

Ability to apply knowledge of
mathematics, science, and engineering

	Level of Achievement		
	1	2	3
	Below Expectations	Meets Expectations	Exceeds Expectations
Mathematical Modeling	Does not understand the connection between mathematical models and systems in engineering	Chooses a mathematical model or scientific principle that applies to an engineering problem, but has trouble in model development	Combines mathematical and/or scientific principles to formulate system models relevant to engineering
Application	Does not understand the application of calculus and higher mathematics in solving engineering problems	Shows nearly complete understanding of applications of calculus and higher mathematics in solving engineering problems	Applies concepts of calculus and higher mathematics to solve engineering problems
Terms	Mathematical terms are interpreted incorrectly or not at all	Most mathematical terms are interpreted correctly	Shows appropriate engineering interpretation of mathematical and scientific terms
Theory	Does not appear to grasp the connection between theory and the problem	Some gaps in understanding the application of theory to the problem	Translates academic theory into engineering applications
Calculation	Calculations not performed or performed incorrectly by hand or does not know how to use math software	Minor errors in calculations by hand and applying math software	Executes calculations correctly by hand and using mathematical software

Area	Score
Mathematical Modeling	
Application	
Terms	
Theory	
Calculation	