

00 Sept. 27, 2018

COURSE: EE CAPSTONE PROJECT 2	COURS	SE CODE: EE2	200D-2	SECTION: C20	<b>SY/TERM</b> : 2019-2020 / 2T
TITLE OF RESEARCH PROJECT:					GROUP CODE:
COMPUTER-BASED DC MACI	HINE LABOR	ATORY			2019EE <u>003</u>
INTEGRATIVE COURS	ES			THESIS PHA	SE
THESIS  CAPSTONE PROJECT  FEASIBILITY STUDY	PLANT DESIGN BUSINESS PLAN			PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE
Name of Students (SURNAME, GIVEN NAME MI.)		Student No.		Program of Study	Signature
MARCAIDA, AR-JHAY A.	2	015102107		B.S. Electrical Engineering	
MUÑIZ, JOHN DAVID M.	2	015141602		B.S. Electrical Engineering	
	DESCRIPTION (Use back p	OF WORK DOI			
WEEK #: 1	, ,			COVERED DATE: NOV. 14 – N	IOV. 20 2019
FOR THE FIRST WEEK, OUR ADVISER BRIEFLY DISCUSSED HOW OUR CAPSTONE PROJECT SHOULD WORK. ENGR. CESAR MANALO JR. ALSO TOLD US WHAT EQUIPMENTS WE SHOULD BE USING AND THE SOFTWARES THAT WE NEED IN ORDER TO START OUR PROJECT.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:		Pre	ferred Schedule:	
ATTESTED BY				NOTED BY	
ATTESTED BY  ADVISER  Signature over printed name / Date				MARIA CARMELA COURSE COORDINA Signature over printed na	F. CAPUL
Copies: (1) Student (2) Adviser (3) Course Coordinator					3 VI AA-003-03



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### **INTEGRATIVE COURSE PROGRESS REPORT**

COURSE: EE CAPSTONE PROJECT 2	COURSE CODE: EE	200D-2	SECTION: C20	<b>SY/TERM</b> : 2019-2020 / 2T	
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INTEGRATIVE COURSE	S		THESIS PHA	SE	
THESIS PLANT DESIGN CAPSTONE PROJECT BUSINESS PLAN FEASIBILITY STUDY			PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE	
Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature	
MARCAIDA, AR-JHAY A.	2015102107	,	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	2015141602	2	B.S. Electrical Engineering		
DESCRIPTION OF WORK DONE FOR THE TIME PERIOD  (Use back page or additional sheets if necessary)					
WEEK #: 2	· · · ·		COVERED DATE:		
FOR THE SECOND WEEK, WE STARTED LOOKING FOR EQUIPMENTS THAT WE NEED FOR OUR PROJECT. WE LOOKED AT LAZADA AND SHOPEE TO SEE IF THE COMPONENTS NEEDED ARE AVAILABLE ONLINE. IN THIS WAY, WE CAN STUDY AND AT THE SAME TIME WAIT FOR THE COMPONENT TO BE DELIVERED TO US.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:	Pr	eferred Schedule:		
ATTESTED BY			NOTED BY		
ADVISER Signature over printed name / Date		MARIA CARMELA F. CAPUL  COURSE COORDINATOR  Signature over printed name / Date			
Copies : (1) Student (2) Adviser (3) Course Coordinator			OVPAA- <i>039-09</i>		

