**ELEC5620M Combined GitHub, Coding and Hardware Testing Rubric**

|  | **Criteria** | **Overall Weight** | **Poor 0% to 40%** | **Marginal 40% to 50%** | **Adequate 50% to 60%** | **Good 60% to 70%** | **Very Good 70% to 80%** | **Excellent 80% to 100%** |
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| GitHub Version Control | **GitHub Commit Frequency** | **5%** | No submission or repository code not changed. | Single commit of new code.  **Any code committed/ uploaded from the GitHub website (single or multiple uploads)** | Multiple commits of new code in large changes. | Frequent incremental commits. | Frequent incremental commits split by topic/function/file. | Evidence of exemplary use of GitHub commits. |
| **GitHub Messages** | **5%** | No submission. | Commit summary present but does not allow changes to be identified. | Commit summary allows changes to be identified but description is not present. | Commit summary allows changes to be identified but description is lacking in detail. | Detailed commit summary and descriptions putting changes into context. | Exemplary commit summary and descriptions putting changes into context, including descriptions of external code sources. |
| **GitHub Readme** | **5%** | No submission or readme not changed. | Minor changes to existing readme. | Readme with basic description of files. | Readme contains description of files. | Readme with description of files and functions. | Exemplary readme detailing all aspects of driver use including examples of use. |
| Code | **Coding Style - Comments** | **5%** | No submission or Code not changed. | Insufficient or inaccurate use of comments. | Header and line comments present but detail could be improved. | Good use of header and line comments with a good level of detail. | Very good use of header and line comments with a very good level of detail and consistency where applicable. | Exemplary use of header and line comments with an according level of detail and appropriate structure. |
| **Coding Style – Whitespace /Layout** | **5%** | No submission or Code not changed. | Some basic use of white space. | Evidence of some indenting for code structure styling. | Consistent code identing for readability. | Very good use of code indenting and style to demonstrate code structure. | Exemplary use of coding style and layout. |
| **Functional C Coding** | **20%** | Incomplete code without comments. | Incomplete code with pseudocode-like comments detailing unwritten code.  Variable names not descriptive | Complete code with basic comments.  Suitable variable name but no consistency in style. | Complete code with detailed comments.  Suitable variable name and consistency in style. | Complete code, well commented, readable and structured.  Variable names descriptive and consistent in style. | Elegant and sophisticated code, well commented, readable and structured. Use of advanced coding techniques.  Exemplary use of variable names. |
| Written Report | **Abstract & Introduction** | **10%** | Negligible abstract and introduction. | Very basic abstract and introduction; does not really set the work in context. | Reasonable abstract and introduction, but with some errors. | Abstract and introduction sets the work in context and describe key outcomes. | The abstract introduction shows insight and effectively sets the work in context. | The abstract and introduction show highly perceptive account of context rationale and key findings. |
| **Debugging**  **(As evidenced in report)** | **20%** | Little or no evidence of debugging. | Basic debugging performed. | Good debugging performed of main operation. | Good debugging performed of all functions. Bug fixing as a result of testing. | Thorough debugging performed of all functions. Structural changes made as a result of testing. | Sophisticated debugging performed of all functions. Iterative coding-testing-optimization demonstrated. |
| **Hardware Testing (As evidenced in report)** | **10%** | Little or no evidence of hardware testing. | Basic visual observational testing performed. | Basic visual observational testing performed demonstrating of some operations. | Good visual observational testing performed demonstrating all operations. | Thorough visual observational testing performed demonstrating ALL operations. | Thorough visual observational testing performed demonstrating ALL operations AND additional tests proposed. |
| **Discussion/analysis & Conclusions** | **15%** | Negligible or incorrect discussion/analysis. | Basic level of discussion of results. Various errors. Little analysis. Basic conclusions. | Reasonable discussion of results, with some errors. Analysis attempted and summarised in the Conclusions. | Competent technical explanation with reasonable analysis and analytical summary. | Very good, error-free technical discussion; competent analysis and summary. | Highly competent technical discussion; perceptive analysis and analytical summary. |