VALUE Rubric Outcomes

Course Outcomes

Project Outcomes

Critical Thinking

Explains Issue or problem, provides relevant information necessary for understanding

Selecting and using information to investigate a point of view or conclusion

Adoption of a specific position in arguments

Analyzes own and others' assumptions and evaluates the relevance of context

Evaluates consequences and implications of conclusions

Constructs a contextual problem statement

Identifies contextual approaches and strategies

Problem Solving

Proposes relevant and contextually appropriate solutions

Evaluates potential solutions incorporating diverse factors

Implements solution in a contextually appropriate manner

Evaluates solution, addressing shortcomings and identifies limitations and future work

Written Communication

Considers audience, purpose, and the circumstances surrounding the writing task

Uses appropriate and relevant content

Follows conventional and disciplinary conventions in writing tasks

Uses credible, relevant sources to develop ideas appropriate for the discipline

Uses language that communicates meaning to readers with clarity and fluency

Apply critical and creative thinking principles to solve contextualized problems

Apply concepts including occupational health and safety principles, economics, law, and equity to engineering problems

Apply a general process for solving complex problems

Select and apply appropriate quantitative model and analysis to solve problems

Apply a numerical modelling tool (MATLAB) to create model used for solving complex problems

Effectively communicate following a prescribed format and using standard grammar and mechanics

Summarizes relevant information pertaining to the problem (background, contextual, content and methodological information), including an assessment of the credibility, uncertainty and biases of the information and its source

Rationally supports claims and conclusions with data and comprehensive description of the context in which they apply

Critically assesses conclusions on the basis of intellectual standards of clarity, precision, accuracy, relevance, logicalness, breadth, depth, significance, completeness and fairness

Creates, compares and contrasts quantitative models using approximations and assumptions generated from a justified problem solving process supported by information

Evaluates validity of both the model and its results for error and uncertainty, drawing well-supported conclusions to support and strengthen the solution

Information is clearly and concisely presented, demonstrating consistent use of important engineering and technical reporting conventions, including organization, content, presentation and stylistic choices