# TECH 4945 - Technical Design Rubric

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|  | 3 – EXPERT  (EXCEPTIONAL) | 2 – PRACTITIONER  (EXPECTED LEVEL) | 1 – APPRENTICE  (DEFICIENT) | 0 – NOVICE  (NOT ACCEPTABLE) |
| Identification of the problem | The problem has been shown (not just stated) to exist with supporting factual evidence. | A problem statement has been stated. | The problem statement has weak support. | Problem has not been stated clearly and lacks any supporting evidence. |
| Research and information gathering | Existing solutions to the problem, including their good and bad points, have been stated. | Existing solutions have been stated. Additional discussion may be warranted in places. | A complete review of existing solutions and research related to this problem is not presented. | Connection between references and what is written is not clear.  Little investigation has been done. |
| Definition of the project | * There are clear expectations of the specific outputs or deliverables for the project. * A set of measurable performance requirements has been created. | * Expectations have been stated. * Some objectives may not be measurable. | * Expectations have been stated. * Most objectives are not measurable. | * Expectations are not clear. * Expectations are not measurable. |
| Development of a plan | * A system block diagram has been developed to assist the team in solving the design. * All blocks have been broken down to a manageable level. | * A system block diagram has been developed to assist the team in solving the design. * Not all blocks have been broken down to a manageable level. | * A system block diagram has not been fully developed. * A few blocks have been broken down. | * A system block diagram has not been fully developed. * The problem has not been divided into manageable tasks and blocks. |
| Execution of the plan | All major points of the project were completed.. | Most major project points were accomplished | Few of the major project points were accomplished. | None of the major project points were accomplished. |
| Verification of the design | The prototype has been tested against the performance requirements listed in the definition of the project. | The prototype has not been fully developed or tested. | Little verification of design was accomplished. | No verification of design was accomplished. |
| Project Scheduling | A plan stating the cost, completion date, and required resources has been presented. Gantt charts and a budget spreadsheet have been generated. | Some aspects of the plan have not been fully developed. | Few aspects of the plan have been developed. | Lack of planning is evident. |
| Technical level of project | A significant portion of this project involves technical information outside the scope of the undergraduate curriculum. | Several technical aspects were new to the students and required research. | This project contains some research but mostly involves technical information taught at the junior and senior levels. | This project did not challenge the students to perform much research, as it relied mainly on information taught within the curriculum. |