This form is available at the Office of Vice President for Academic Affairs



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TITLE OF RESEARCH PROJECT:		DOD 4 TO TO 1		1	GROUP CODE:
COMPUTER-BASED DC MACI	HINE LA	BORATORY			2019EE <u>003</u>
INTEGRATIVE COURS	ES			THESIS PHA	SE
THESIS  CAPSTONE PROJECT  FEASIBILITY STUDY	PLANT DE BUSINESS			PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE
Name of Students (SURNAME, GIVEN NAME MI.)		Student No.		Program of Study	Signature
MARCAIDA, AR-JHAY A.		2015102107		B.S. Electrical Engineering	
MUÑIZ, JOHN DAVID M.		2015141602		B.S. Electrical Engineering	
		PTION OF WORK DO			
WEEK #: 3	•			COVERED DATE: NOV. 28 – D	PEC. 4 2019
FOR THE THIRD WEEK, WE STARTED LOOKING FOR EQUIPMENTS THAT WE NEED FOR OUR PROJECT. WE LOOKED AT LAZADA AND SHOPEE TO SEE IF THE COMPONENTS NEEDED ARE AVAILABLE ONLINE. IN THIS WAY, WE CAN STUDY AND AT THE SAME TIME WAIT FOR THE COMPONENT TO BE DELIVERED TO US.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed I	by:	Pre	eferred Schedule:	
ATTESTED BY				NOTED BY	
ATTESTED BY  ADVISER  Signature over printed nan/e / Date				MARIA CARMELA COURSE COORDIN. Signature over printed na	F. CAPUL
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TITLE OF RESEARCH PROJECT:					GROUP CODE:
COMPUTER-BASED DC MACI	HINE LABORATO	)KY			2019EE 003
INTEGRATIVE COURS	ES			THESIS PHA	SE
THESIS  CAPSTONE PROJECT  FEASIBILITY STUDY	PLANT DESIGN BUSINESS PLAN			ROPOSAL DEFENSE ATA GATHERING	FINAL DEFENSE
Name of Students (SURNAME, GIVEN NAME MI.)	Stude	ent No.		Program of Study	Signature
MARCAIDA, AR-JHAY A.	20151	102107	B.	.S. Electrical Engineering	
MUÑIZ, JOHN DAVID M.	20151	141602	B.	.S. Electrical Engineering	
	DESCRIPTION OF W				
WEEK #: 4	, , , ,				C. 11 2019
FOR THE FOURTH WEEK, WE STARTED OUR CAPSTONE PROJECT. WE FIRST LAID OUT HOW OUR PROTOTYPE WILL LOOK LIKE IN PCB. WE DESIGNED OUR PROTOBOARD.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:		Prefer	rred Schedule:	
ATTESTED BY				NOTED BY	
ADVISER  Signature over printed name / Date				MARIA CARMELA COURSE COORDINA Signature over printed na	ATOR
pies : (1) Student (2) Adviser (3) Course Coordinator					



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TITLE OF RESEARCH PROJECT:				GROUP CODE:	
COMPUTER-BASED DC MACHINE LABORATORY				2019EE <u>003</u>	
INTEGRATIVE COURSES	1		THESIS PHA	SE	
THESIS PLANT DESIGN CAPSTONE PROJECT BUSINESS PLAN FEASIBILITY STUDY			PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE	
Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature	
MARCAIDA, AR-JHAY A.	2015102107	,	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	2015141602		B.S. Electrical Engineering		
DESCRIPTION OF WORK DONE FOR THE TIME PERIOD  (Use back page or additional sheets if necessary)					
WEEK #: 5			COVERED DATE: DEC. 12 – D	PEC. 18 2019	
FOR THE FIFTH WEEK, WE LOOKED FOR OTHER MATERIALS THAT WE ARE NOT ABLE TO BUY. DUE TO THE CONTINUOUS UPDATE OF OUR DESIGN, WE NEED TO BUY NEW COMPONENTS THAT WERE LISTED BY OUR ADVISER RECENTLY.					
To be filled up by adviser.					
Ready for Oral Defense	ndorsed by:	Pr	referred Schedule:		
ATTESTED BY			NOTED BY		
ADVISER Signature over printed name / Date		MARIA CARMELA F. CAPUL  COURSE COORDINATOR  Signature over printed name / Date			
Copies : (1) Student (2) Adviser (3) Course Coordinator				OVPAA- <i>039-09</i>	



