

# Aims Community College Problem Solving Rubric



## Common Learning Outcome:

Students should be able to evaluate real-world examples in terms of course content and knowledge, applying thinking skills focused on problem solving.

## Learning Outcomes specific to Problem Solving competency

Students should be able to:

### Interprets the problem

- identify factors/elements to solve the problem
- use key information

### Develops a strategy to solve the problem

- identifies an approach to solve the problem in context

### Applies appropriate procedures and/or strategies to throughout the solution process

- applies procedures and or strategies to solve the problem

### Uses representations (if applicable)

- uses applicable representations to communicate understand about the problem in context

### Solution of the problem

- arrive at a workable solution to the problem

| Level<br>Criteria  | Arrived - 4  | Arriving - 3   | Approaching - 2  | Progressing - 1  |
|--|--|--|--|--|
| <b>Interprets the problem</b>  | Clearly identifies factors or elements in the context (situation) that influences the approach to the problem. Explains why certain information is essential to solve the problem. | Clearly identifies factors or elements needed to solve all parts of problem. Uses all appropriate information but does not explain why it is essential to solve the problem. | Identifies enough factors or elements to solve part of the problem or to get part of the solution.   | Cannot identify enough factors or elements to get started or make progress on the problem.                                 |
| <b>Develops a strategy to solve the problem</b>  | Identifies the <u>best or most appropriate</u> approach for solving the problem within the context (situation).  | Identifies <u>an appropriate</u> approach for solving the problem within the context (situation).  | Identifies an approach for solving the problem that is inappropriate. The context (situation) of the problem is not addressed.               | Identifies at least one approach to the problem in such a way that a strategy to solve the problem could not be developed. |
| <b>Applies appropriate procedures throughout the solution process</b>  | Completely applies appropriate and efficient (streamlined) procedures and/or strategies throughout the solution process.   | Applies procedures and/or strategies for the problem with minor errors or unnecessary steps through the solution process.  | Applies procedures and/or strategies for the problem with multiple minor errors or a major error through the solution process.               | Applies procedures and/or strategies for the problem with major errors through the solution process.                       |
| <b>Uses representations (diagrams, graphs, tables, illustrations, formulas) to communicate problem and solution</b><br><br><b>(if applicable as determined by faculty prior to sharing rubric with students)</b> | Uses the best or most insightful representation to communicate an understanding of the problem within the context (situation).   | Uses an appropriate representation to communicate an understanding of the problem within the context (situation).  | Uses an inappropriate representation to communicate an understanding of the problem The context (situation) of the problem is not addressed. | Uses an inappropriate representation that gives little or no significant information about the problem and solution.       |
| <b>Solution of the problem</b><br><br>[in the context (situation) of the   | The result is elegant, efficient, workable, complete, and correct solution.  | The result is a workable, complete, and correct solution.  | The result is workable, partially complete, and/ or partially correct solution.  | A solution is determined but is an incorrect solution.   |

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|--|--------|-------------|-------------|-------------|
| problem if applicable]   |        |             |             |             |
| <b>Overall Rating</b><br><b>ILSLO – Problem Solving</b><br><br><b>Mark the appropriate level: 4, 3, 2, or 1.</b> | (4.00) | (3.99-3.00) | (2.99-2.00) | (1.99-1.00) |

This rubric was initially adapted from the Association of American Colleges and Universities (AAC&U) VALUE rubrics. The original VALUE rubrics may be accessed on their website at <http://www.aacu.org/value-rubrics> Reviewed Fall 2015