Intelligent Control Lab Grading Guide

The focus of the lab session is to train students to simulate the design, implementation, and validation of a mechatronics project, involving software and hardware. This lab session will also act as a preparation for the student's final thesis research projects. The hardware we are using is Raspberry Pi, the software shall be programmed using Python. Occupies 50% of the total grade of the course Intelligent Control, minimum passing grade 5.5.

Description:

The students are divided into groups of 3. Each group have their full freedom to design their own assignment. This assignment that you design ideally should be using Python and Raspberry Pi together to solve problems in a real-life scenario or create interesting gadgets. However, all ideas are welcomed as long as it represents the workload and shows that the student can use python with hardware to design, implement, test, and validate ideas in the mechatronics field.

Deliverables:

- a report with code as appendix,
- original .py file.
- Optional: a multi-media demo (for example a video)

Assessment:

1. Report (~40%)
2. Code~(40%)
3. A simple defence session will be held prior to the grade announcement session.(~20%)

Rule: ONE INSUFFICIENT, THE STUDENT FAILS

Sections	Items	Standards			Grade
Report (4)	**Sufficient/Insufficient Items**				
	Page limit (0.25)	3 <= Pages <= 23			
	Structure (0.25)	Contains all necessary points to explain (all 8 points: a to h)			
	Readability (0.25)	Readable font and formatting, clear figures and tables			
	Grammar (0.25)	Few grammar mistakes			
	Reference (0.25)	All references are correctly formatted			
	Multi-standard items				
	Story-telling (2.75)	Insufficient(0) Goal not clearly described Design, purpose, functions of the design are not properly formulated No specific solution or explanation provided	Sufficient(1.65) Goal clearly described Design, purpose, functions of the design are properly formulated Specific solution or explanation provided	Excellent(2.75) Background, motivation, goal are clearly described. Persuasive demonstration of the process of design-test-implementation. Solution are extensively tested, pros and cons are discussed. Reflection provided, further possible research direction or application in real world scenario mentioned.	
Code (4)	**Sufficient/Insufficient Items**				
	Style & Readability(0.5)	Consistent style and readable code			
	Quality (0.25)	No major bugs, code should be safe to use			
	Documentation (0.5)	Proper documentation provided, an adequate amount(not too many, not too few) of comments are used to explain the code.			
	Code & function consistency (0.25)	Code should match the functions and goals in the report consistently			
	Multi-standard items				
	Code performance (2.5)	Insufficient(0) Code does not work or could not complete functions as indicated	Sufficient(1.5) Code completes most of the functions indicated in the report.	Excellent(2.5) The code completes all of the functions mentioned in the report and realize the goal. The code runs efficiently.	
Defence (2)	Explanation & Justification (2)	Insufficient(0) You can not explain your own actions and choices. Things are determined arbitrarily.	Sufficient(1.25) Most of your explanation make sense. You can justify your design, solution, execution, and report.	Excellent (2) You can justify everything you do, extra examples can be provided. You demonstrate that you have studied your choice extensively. You know not only what you implemented but also many more about the topic.	