Lab work 1 for introduction to Robotics

Basic Course Information				
Course Number	01005121	Subject Category	Compulsory (MI	
Class Format	Experiment / Practical training	Credit Type and Number of Credits	1.5	
Department	Mechatronics	Student Category	Year 1	
Period of Study	Semester 1	Classes per Week	1	
Required Materials	Laptop or/and Tablet (for writing reports and recoding measurements)			

Course Objective
This course overs fundamental topics and activities in engineering lab work, such as basic electrical measurements is, or, as obtains correct, and resistancia, as well as report writing. The goal of this course is to provide students with a strong foundation in lab work wild first wild enable their foundation in lab work wild first wild enable their foundations and observations are produced in a provide students will associated with a strong their devices of their enable devictors (leaves used in the Section (18-16)).

Evaluation (Rubrio)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Following and Doing Procedure	Demonstrates very good knowledge of the lab procedures and principles	Demonstrates good knowledge of the lab procedures and principle	Lacks the appropriate knowledge of the lab procedures and principles
Data Collection	Measurements are both accurate and precise	Measurements are mostly accurate and precise	Measurements are incomplete, inaccurate and imprecise
Report writing	Content is comprehensive, and accurate, important points are stated clearly with supported data.	not comprehensive or incomplete. Important	Most of the content is incomplete, important points are addressed and /or inconsistent.
Safety	Proper safety precautions and awareness are consistently used	Proper safety precautions and awareness are generally used	Proper safety precautions and awareness are missed

Philatoranio with Learning Outcome (4f) Wide Innovincian Science and Engineering and mustical ability to apply them to solve problems in the society. (5f) As an engineer, attitude to act with awareness of social roles and responsibility to make a better society. (4f) Ability to design, propose and develop robotio/ mechatronic systems to solve specific problems

Outline:	Students will conduct some measurements and assembling tester kits		
Class Format:	Labwork		
Please Note :	Complying with safety rules, Lab work topics are subject to be changed due to the school schedule. All reports must be submitted and accepted to get the credit.		

