

**Supervisor:** Dr Hermawan Nugroho  
**Moderator:** Prof T. Nandha Kumar  
**Project Code:** HN-BEng-23-01

**Legends:** Error Bars for Uncertainty:  Moderator Meeting Week:   
Submission Dateline:  Project Milestone: 

Tasks	Autumn Semester																Study Week		Exam		Sem Break		CNY Break		Spring Semester					HR Break		Study Week					
	Sept		Oct		Nov		Dec		Jan		Feb		Mar		Apr		May																				
	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	WEEK 15	WEEK 16	WEEK 17	WEEK 18	WEEK 19	WEEK 20	WEEK 21	WEEK 22	WEEK 23	WEEK 24	WEEK 25	WEEK 26	WEEK 27	WEEK 28	WEEK 29	WEEK 30	WEEK 31	WEEK 32	WEEK 33	WEEK 34	WEEK 35	WEEK 36	WEEK 37			
<b>Planning For Project Location and Item Requirements</b>																																					
Hazard Identification, Risk Assessment, Risk Control Form (HIRARC) Form																																					
FYP Briefing and Discussion on Project Specification																																					
Hardware Inspection and Sensor Component Research																																					
Software, Tools and Application Research																																					
Finalising Project Objectives and Project Specification																																					
Hardware and Software Research and Purchase Cost Estimation																																					
Purchase Requisition																																					
Lab Space Booking																																					
Obtaining Ethical Approval																																					
Writing Project Outline and Planning Report																																					
Submission of Project Outline and Planning Report																																					
<b>Researching and Studying Heart Disease Detection and Prediction Methods</b>																																					
Researching of Common Application of Edge Computing																																					
Literature Review of Emotion Recognition using ECG																																					
Literature Review of Common Heart Disease																																					
Literature Review of Heart Disease Detection using Machine Learning and Deep Learning																																					
Literature Review of Heart Disease Prediction Model																																					
Literature Review of STM32MP157F DK Edge Computing Device and Application																																					
Literature Review of Software Tools, Model and Architecture for Edge Computing																																					
<b>Designing Solution/Application and Setting Up Edge Computer</b>																																					
Research and Learning the Function of STM32MP157F DK Edge Computer																																					
Installing Virtual Machine to Set Up STM32 Software to Flash OS into the Edge Computer																																					
Installing STM32 Cube Programmer in Ubuntu OS																																					
Coding Program to Test Functions of Edge Computer																																					
Integrating Heart Monitoring Sensor onto the Edge Computer																																					
Coding Program to Test Sensors and Perform Experiments to Ensure Accurate Measurements of Sensors																																					
Designing Wearables of that can be Integrated with Heart Disease Detection and Prediction Solution																																					
<b>Deployment of AI Model in Edge Computer</b>																																					
Setting Up Environment to Deploy Heart Disease Detection and Prediction Model																																					
Coding Program to Deploy Emotion Recognition Model into Edge Computer																																					
Coding Program to Deploy Heart Disease Detection and Prediction Model into Edge Computer																																					
Coding Program to Connect Sensor with AI Model																																					
Coding Program to Display Prediction Output on the LCD Display																																					
Development of User Interface to Monitor Heart Disease and Data Collected from Sensor																																					
Debugging Code to Solve Bugs Found, Improvement of Code/Model																																					
<b>Integrating Model, Sensor, Edge Computer Developed into Wearables</b>																																					
Combining both Software and Hardware Developed into Wearables																																					
Performing Testing on Real Live User																																					
Obtaining User Experience, Feedback and Model Prediction Result																																					
Performance Improvement and Solving Bugs																																					
<b>Thesis, Documents and Presentation</b>																																					
Writing Sections of Draft Thesis																																					
Draft Typed Thesis Submission																																					
Writing Sections of Final Thesis																																					
Final Thesis, Logbook, Code and Miscellaneous Submission																																					
Preparation of Presentation																																					
Presentation																																					
Return of Project Items																																					

