

Scoring Rubric for Program Outcome

1) *An ability to identify, formulate, and solve engineering problems*

Level 5 performance characterized by:

- ❑ Demonstrates creative synthesis of solution and creates new alternatives by combining knowledge and information
- ❑ Can relate theoretical concepts to practical problem solving
- ❑ Can predict and defend problem outcomes
- ❑ Uses appropriate resources to locate information needed to solve problems
- ❑ Takes new information and effectively integrates it with previous knowledge
- ❑ Demonstrates understanding of how various pieces of the problem relate to each other and the whole
- ❑ Formulates strategies for solving problems
- ❑ The answer is correct and properly labeled
- ❑ The solution is correct and checked in other ways when it can be; the interpretation is appropriate and makes sense

Level 3 performance characterized by:

- ❑ Demonstrates solution with integration of diverse concepts or derivation of useful relationships involving ideas covered in course concepts; however, no alternative solutions are generated
- ❑ Connects theoretical concepts to practical problem-solving when prompted
- ❑ Occasionally predicts and defends problem outcomes
- ❑ Uses limited resources to solve problems
- ❑ Must be assisted in integrating previous knowledge and new information
- ❑ Is missing some of the pieces of the whole problem
- ❑ Has some strategies for problem-solving, but does not apply them consistently
- ❑ The answer is nearly correct, but properly labeled (within reasonable and logical range of the correct answer—it's in the "ballpark")
- ❑ The solution is correct, but not checked in other ways

Level 1 performance characterized by:

- ❑ Demonstrates solutions implementing simple applications of one formula or equation with close analogies to class/lecture problems
- ❑ Does not see the connection between theory and practical problem solving
- ❑ Is unable to predict or defend problem outcomes
- ❑ Uses no resources to solve problems
- ❑ Has no concept of how previous knowledge and new information relate
- ❑ Does not realize when major components of the problem are missing
- ❑ Has no coherent strategies for problem solving
- ❑ The answer is incorrect and not checked for its reasonableness
- ❑ No attempt at checking the obviously incorrect solution—no commentary