EEE3088F 2023

Initial Design Template

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| **Delete this box from final submission Gradescope instructions:**  You’ll be uploading this as a pdf (1 per team) to gradescope and labeling the pages according to which sections(Qs) the pg contains content for. Multiple pgs per section is fine, also multiple sections on the same page is also fine. See this 3min examples video of how to upload to Gradescope here: [https://help.gradescope.com/article/ccbpppziu9student-submit-work#submitting\_a\_pdf](https://help.gradescope.com/article/ccbpppziu9-student-submit-work#submitting_a_pdf)    The recommended approach is to use this template, complete each section as a team making use of the headings provided and delete the instructions in red in each section. |

# Q1 Github [1]

Put a link to your git repository here so a reader can have your project open as they review the rest of your submission

# Q2 Power Subsystem Failure Management [5]

In text, briefly describe what measures you’ve taken in your circuit design that will enable you to manage failures such as but not necessarily limited to: (i) component failure/destruction, (ii) trace damage, (iii) component shortage (if at PCB assembly time your component is no longer in stock), (iv) errors in your circuit design that are only detected post manufacture.

# Q3 Sensing Subsystem Failure Management [5]

In text, briefly describe what measures you’ve taken in your circuit design that will enable you to manage failures such as but not necessarily limited to: (i) component failure/destruction, (ii) trace damage, (iii) component shortage (if at PCB assembly time your component is no longer in stock), (iv) errors in your circuit design that are only detected post manufacture.

# Q4 Microcontroller interfacing Failure Management [5]

In text, briefly describe what measures you’ve taken in your circuit design that will enable you to manage failures such as but not necessarily limited to: (i) component

failure/destruction, (ii) trace damage, (iii) component shortage (if at PCB assembly time your component is no longer in stock), (iv) errors in your circuit design that are only detected post manufacture.

# Q5 Power Subsystem Schematic [10]

Insert a image showing the subsystem schematic

Marks will be given as follows but also note the point of this submission is so that you can get feedback from tutors to learn and to improve your design.

* [6] Appropriate Circuit
* [2] Neat and correct labels of both components (name and value) and nets (think about what would be most useful to a future engineer attempting to read, update, or reuse your schematic)
* [1] Neatness of layout
* [1] Appropriate sheet labelling including: version, title, author, and any appropriate explanation/notes (anything an engineer - yourself or someone entirely unfamiliar with the schematic - would need to know about the circuit or components selected)

# Q6 Sensing Subsystem Schematics [10]

Insert a image showing the subsystem schematic. It should be clear which is the analog and which is the digital sensor.

Marks will be given as follows but also note the point of this submission is so that you can get feedback from tutors to learn and to improve your design.

* [6] Appropriate Circuit
* [2] Neat and correct labels of both components (name and value) and nets (think about what would be most useful to a future engineer attempting to read, update, or reuse your schematic)
* [1] Neatness of layout
* [1] Appropriate sheet labelling including: version, title, author, and any appropriate explanation/notes (anything an engineer - yourself or someone entirely unfamiliar with the schematic - would need to know about the circuit or components selected)

# Q7 Microcontroller interfacing Schematic [10]

Insert a image showing the subsystem schematic

Marks will be given as follows but also note the point of this submission is so that you can get feedback from tutors to learn and to improve your design.

* [6] Appropriate Circuit
* [2] Neat and correct labels of both components (name and value) and nets (think about what would be most useful to a future engineer attempting to read, update, or reuse your schematic)
* [1] Neatness of layout
* [1] Appropriate sheet labelling including: version, title, author, and any appropriate explanation/notes (anything an engineer - yourself or someone entirely unfamiliar with the schematic - would need to know about the circuit or components selected)

Q8 Planned ERCs [5]

Insert what ERCs you currently plan to use

# Q9 Updated BOM [4]

Insert a link to your updated BOM in your git repository. This should be a csv or excel file that you exported from KiCAD that includes: Component name, Component Count, Component $ value, Component JLC part number