

Rubric for Performance Indicators of Student Outcome 2:

Performance Indicator	1: Beginning	2: Developing	3: Proficient	4: Exemplary
Formulate the problem and analyze constraints	<ul style="list-style-type: none"> • Unable to formulate the problem at all • Does not understand the concept of constraint 	<ul style="list-style-type: none"> • Partial formulation, but missing some key constraints • Understands the concept of constraints but is unable to formulate the problem 	<ul style="list-style-type: none"> • Formulates the problem and use constraints in formulation • Unable to use the most efficient formulation 	<ul style="list-style-type: none"> • Formulates the problem and analyzes all relevant constraints • Finds the best formulation
Establish criteria for evaluating potential solutions	<ul style="list-style-type: none"> • Unable to establish fitness criteria • Does not understand the concept of tradeoffs 	<ul style="list-style-type: none"> • Somewhat able to establish fitness criteria and tradeoffs with major weaknesses. • Misses several critical tradeoffs 	<ul style="list-style-type: none"> • Establishes fitness criteria and tradeoffs with minor weaknesses 	<ul style="list-style-type: none"> • Establishes complete fitness criteria • Analyzes tradeoffs thoroughly
Generate alternative solutions	<ul style="list-style-type: none"> • Unable to derive any meaningful solution 	<ul style="list-style-type: none"> • Derives a meaningful solution • Unable to derive alternative solutions 	<ul style="list-style-type: none"> • Derives multiple solutions • Has some weaknesses in evaluation of alternative solutions 	<ul style="list-style-type: none"> • Derives alternative solutions • Performs proper evaluation of alternative solutions
Design a prototype and predict its performance	<ul style="list-style-type: none"> • Unable to design a proper prototype 	<ul style="list-style-type: none"> • Designs a prototype with some help. • Shows major weaknesses in predicting performance 	<ul style="list-style-type: none"> • Designs an adequate prototype • Somewhat able to predict performance 	<ul style="list-style-type: none"> • Designs a well-developed prototype • Fully predicts its performance