

MANHATTAN COLLEGE  
DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING  
Embedded Systems  
Project Report Guidelines

[Total Points: 10% of your final course grade- will be marked out of 20 points - Please read carefully!]

**Introduction:**

Throughout this semester you have been engaged in a rich lab experience, of which enhanced the fundamental learning objectives of the course. After the conclusion of this class, you should be able to understand the basic components of embedded systems and implement a simple application.

The goal of the final project is for you to apply these concepts:

1. The understanding of embedded systems using modular design and abstraction,
2. Debugging and verification using a simulator and on the real microcontroller,
3. How to input/output using switches, LEDs, DACs, and serial ports,
4. The implementation of an I/O driver, multithreaded programming,
5. Apply design and implementation concepts.

	Requirements	Due dates
Project proposal (3 points)	<p>Each Group will submit:</p> <ol style="list-style-type: none"><li>1- the <u>team members</u>,</li><li>2- a maximum 1 page containing the <u>title</u> and a <u>brief description of the project</u>.</li></ol> <p><b>You will get approval on the project within 1 day- Either to proceed or to resubmit another idea.</b></p> <p><i>"If more than one group selects the same project, then <b>only one group will be approved to proceed</b> and the other group(s) will be asked to resubmit a different idea. The group selected to proceed will be the one to submit their project proposal first on the Moodle system."</i></p>	11/30/2020
Project Presentation (7 points)	<p>Each group will give a quick demonstration of their project with a maximum 5 slides presentation. (All presentations should be submitted before the class) - Total time for the group is 5 mins</p> <p><i>Optional: You can record a 3 mins video of your project with a voice over.</i></p>	12/08/2020 (Section 1 and 61) 12/09/2020 (Sections 2)
Project report (10 points)	<p><b>Each group will submit a report containing the following:</b></p> <ol style="list-style-type: none"><li>a) Introduction about the project (what is the goal of this project...etc)</li><li>b) Full Screen shots of the steps (in addition to any pictures of the boards showing the status of the LEDs...etc)</li><li>c) Conclusion- Short discussion on the project and your final summary</li><li>d) Link to your Github project. (optional-but preferred!)</li></ol>	12/18/2020

<b>Important Note</b>	<p>If you downloaded the project as is and make it work on the board, then it will be graded out of 15.</p> <p>If you did a modification on the functionality, then it will be marked out of 20. --&gt;</p> <ul style="list-style-type: none"> <li>• Minor modifications will be given) (0.1 - 1.5) marks on top of the 15</li> <li>• Medium modifications will be given (1.6 - 3.0) marks on top of the 15</li> <li>• Major modifications will be given (3.1 - 5.0) marks on top of the 15.</li> </ul> <p>If you did not use any of the online project, then your project will be graded out of 20.</p>
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**Possible resources:**

Please check the following links and make sure that the project is compatible with the kit number (cy8c4247lqi-bl483):

**Cypress Projects:**

<http://www.cypress.com/documentation/code-examples>

<http://www.cypress.com/blog/psoc-creator-news-and-information/psoc-4-100-projects-100-days-50-projects-now-available>

**and here is the full list of 100 Projects and their downloads:**

[https://github.com/cypresssemiconductorco/PSoC-4-BLE/tree/master/100 Projects in 100 Days](https://github.com/cypresssemiconductorco/PSoC-4-BLE/tree/master/100%20Projects%20in%20100%20Days)