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