## Assessing the Progress of Student Design Skills Rubric Final Design Project

Team:	Course:	Date:	Evaluator's Name:			
	Pre-Engineer 1	Trainee 2	Intern 3	Entry-Level 4	Professional 5	Score
System Design	No overall system architecture and lack of system integration. Minimal consideration of design constraints.*	Partial consideration given to system- architecture and integration. Some consideration of design constraints.*	Broad concept of a design with an adequate consideration of system integration while meeting many design constraints.*	Refined and thoughtful integration of subsystems and meets most design constraints.*	Well-integrated system which meets all design constraints.*	
Implementation	Inappropriate selection of materials; undisciplined fabrication; no manufacturing plan; rarely functioning system.	Arbitrary selection of materials; minimal consideration of manufacturing; intermittent system functionality.	Suitable materials identified; some consideration given to manufacturability; system usually functions.	Standard selection of materials; complete manufacturing plan; system functions reliably.	Purposeful selection of materials; optimization of manufacturing and system functionality; high system reliability.	
Project Management	Unorganized and lacks direction; team members unaware of responsibilities; no accountability.	Minimally organized and planned; team members somewhat aware or responsible; some accountability.	Moderate organization and planning; team members aware of responsibilities and held accountable.	Well organized and planned; team members are responsible and willingly accountable.	Thoroughly organized; team members are highly responsible and hold each other accountable.	
Documentation	Poor clarity, minimally descriptive; lacks organization and consistency; poor use of figures and graphs.	Minimal clarity, partially descriptive; some organization and consistency; mild use of figures and graphs;	Some clarity, moderately descriptive; organized and consistent with minor errors; moderate use of figures and graphs.	Nice clarity, solidly descriptive; well- organized and consistent; good use of figures and graphs.	Very clear and descriptive; highly organized and consistent; excellent use of figures and graphs.	

\*Design constraints include a consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors Notes/Comments:

From: Progress of Student Design Competencies from Cornerstone to Capstone Design: A Longitudinal Study, J. Crepeau, M. Maughan, S. Beyerlein, D. Cordon, M. Swenson, D. Robertson, S. Quallen, International Journal of Engineering Education, Vol. 38, No.3, pp. 835-848, 2022