

SIT111 Learning Summary Report

PART ONE: Self-assessment of your learning in SIT111

Please fill the tables below. You may delete tables that are not relevant for your grade.

What is the grade you are applying for?

	Pass (P)	Credit (C)	Distinction (D)	High Distinction (HD)
Self-assessment (please tick>	✓	✓		

Minimum Pass Checklist

Tasks	Included (please tick)	Comments on the quality of your submissions (Optional)
1.1P	X	What I would like to stress on is that I was always submitting the work on time, thus, meeting all of the due dates in the course, to back up my request for the desired grade. In addition, I have successfully completed all the C-level work and for P grade, I have also showed commitment by striving to get a better understanding of the work done in hope of a better numerical value.
1.2P	X	
1.3P	X	
2.1P	X	
3.1P	X	
4.1P	X	
1.5P	X	
1.6P	X	Furthermore, I have had to ask for an extension for some P jobs because of some issues like health complications. Nonetheless, I have been able to avoid these difficulties resulting in maintaining my concentration, and improving the quality of the work in a regular basis by engaging with the course material, and practicing in the abilities and information that I have been developed.
2.1P	X	
3.1P	X	
3.3P	X	
3.4P	X	
3.6P	X	

Minimum Credit Checklist

Tasks	Included (please tick)	Comments on the quality of your submissions (Optional)
3.2C	X	When applying for the grade I would like to earn, I would like to bring my instructor's attention to matters like timely submission of the assignments, as a show of responsibility and effective time management throughout the course. Some of the D-level assignments that I have completed also show my ability to engage with the content at a higher level, though, and may help me earn a better numerical value for my P grade.
3.2C	X	
3.5C	X	
		Besides, due to an unexpected health issue, I got an extension for one C-level work. I still however did not give up, in engaging with the course material and kept going at it to the best of my abilities in order to complete the said assignment.

Minimum Distinction Checklist

Tasks	Included (please tick)	Comments on the quality of your submissions (Optional)
		<you may use this space to briefly strengthen your case for the target grade. - For example, consistent submission of tasks on time, anything else..?
		If you were granted extensions for one or more D tasks due to something unavoidable such as a medical issue – this is a good place to mention this >

Minimum High Distinction Checklist

Tasks	Included (please tick)	Comments on the quality of your submissions (Optional)
		<you may use this space to briefly strengthen your case for the target grade. - For example, consistent submission of tasks on time, anything else..?>

PART TWO: Retrospection on your learning in SIT111

The most important things I learnt:

In this unit, I was able to apply basic concepts in electronic by learning how to interface microcontrollers with different sensors and components. Signal and its types, usage of breadboard and the difference between the analog and the digital signals was clear to me. In Arduino's IDE, I programmed with C/C++, and I found that it enhanced my coding skills in abetting the output based on the input of the sensors. I also learned problem solving skills by solving circuits when part were damaged or when the connections were incorrect. Finally, integrating different modules: LEDs, motors, and sensors enlarged my knowledge of how the hardware works with software.

I found the following topics particularly challenging:

The most challenging aspect of the Arduino circuit unit was to grasp and apply numerous communication standards such as I2C and SPI, which required a broader notion of how data is communicated between modules. Controlling power supply in circuits was another challenge especially dealing with several components that require different volts of supply. Like in any conventional system, small issues such as loose connections or incorrect resistor value could halt the whole system hence debugging of faulty circuits was also difficult. Other challenges were extra coding where details mattered for a sequence such as LCD screens or servo motors. Finally, the complex mathematical calculations were required to accommodate the integration of the sensors with nonlinear data acquisition, i.e., temperature sensors.

I found the following topics particularly interesting:

I found the integration of several sensors and actuators to be the most stimulating mostly because it provided concrete applications of the Internet of Things (IoT). Arduino is an interesting and fun programming gadgets that is capable of being controlled by inputs in the environment. PWM control of brightness of LEDs and speed of motors also fascinated me as well as solving problems using analog signals of amplitude modulators. I also found it interesting to see how different sensors like infrared and ultrasonic sensors work because it related the learning contents to practice. I was able to stay interested the whole time because of unveiling of Arduino projects in terms of the creativity the projects which include automation.

The things that helped me most were:

I have learned important facts about difficult subjects through the highly detailed documentation available for Arduino and helpful forums online. The learning was enhanced and the theoretical concepts made more understandable via physical testing with breadboards and parts. My understanding was also improved as I was able to work with classmates, to discuss topics and generate solutions. I described the circuits on the paper and simulated them through Tinkercad before physically developing them thus minimizing on time and mistakes made. In addition, information from my instructor was helpful in giving students advice when solving complex problems starting from lectures to the laboratory practical lessons whereby my instructor would expound on the essence of the topic as well as practical methods to use if I faced some challenges solving the problems at hand.

If I did this unit again, I would do the following things differently:

Where I to redo this particular unit, I would ensure that I recorded this endeavour more systematically as well as take tolerable notes mainly with regard to wiring as well as coding alterations. I considered that I would be able to track errors more successfully with this. I would also focus on ensuring the fundamentals of circuit theory comprehensively because this would make me prepare a better foundation before attempting such other tasks. Besides, since protocols such as SPI and I2C are fundamental to more comprehensive projects, I would spend more time studying them. Finally to challenge myself and expand the range of available projects I would work with progressively more complex Arduino shields and modules.