

ABET Student Outcome 6 (ELEN): Conduct Experiments, Data Acquisition & Analysis an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions			
	Level of Achievement: 1	Level of Achievement: 2	Level of Achievement: 3
	Below Expectations	Meets Expectations	Exceeds Expectations
Lab Safety	Practices unsafe, risky behavior in the lab.	Observes good lab safety procedures.	Always observes good lab safety procedures.
Experimental Procedure	Does not follow experimental procedures.	Experimental procedure often followed, occasional oversight leads to loss of efficiency.	Uses logical experimental procedures.
Data Gathering and Documentation	Simplistic plan that does not recognize full scope of study; Data collected are not all documented, some measurements not recorded.	Can formulate reasonable experimental plans; carefully documents data collected.	Formulates experimental plan to attain stated objective; carefully documents data collected.
Tool Selection Operation	Needs guidance to select appropriate and equipment; is tentative in operation of instruments.	Can select and operate appropriate equipment and instruments with minimal guidance.	Can select and operate appropriate equipment and instruments to perform experiment.
Data Analysis and Interpretation	Applies appropriate theory to data when prompted, may misinterpret physical significance of theory; is aware of measurement error but does not fully account for it statistically.	Analyzes and interprets data using appropriate theory; accounts for some measurement error statistically.	Analyzes and interprets data carefully using appropriate theory; accounts for measurement error statistically.
Application of Statistics	No application of statistical reasoning to data.	Statistical reasoning applied correctly to results.	Statistical reasoning correctly applied to results and statistical significance discussed.

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 an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

	Level of Achievement: 1	Level of Achievement: 2	Level of Achievement: 3
	Below Expectations	Meets Expectations	Exceeds Expectations
Debug Software	Does not have a clear process for identifying and fixing software bugs.	Has a process for identifying and fixing software bugs.	Has a process for identifying and fixing software bugs using an interactive debugging tool.
Debug Hardware	Does not have a clear process for identifying and fixing hardware bugs.	Has a process for identifying and fixing hardware bugs.	Has a process for identifying and fixing hardware bugs using a hardware debugging tool.
Develop and Execute Software Test Plan	Unclear on how to develop a software test plan.	Can develop a software test plan, but not proficient at executing it.	Proficiently develops a software test plan and executes it successfully.
Develop and Execute Hardware Test Plan	Unclear on how to develop a hardware test plan.	Can develop a hardware test plan, but not proficient at executing it.	Proficiently develops a hardware test plan and executes it successfully.
Toolset Selection	Needs guidance to select appropriate development tools; is tentative in operation of tools.	Can select and use appropriate development tools with minimal guidance.	Can select software tools and apply them to the development process.