IDAHO
Division of Career Technical Education

2022-2023 Technical Skills Assessment
Programming and Software Development

Results by Standard

Legend (%)		
0-50%	51-75%	76-100%

Assessment: Programming and Software Development **Number tested:** 66	% Correct 20-21	% Correct 21-22	% Correct 22-23
CONTENT STANDARD 1.0:Demonstrate critical thinking and problem-solving skills as they apply to programming.	69.10%	68.92%	69.11%
1.1 Apply basic programming principles.	71.74%	67.72%	69.01%
1.4 Write a program that produces output.	52.17%	51.32%	54.58%
1.5 Select identifiers to use within programs.	82.61%	87.72%	85.92%
1.7 Write and run a program.	79.35%	83.33%	79.58%
CONTENT STANDARD 2.0:Demonstrate ability to use variables, data types, and string manipulation to solve computer problems programmatically.	77.50%	79.56%	79.44%
2.1 Demonstrate the process of declaring variables.	66.30%	63.74%	64.79%
2.2 Display variable values.	66.30%	73.68%	71.83%
2.3 Apply integral data types.	82.61%	84.21%	89.44%
2.5 Apply arithmetic operators.	92.93%	92.98%	93.66%
2.6 Apply boolean data type.	86.96%	91.81%	89.67%
2.9 Apply string data type.	73.91%	81.87%	77.93%
CONTENT STANDARD 3.0:Demonstrate effective use of selection structures to add logic to programs.	63.88%	67.21%	68.80%
3.1 Demonstrate logic-planning tools and decision-making.	65.22%	57.89%	56.34%
3.2 Make decision using the if statement.	77.54%	78.36%	83.10%
3.3 Make decisions using the if-else statement.	63.04%	61.40%	64.08%
3.4 Apply compound expressions in if statements.	58.70%	68.42%	71.83%
3.5 Make decisions using the switch statement.	54.35%	63.16%	64.79%
3.6 Apply the conditional operator.	59.78%	60.53%	65.49%
3.7 Apply the NOT operator.	59.78%	69.30%	68.31%

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3.8 Describe how to avoid common errors when making decisions, and apply problem-solving skills in context.	54.35%	66.67%	56.34%
CONTENT STANDARD 4.0:Demonstrate ability to test, debug and validate programming applications.	72.53%	70.97%	68.25%
4.1 Locate a logic error by stepping through the code.	74.64%	71.93%	71.83%
4.2 Locate logic errors using breakpoints.	71.74%	70.76%	67.61%
4.3 Fix syntax and logic errors.	71.74%	70.53%	66.48%
CONTENT STANDARD 5.0:Differentiate between the various types of repetition structures and use each repetition structure appropriately in program development.	64.21%	66.80%	62.30%
5.1 Apply the loop structure.	76.81%	74.85%	73.24%
5.2 Create loops using the while statement.	58.26%	61.40%	60.28%
5.3 Create loops using the for statement.	61.96%	66.23%	59.86%
5.5 Apply nested loops.	65.22%	71.93%	49.30%
CONTENT STANDARD 6.0 Use methods to increase functionality and to modularize programs	81.88%	83.63%	81.92%
6.5 Write a method that returns a value.	83.04%	84.21%	85.63%
6.6 Pass an array to a method.	76.09%	80.70%	63.38%
CONTENT STANDARD 7.0:Demonstrate understanding of arrays and structure and apply concepts in program development.	69.57%	72.81%	71.83%
7.1 Declare an array and assign values to array elements.	72.83%	83.33%	80.28%
7.2 Access array elements.	74.78%	75.09%	76.90%
7.3 Search an array using a loop.	36.96%	40.35%	29.58%
CONTENT STANDARD 8.0:Demonstrate understanding of object-oriented programming concepts.	66.74%	70.18%	67.61%
8.1 Describe and apply class concepts.	70.11%	68.42%	68.31%
8.2 Create classes from which objects can be instantiated.	67.39%	67.98%	65.85%
8.3 Create objects.	58.70%	78.07%	69.72%
1CONTENT STANDARD 11.0:Apply concepts and principles of systems planning and development.	52.17%	60.53%	55.63%
11.3 Explain reuse and its role in software development.	52.17%	60.53%	55.63%
1CONTENT STANDARD 13.0:Demonstrate knowledge of application design principles.	46.20%	49.12%	40.49%
13.3 Concisely define each of the following key database design terms: relation, primary key, functional dependency, foreign key, referential integrity, field, data type, null value, denormalization, file organization, index, and secondary key.	46.20%	49.12%	40.49%