Outcome (b) Rubrics

**An ability to design and conduct experiments, as well as to analyze and interpret data**

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| **Representative Student's Name** | **ID #** | **Term (e.g., T112)** | **Lab or Course #** |  | ***Evaluator's Input*** |
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| **Outcome** | **Score (1 - 4)** | **Exemplary (4)** | **Proficient (3)** | **Apprentice (2)** | **Novice (1)** |
| **Identifying clear goals for the experiment** |  | Clearly identify the objectives of the experiment, the expected results, and possible pitfalls to watch for | Clearly identify the objectives of the experiment and some of the expected results but does not think of the possible pitfalls | Identify some of the objectives of the experiment but omits the expected results and possible pitfalls | Does not identify any objectives for the experiment and/or expected results |
| **Choosing the appropriate experimental test bed (Hardware, Software, Emulation, Simulation, or hybrid) to achieve the identified objectives of the experiment** |  | Chooses the best test bed suitable for achieving the objectives with proper justification | Chooses the best test bed suitable for achieving the objectives with no justification | Chooses a test bed that is not optimum but somehow achieves the identified objectives | Chooses a test bed that does not achieve the objectives at all |
| **Designing and conducting the experiment** |  | Student groups design and conduct the experiment with no errors at all | Student groups design and conduct the experiment with some minor errors that do not adversely affect the objectives | Student groups design and conduct the experiment with some errors that affect the results and the objectives | Student groups design and conduct the experiment with major conceptual or procedural errors that render the results useless and leave the objectives unachieved |
| **Ability to analyze and interpret the data** |  | Analysis and interpretation of results exceed requirements of experiment and demonstrate significant higher-order thinking ability | Analysis and interpretation of results meet requirements of experiment and demonstrate some higher-order thinking ability | Results are analyzed but not interpreted; very limited evidence of higher-order thinking ability | No evidence of significant analysis and interpretation of results; fail to meet requirements of the experiment; demonstrate only lower-level thinking ability |