

# Project 1.2.7 PCB Design Rubric



Total Points \_\_\_\_\_/60

## Circuit Board (25 points)

| Topics                    | 5 points                                                                                                                             | 4 points                                                                            | 2 points                                                                                     | 1 point                                                                           |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Print Quality (x2)</b> | PBC layout done properly with no sharp turns. Traces well spaced with no overlap and lines etched fully and cleanly.                 | PCB layout done properly. Traces spaced well with no overlap. Lines etched fully.   | PCB layout done. Lines etched fully.                                                         | PCB is not printed completely.                                                    |
| <b>Functionality (x2)</b> | Circuit functions correctly, consistently, and the chosen components are appropriate.                                                | Circuits functions some of the time with some of the desired functionality.         | Circuit does not function correctly but clear attempt to troubleshoot problems is evident. . | Circuit does not function and little attempt to troubleshoot problems is evident. |
| <b>Solder Joints</b>      | Solder joints are shiny and concave, creating solid connections with copper on board. No excess solder used. No bridged connections. | Solder joints are shiny and concave. No excess solder used. No bridged connections. | Solder joints are shiny and concave. No bridged connections.                                 | Some solder joints are not soldered properly.                                     |

## Electronic Documentation (35 points)

| Topics                                    | 5 points                                                                                                                                                                                                                                                                                                                                             | 4 points                                                                                                                                                                                                                  | 2 points                                                                                                                                                                     | 1 point                                                                                                                                                           |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Professional Appearance</b>            | Includes all required sections; includes page numbers and appropriate section headings. Font and spacing choices are appropriate for each type of text and consistent throughout document.                                                                                                                                                           | Includes most required sections; includes page numbers and appropriate section headings. Font and spacing choices are appropriate.                                                                                        | Does not include all required sections; includes page numbers; section headings could have been better organized. Font and spacing choices not appropriate.                  | Missing many sections; does not have page numbers or section headings. Lack of care put into layout and organization.                                             |
| <b>Title Page &amp; Table of Contents</b> | Includes all components required for a complete title page and table of contents. Page numbers and sections are consistent and accurate.                                                                                                                                                                                                             | Includes 80% or more of the necessary components for a complete title page and table of contents. Some page numbers or sections are inaccurate.                                                                           | Includes 60% or more of the necessary components for a complete title page and table of contents. Many page numbers or sections inaccurate.                                  | Title page and table of contents unorganized and inaccurate.                                                                                                      |
| <b>Circuit Description (x2)</b>           | Is grammatically correct and includes a clear and concise description of the circuit chosen. Image of breadboard or schematic included with organized labels identifying key components. Properly cited if needed.                                                                                                                                   | Is grammatically correct and includes a description of the circuit chosen. Image of breadboard or schematic included. Properly cited if needed.                                                                           | Is grammatically correct and includes a description of the circuit chosen. Image of breadboard or schematic included.                                                        | Is grammatically correct and includes a description of the circuit chosen.                                                                                        |
| <b>Fabrication Design</b>                 | Section clearly titled with images of PCB layout and copper mask. Organized well on the page with appropriate labels/descriptions.                                                                                                                                                                                                                   | Section titled with images of PCB layout and copper mask. Organized on the page with appropriate labels/descriptions.                                                                                                     | Section titled with images of PCB layout and copper mask. Organized on the page.                                                                                             | Section titled with images of PCB layout and copper mask.                                                                                                         |
| <b>Final Circuit Design (x2)</b>          | Paragraph description fully summarizes your design process and functionality of your circuit. Solution is accurately represented through high-quality photographs. <b>Multiple views</b> used to clearly highlight all physical aspects of the circuit. Is properly detailed for effective communication, including <b>labels and descriptions</b> . | Paragraph description summarizes your design process and functionality of your circuit. Solution is represented through photographs. Is properly detailed for effective communication, including labels and descriptions. | Paragraph description summarizes the functionality of your circuit. Photographs are included but lacks details for effective communication, such as labels and descriptions. | Photographs included do not present the concept well. Missing several details for effective communication, including paragraph summary, labels, and descriptions. |

