

CSC 141 Articulation Competencies

Programming Fundamentals (5 Credits)

Introduces programming fundamentals using a procedural, object-oriented language. Topics include expressions, simple I/O, data storage, variable usage, decision and repetition control structures, functions and parameter passing, design principles, and problem-solving strategies.

Upon completion of this course, successful students will score 80% or better on the following competencies to receive WVC college credits.

Student Learning Outcomes:

CATEGORIES			
1. Problem Solving:	A. Critical Thinking	3. Social Interaction:	A. Collaboration
	B. Creative Thinking		B. Ethical Conduct
	C. Quantitative Reasoning		C. Professional Conduct
	D. Qualitative Reasoning		D. Cultural Diversity
2. Communication:	A. Oral Expression	4. Inquiry:	A. Information Literacy
	B. Written Expression		B. Research
	C. Artistic Expression		C. Documentation

Course Competencies Checklist:

- Choose correct type and size of variables to hold data. (1A)
- Apply the basic operators to manipulate data. (1A)
- Write a sequence of computer statements which perform a task. (1A)
- Construct conditional statements for alternate decision paths within a program. (1A)
- Construct simple repetition statements for iterative processes. (1A)
- Construct simple functions to reduce complexity and redundancy in a program. (1A)
- Use the basic classes within the computer language’s standard library. (1A)

Program Outcomes:

Students taking computer science classes will:

- Learn the fundamentals of a structured programming language and be able to apply those skills towards creating computer programs and/or websites

Course Topics:

- Data types
- Expressions, operators and operator precedence
- Simple console I/O
- Variables
- Strings
- Sequential statements
- Logic
- Decision statements (IF statements and switch-case statements)
- Iterative statements (FOR, WHILE, DO...WHILE)
- Debugger usage
- Simple file I/O
- Functions and parameter passing
- Arrays
- Basic program design principles