Design Project Assessment Rubric

(sample analytic rubric)

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| Course No.: |  | Date: |  |
|  |  |  |  |
| Team/Student: |  | Reviewer: |  |

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| **Topic**  **(Weight)** | **Unacceptable**  **(0)** | **Marginal**  **(1)** | **Acceptable**  **(2)** | **Exceptional**  **(3)** | **Points** |
| **Design Problem and Boundaries**  **(1)** | Little or no grasp of problem. Incapable of producing a successful solution. | Some understanding of problem. Major deficiencies that will impact the quality of solution. | Overall sound understanding of the problem and constraints. Does not significantly impair solution. | Clear and complete understanding of design goal and constraints. |  |
| **Alternative Designs**  **(2)** | Only one design presented or clearly infeasible alternative given. | Serious deficiencies in exploring and identifying alternative designs. | Alternative approaches identified to some degree. | Final design achieved after review of reasonable alternatives. |  |
| **Use of Computer–Aided Tools**  **(2)** | Serious deficiencies in understanding the correct selection and/or use of tools. | Minimal application and use of appropriate tools. | Computer–aided tools used with moderate effectiveness to develop designs. | Computer–aided tools are used effectively to develop and analyze designs. |  |
| **Application of Engineering Principles**  **(2)** | No or erroneous application of engineering principles yielding unreasonable solution. | Serious deficiencies in proper selection and use of engineering principles. | Effective application of engineering principles resulting in reasonable solution. | Critical selection and application of engineering principles ensuring reasonable results. |  |
| **Final Design**  **(3)** | Not capable of achieving desired objectives.  No implementation of resource conservation and recycle strategies. | Barely capable of achieving desired objectives.  Minimal utilization of resource conservation and recycle potentials. | Design meets desired objectives.  Moderately effective utilization of resource conservation and recycle potentials. | Design meets or exceeds desired objectives.  Effective implementation of resource conservation and recycle strategies. |  |
| **Process Economics**  **(1)** | No or totally erroneous cost estimates presented. | Reasonable cost estimates presented, but no profitability analysis included. | Reasonable profitability analysis presented, but no interpretation of the results. | Effective use of profitability analysis leading to improvement recommendations. |  |
| **Interpretation of Results**  **(2)** | No or erroneous conclusions based on achieved results. | Serious deficiencies in support for stated conclusions. | Sound conclusions reached based on achieved results. | Insightful, supported conclusions and recommendations. |  |
| **OVERALL**  **PERFORMANCE** | **Unacceptable** | **Marginal** | **Acceptable** | **Exceptional** | **TOTAL** |
| **POINTS REQUIRED** | **0–9** | **10–19** | **20–29** | **30–39** |  |

\*Rubric shared by Connie M. Schroeder, University of Wisconsin-Milwaukee on the POD listserv, April 14, 2008.