

**SCHOOL OF ELECTRICAL, COMPUTER AND TELECOMMUNICATIONS ENGINEERING**

# ECTE451 PROJECT PROPOSAL FORM

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| **1. Candidate Details** | |
| **Name: Kane Stoboi** | **Student No: 3897370** |
| **Supervisor: Zheng Li** | |
| **Title of Project:**  Stepper Motor Feedback Control System | |
| **Brief Overview:**  A stepper motor control board based around the TMC2100 will be designed to operate a bipolar rstepper motor silently and accurately. A feedback system will be used to monitor the incoming step signals and the movement of the stepper motor to ensure there are no lost steps during operation. The control board and feedback system will be able to attach easily to the stepper motor requiring little to no modification to a motor.  Stepper motors are generally controlled using 2-wire or 4-wire control signals; therefore, the control board will require the interpretation of these signals to pass on to the TMC2100. | |

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| **2. Project Description:** (Expand to one page maximum) |
| *Describe your project. Questions that you should answer are:*   * 1. *What problem is being addressed?*   2. *Why is this project important?*   3. *What are the objectives and planned outcomes of the project?* |

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| **3. Project Plan:** (Two pages maximum) |
| Detail your project plan. This should be a resilient engineering plan accommodating realistic alternatives and contingency measures to meet the objectives and assuming a total duration of two sessions (including ECTE458). Budget constraints should also be considered. Questions that you should answer are:   1. What do you intend doing? Briefly describe the methods that you will use to achieve the objectives stated above as well as the software and/or hardware that will be developed. 2. Why is this strategy being adopted? Indicate with reference to the literature you have read so far. 3. How do you intend to validate your solution/experimental results/simulations/procedures? 4. What is the timeframe for achieving the project objectives? Indicate all milestones and deliverables, clearly showing specific outcomes to be achieved by the end of ECTE451 (no Gantt chart required). |

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| **4. Resources Required:** (Expand to a half a page maximum) |
| This statement should identify any materials (software/hardware) or access to infrastructure required to complete the project. |

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| **5. Literature Planner:** (Expand to a two page maximum) |
| Attach as an appendix |

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| **6. Mind Map:** (single A4 page) |
| Attach as an appendix |

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| **Student Signature**  ***Declaration by the student: I have understood the feedback provided to me by the supervisor.*** | | |
|  | **Signature** | **Date** |
| **Student Name:** |  |  |

**A marked assessment rubric will be appended once completed**