organizations. |
| __ | __ | __ | __ | 3. List opportunities available to students through participation in related student organization conferences/competitions, community service, philanthropy, and other activities. |
| __ | __ | __ | __ | 4. Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development. |

## D. Computer Systems

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. Define what a computer is and its purpose. |
| __ | __ | __ | __ | 2. Define basic computer terminology. |
| __ | __ | __ | __ | 3. Define basic programming terminology. |
| __ | __ | __ | __ | 4. Identify basic hardware and software components. |
| __ | __ | __ | __ | 5. Explain the flow of data and instructions through the computer system. |
| __ | __ | __ | __ | 6. Identify components of the programming development. |
| __ | __ | __ | __ | 7. Describe the concept of OOP (object-oriented programming). |

**E. Program Documentation**

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. Describe the purpose and value of the program. |
| __ | __ | __ | __ | 2. Define the input for the program. |
| __ | __ | __ | __ | 3. Define the output of the program. |
| __ | __ | __ | __ | 4. Define variables and constants associated with the program using descriptive names and appropriate data types associated with the program. |
| __ | __ | __ | __ | 5. Describe the scope of variables. |

**F. Programming Design**

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. List in sequence the steps for developing a program. |
| __ | __ | __ | __ | 2. Develop an algorithm (pseudocode) for a program. |
| __ | __ | __ | __ | 3. Key the program. |
| __ | __ | __ | __ | 4. Save the program. |
| __ | __ | __ | __ | 5. Execute the program. |
| __ | __ | __ | __ | 6. Debug the program for errors (e.g., syntax, run-time, and logic). |
| __ | __ | __ | __ | 7. Run the program to test the logical validity of an application program give appropriate data. |

**G. Programming**

| 3 | 2 | 1 | N | |
|---|---|---|---|---|
| __ | __ | __ | __ | 1. Write a program that uses built-in functions to perform calculations on mathematical, business, and/or advanced mathematical data. |
| __ | __ | __ | __ | 2. Write a program that incorporates current Windows Application Standards (e.g., access keys, tab order, focus). |
| __ | __ | __ | __ | 4. Describe the purpose/function of a structure. |
| __ | __ | __ | __ | 5. Write a program that uses arrays/structures to store data. |
| __ | __ | __ | __ | 6. Write a program that uses color, graphics, animation, and/or sound. |
| __ | __ | __ | __ | 7. Describe the purpose/function of a class. |
| __ | __ | __ | __ | 8. Write a program that uses a class. |
| __ | __ | __ | __ | 9. Write a program that creates an external file for data storage and manipulation. |
| __ | __ | __ | __ | 10. Differentiate between various types of sorting algorithms (e.g., linear, bubble, selection, insert, binary). |
| __ | __ | __ | __ | 11. Write a program that uses appropriate sorting algorithms. |
| __ | __ | __ | __ | 12. Write a program using advanced features (e.g., multiple windows, splash screens, menus, dialogs). |
| __ | __ | __ | __ | 13. Write a program that integrates a spreadsheet. |
| __ | __ | __ | __ | 14. Write a program that integrates a database. |
| __ | __ | __ | __ | 15. Write a program that integrates a word processing document. |
| __ | __ | __ | __ | 16. Write an advanced macro for application software. |
| __ | __ | __ | __ | 17. Describe the purpose/function of Web controls. |
| __ | __ | __ | __ | 18. Write a web application program that includes appropriate input validation. |