ACS6300/COM6301/EEE6300/PSY6300: Individual Project – Aim and Objectives

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| Student name:Cheng JIN  Student Reg No:1702  Project code and Title: Brain-computer Interface for Controlling a Prosthetic Hand  Supervisor:Dr. M Arvaneh  Second Reader: Professor E Vasilaki |

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| Project Aim:  - Rational for the study:  Available prosthetic hands are typically controlled using EMG signals from available arm muscles. However, there are some people who do not have any muscle controls below kneck, such as locked in patients, tetraplegics, …, etc.  - Research Aim |

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| Project Objectives:   1. Design and implementing a BCI interface to present different stimuli (different motor imagination and grasping functions) 2. Coupling the designed BCI interface with the EEG device for synchronised EEG recording 3. Recording EEG data from a number of participants performing different mental imagination including different grasping functions 4. Developing a classification algorithm to discriminate between grasp imagination and rest 5. (Advanced) Developing a classification algorithm to discriminate different grasping functions 6. (Advanced) Implementing the proposed classification algorithm in a online BCI system coupled with a robotic hand |

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| **Please attach (as an additional sheet) your project work plan in the form of Gantt chart** |

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| Student signature: ………………………………………………………………………. Date: …………………………………………  ***To be completed by supervisor after the submission:***  Supervisor approval (Yes/No): ……………………………………………………. Date: ………………………………………… |