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INTEGRATIVE COURS	ES		THESIS PHA	SE	
THESIS  CAPSTONE PROJECT  FEASIBILITY STUDY	PLANT DESIGN BUSINESS PLAN		PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE	
Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature	
MARCAIDA, AR-JHAY A.	201510210	7	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	201514160	)2	B.S. Electrical Engineering		
	DESCRIPTION OF WORK D				
<b>WEEK #</b> : 6	(**************************************		COVERED DATE: JAN. 6 – JA	N. 12 2020	
FOR THE SIXTH WEEK, WE CONTINUED LOOKING FOR THE COMPONENTS NEEDED FOR OUR PROJECT. WE LOOKED AT MANILA DEECO FOR THE SENSORS AND INTEGRATED CIRCUITS THAT WE WILL USE FOR THE PROJECT.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:	Pre	ferred Schedule:		
ATTESTED BY			NOTED BY		
ATTESTED BY  ADVISER  Signature over printed name / Date			MARIA CARMELA COURSE COORDIN. Signature over printed na	ATOR	
pies : (1) Student (2) Adviser (3) Course Coordinator					



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COMPUTER-BASED DC MACH	IINE LABORATORY			2019EE 003	
INTEGRATIVE COURSE	s		THESIS PHA	ASE	
	PLANT DESIGN BUSINESS PLAN		PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE	
Name of Students (SURNAME, GIVEN NAME MI.)	Student N	).	Program of Study	Signature	
MARCAIDA, AR-JHAY A.	2015102	07	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	20151416	502	B.S. Electrical Engineering		
	DESCRIPTION OF WORK (Use back page or add				
WEEK #: 7	Ose back page of aut	itional sheets ii ii	COVERED DATE: JAN. 13 – J.	AN. 19 2020	
FOR THE SEVENTH WEEK, WE OBTAINED MOST OF THE ELECTRONIC COMPONENTS NEEDED FOR OUR PROTOTYPE. IN ORDER TO BUILD OUR PROTOTYPE, WE STARTED BY BUILDING IT BY PARTS. THE FIRST ONE WE BUILT WAS THE VOLTAGE SENSOR THAT WE HAVE DESIGNED UNDER THE GUIDE OF OUR ADVISER ENGR. CESAR MANALO JR. AFTER COMPLETING THE VOLTAGE SENSOR, WE TRIED IMPLEMENTING IT IN THE LABVOLT EMS. THE RESULTS WE HAVE GATHERED ARE ERRATIC. THERE ARE A LOT OF VOLTAGE SWINGS IN OUR READINGS. SIR MANALO MADE A SECOND LOOK ON OUR DESIGN AND SUGGESTED THAT ADDING CAPACITORS TO ELIMINATE NOISE IN OUR READINGS MIGHT DO THE JOB.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:	Pre	eferred Schedule:		
ATTESTED BY			NOTED BY		
ADVISER Signature over printed name / Date			MARIA CARMELA F. CAPUL  COURSE COORDINATOR  Signature over printed name / Date		
OVPAA-039-09 pies: (1) Student (2) Adviser (3) Course Coordinator					



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INTEGRATIVE COURSES	i		THESIS PHA	SE
	LANT DESIGN USINESS PLAN		PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE
Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature
MARCAIDA, AR-JHAY A.	2015102107		B.S. Electrical Engineering	
MUÑIZ, JOHN DAVID M.	2015141602		B.S. Electrical Engineering	
	DESCRIPTION OF WORK DO. (Use back page or addition			
WEEK #: 8	(see see page )		COVERED DATE: JAN. 20 – JA	AN. 26 2020
FOR THE EIGHTH WEEK, WE IMPLEMENTED THE CHANGES NEEDED FOR OUR VOLTAGE SENSOR. WE ADDED 10 MICROFARAD CAPACITORS. THE RESULTS STILL YIELD VOLTAGE SWINGS. AS SUGGESTED BY SIR MANALO, WE INCREASED THE CAPACITANCE OF THE CAPACITORS USED. WHEN THEN TRIED 100 MICROFARAD CAPACITORS. THE NOISES STARTED TO DECREASE BUT STILL PERSISTED. THE SWINGS ARE STILL SIGNIFICANT SO WE INCREASED THE CAPACITANCE USED TO 1000 MICROFARAD. FINALLY, THE LATEST DESIGN SHOWED ACCURATE RESULTS WITH MINIMUM TO NO VOLTAGE SWINGS.				
To be filled up by adviser.				
Ready for Oral Defense	ndorsed by:	Pre	eferred Schedule:	
ATTESTED BY			NOTED BY	
ATTESTED BY  ADVISER  Signature over printed name / Date			MARIA CARMELA  COURSE COORDINA  Signature over printed nai	ATOR