Semester 1 Contracts and Method of Course Introduction / Lab environment and select such that selection is a selection of the selection of t	Semester 1 Contents and Method of Course	Course Plan			1
Test veeled	Test veels	Semester 1	Contents and Method of Course	Goals	Related MCC
2nd week	Anaba multimeter let and soldering practices (1) The multimeter let and soldering practices (2) The multimeter let and soldering practices (2) Anaba multimeter let and soldering practices (3) Anaba multimeter let assembled (1) Pleasators and Understanding the anabamulation obligate (3) Anaba multimeter let assembled (2) Other carts Anabamultimeter let assembled (2) Other carts Anabamultimeter let assembled (3) Other carts Anabamultimeter let assembled (4) Quality Other (6) week Anabamultimeter let assembled (4) Q	1st week	Introduction / Lab environment and safety	Understanding and familiar with the guidance, lab environment, and safety	Vi-A 1 1 Vi-A 1 2
Brit week Anabe multimeter let and solderine practices Q	Analog multimeter let and soldering practices (2) Analog multimeter let and soldering practices (2) Analog multimeter let accomised (1) Plassitions and multimeter let accomised and indications and multimeter let accomised (1) Plassitions and multimeter let accomised (2) Other cents under let also active multimeter let accomised (3) Analog multimeter let accomised (2) Other cents under let accomised (3) Analog multimeter let accomised (3) Quality Other let accomise a let accomise (3) Analog multimeter let accomised (3) Quality Other let accomise (3) Analog multimeter let accomised (3) Quality Other let accomise (3) Analog multimeter let accomised (3) Quality Other let accomise (3) Analog multimeter let accomised (3) Quality Other let accomise (3) Analog multimeter let accomised (3) Quality Other let accomise (3) Analog multimeter let accomised (3) Quality Other let accomised (3) Analog multimeter let accomised (3) Quality Other let accomised (3) Analog multimeter let accomised (3) Quality Other let accomised (3) Analog multimeter let accomised (3) Quality Other let accomised (3) Analog multimeter let accomised (3) Quality Other let accomised (3) Analog multimeter let accomised (3) Quality Other let accomised (3) Analog (3)	2nd week	Analog multimeter kit and soldering practicee (1)	Understanding the analog multitester kit and its parts, and soldering skill	
Araba multimeter lot accounted (1) Resistors and Burillations of all of a critical multiple of the property	Anaba multimater let assembel (1) Pasistons and Multislater (1) and la particular de la contra de la color e ad la	3rd week	Analog multimeter kit and soldering practicee (2)	Understanding the analog multitester kit and its parts, and soldering skill	
Bith week	Sch week	4th week	Analog multimeter kit assembel (1) Resistors and Diode	Understanding the analog multitester kit and its parts, and soldering skill	VI-A 1 1 VI-A 1 2
Str.	Araba multimeter let assembled Quality Check Control of the chroiding accession	5th week	Analog multimeter kit assembel (2) Other parts	Understanding the analog multitester kit and its parts, and soldering skill	
Anabar multimeter let assembel 46 Quality Chack Bith week Chimis law and FV characteristic Othinis law and financial law and fina	Analog multimeter let assemble 4 Quality Chock Understanding to operation V 1 2 2	6th week	Analog multimeter kit assembel (3) Quality Check	Understanding its operation and the checking process	VI-A 1 2
10th week	10th week Mere up and Recort 10th week Voltage division and multiplier (1)	7th week	Analog multimeter kit assembel (4) Quality Check	Understanding its operation and the checking process	VI-A 1 1 VI-A 1 2 VI-A 1 3
10th week Meltern examination Understanding the voltage consolidate to use the consolidate and consolidate to use the consolidate and consolida	10th week Miditam examination Understanding the voltage coolability to use the casebility to use the casebil	8th week	Ohm's law and I-V characteristic	Understanding Ohm's law and being capable of using engineering equipment to measure	V-C 6 85 V-A 1 20
11th week Voltage division and multiplier (1) 12nd week Voltage division and multiplier (1) 12nd week Voltage division and multiplier (2) Understanding the voltage division and multiplier (3) Understanding the voltage division and multiplier (3) Understanding the current of the voltage division and multiplier (3) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the current of the voltage division and multiplier (1) Understanding the current of the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division and multiplier (1) Understanding the current of the voltage division of the voltage division of multiplier (1) Understanding the purpose of the current of the voltage division	11th week Voltage division and multiplier (1) 12nd week Voltage division and multiplier (1) 12nd week Voltage division and multiplier (2) Understanding the voltage division and multiplier (3) Understanding the voltage division and multiplier (2) Understanding the voltage division and multiplier (3) 13nd week Current division and multiplier (1) Understanding the current of the current division and multiplier (3) Understanding the current division and multiplier (4) Understanding the current division and multiplier (3) Understanding the current division and multiplier (4) Understanding the information of the formation and multiplier (4) Understanding the information of the formation and multiplier (4) Understanding the information of the formation and multiplier (4) Understanding the information of the formation and multiplier (4) Understanding the information of the formation and multiplier (4) Understanding the current division and multiplier (4) Understanding the c	9th week	Warp up and Report		
11th week Voltage division and multiplier (1) Voltage division and multiplier (2) 12nd week Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multiplier (4) Voltage division and multiplier (4) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multi	11th week Voltage division and multiplier (1) 12nd week Voltage division and multiplier (2) 12nd week Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multiplier (2) Voltage division and multiplier (3) Voltage division and multiplier (4) Voltage division and multiplier (4) Voltage division and multiplier (5) Voltage division and multiplier (6) Voltage division and multiplier (6) Voltage division and multiplier (7) Voltage division and multiplier (8) Voltage division and multiplier (9) Voltage divisio	10th week	Midterm examination		
13rd week Current division and multiplar (1) 14th week Current division and multiplar (2) 14th week Current division and multiplar (2) 15th week Current division and multiplar (2) Current division and m	13rd week	11th week	Voltage division and multiplier (1)	Understanding the voltage division, multiplier, and capability to use the engineering equipment to measure and analysis	VI-C 1 2
13rd week	13rd week Current division and multipliar (1) division multipliar (2) regionance outproved to \$\frac{1}{2}\tilde{\text{C}} = 1 of memory and the current division and multipliar (2) Current division and multipliar (3) Current division and multipliar (2) Current division and multipliar (3) Current division and multipliar (2) Current division and multipliar (3) Current division and multipliar (3) Current division and multipliar (4) Curr	12nd week	Voltage division and multiplier (2)	Understanding the voltage division, multiplier, and capability to use the engineering equipment to measure and analysis	
15th week	15th week	13rd week	Current division and multiplier (1)	division, multiplier, and capability to use the engineering equipment to	VI-C 1 1 VI-C 1 2 VI-C 1 4 VI-C 1 6
15th week	15th week Breedboard and potentionweter but before the property with a color of the property with a col	14th week	Current division and multiplier (2)	Understanding the current division, multiplier, and capability to use the engineering equipment to measure and analysis	
16th week Internal resistance and battery Understanding the Internal 16th 15th 15	16th week	15th week	Breadboard and potentiometer	Understanding the breadboard function and making a circuit with a potentiometer to measure and anabais	VI-C 1 2 VI-C 1 4
19th week Werp up and Report 19th week Final examination 20th week Review and summarize Review and summarize	19th week Waro up and Recort 19th week Final examination 20th week Peview and summarize Review and summarize Op-	16th week	Internal resistance and battery	Understanding the internal resistance, and battery, and realizing the limitation of the	VI-C 1 2 VI-C 1 4
19th week Final examination 20th week Review and summarize Review and summarize	19th week Final exemination 20th week Peview and summarize Review and summarize Do:	17th week	Diode and rectifier	Understanding how diode works and its application	VI-C 1 1 VI-C 1 4 VI-C 1 6
20th week Pleview and summarize Review and summarize	20th week Peview and summarize Peview and summarize Dor	18th week	Waro up and Report		
	Dor	19th week	Final examination		
		20th week	Review and summarize	Review and summarize	

	Examination	Quiz	Musual Evaluations between students	Report	Portfolio	-
Basic Ability				50		20
Technical Ability						20
Interdisciplinary Ability						10