

Evaluation Tool: Introduction to Creative Engineering

Points for evaluation and key considerations:

Learning Objectives – What students should know/do by the end.

Skills Assessed – Creativity, engineering design thinking, teamwork, communication, technical skills, etc.

Assessment Methods – Projects, presentations, peer reviews, reflections.

1. Assessment Overview

Component	Weight (%)	Description
Design Project	40%	Team-based project applying creative engineering principles.
Creativity & Innovation	15%	Individual documenting ideation, problem-solving, insights.
Peer Assessment	15%	Evaluation of team contribution and collaboration.
Final Presentation	15%	Team presentation of final design including Q&A.
Reflection Essay	15%	Individual analysis of learning journey, challenges, and growth.

2. Rubrics

Design Project Rubric (40%)

Criterion	Excellent (10)	Good (7)	Satisfactory (5)	Poor (2)
Problem Identification	Clear, relevant, impactful	Mostly clear	Vague or general	Unclear or irrelevant
Ideation Process	Wide range, original ideas	Several diverse ideas	Limited ideas	No real ideation
Design Execution	Functional, well-crafted	Mostly works, minor flaws	Some parts incomplete	Non-functional
Innovation	Highly original & effective	Some unique aspects	Mild variation	Copy of existing ideas
Team Collaboration	Seamless collaboration	Good coordination	Uneven contributions	Disorganized, poor teamwork

Creativity & Innovation Log (15%)

Criterion	Excellent (5)	Good (3)	Poor (1)
Regularity	Entries every week	Most weeks	Infrequent
Depth of Thought	Reflective, analytical	Some reflection	Superficial
Creativity	Novel thinking evident	Occasional insight	Lacks creative engagement

Peer Assessment (15%)

Students rate team members on:

- Contribution
- Dependability
- Communication
- Problem-solving

Scale: 1 (Rarely) – 5 (Always)

Average scores used with instructor adjustment as needed.

Final Presentation (15%)

Team presentation of final design including Q&A.

Criterion	Excellent (5)	Good (3)	Poor (1)
Content Quality	Thorough, accurate, and insightful; exceeds expectation	Mostly accurate and relevant; minor gaps	Incomplete, inaccurate, or off-topic
Clarity & Delivery	engaging, confident	Mostly clear and confident; minor issues	unclear or rushed
Visual Aids	Professional, relevant, and enhance understanding	Clear and relevant; minimal errors	Poorly designed or absent

Reflection Essay Rubric (15%)

Criterion	Excellent (5)	Good (3)	Poor (1)
Self-awareness	Honest, insightful	General reflection	Little reflection
Link to Objectives	Clear connection to module goals	Partial linkage	No clear connection
Writing & Clarity	Well-structured, articulate	Some structure	Confusing or unclear