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Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature	
MARCAIDA, AR-JHAY A.	2015102107	•	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	2015141602	!	B.S. Electrical Engineering		
	DESCRIPTION OF WORK DONE FOR THE TIME PERIOD  (Use back page or additional sheets if necessary)				
<b>WEEK #</b> : 9	, , , ,		COVERED DATE: JAN. 27 – FI	EB. 2 2020	
FOR THE NINTH WEEK, WE STARTED DOING OUR POWER SUPPLY. WE HAD DELAYS AT FIRST BECAUSE THE DIODES WE'VE BOUGHT ARE RATED FOR SMALL VOLTAGE APPLICATIONS. IT TOOK US SOMETIME TO ACQUIRE RECTIFIER DIODES USED FOR POWER SUPPLY APPLICATION. WE DESIGNED A TYPICAL POWER SUPPLY AND BUILT IT. WE USED AN LED INDICATOR IF IT IS PROPERLY WORKING WHEN CONNECTED TO THE 220VAC SUPPLY. IT WORKS PERFECTLY AND THE VALUES FOR THE VOLTAGE WE MEASURE AT THE OUTPUT SIDE IS ALWAYS A FEW MILLIVOLTS SHY OF 5V, THE VALUE WE EXPECT IT TO BE.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:	Pre	ferred Schedule:		
<u>ATTES</u> TED BY			NOTED BY		
ADVISER Signature over printed name / Date			MARIA CARMELA F. CAPUL  COURSE COORDINATOR  Signature over printed name / Date		
Copies : (1) Student (2) Adviser (3) Course Coordinator	pies : (1) Student (2) Adviser (3) Course Coordinator				



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Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature
MARCAIDA, AR-JHAY A.	2015102107		B.S. Electrical Engineering	
MUÑIZ, JOHN DAVID M.	2015141602		B.S. Electrical Engineering	
L	PESCRIPTION OF WORK DO (Use back page or additio			
WEEK #: 10	(coordinate page of damage		COVERED DATE: FEB. 3 – FE	B. 9 2020
FOR THE TENTH WEEK, WE HAVE ACQUIRED OUR CURRENT SENSOR AND SPEED SENSOR MODULES. WE FIRST STUDIED ON HOW TO OPERATE THEM. UNFORTUNATELY, THE OPERATION OF THE SPEED SENSOR REQUIRES A MORE COMPLICATED APPROACH AND AN INTRICATE STRUCTURE TO BE CONNECTED TO THE DC MOTOR. WE HAVE DECIDED TO FOCUS ON THE CURRENT SENSOR FIRST AND DEAL WITH THE COMPLEXITIES OF THE SPEED SENSOR LATER ON. OUR ADVISER, SIR MANALO, SUGGESTED THAT WE CONNECT OUR CURRENT SENSOR TO OUR PROTOTYPE AS A MOUNTED TYPE OF SENSOR. THAT WAY WE CAN EASILY DISCONNECT IT FROM THE PROTOTYPE SAY AN ERROR OCCURS. WE HAVE TESTED IT WITH THE PROGRAM AND IT WORKS PROPERLY.				
To be filled up by adviser.				
Ready for Oral Defense En	dorsed by:	Pr	eferred Schedule:	
ATTESTED BY			NOTED BY	
ADVISER Signature over printed name / Date			MARIA CARMELA COURSE COORDINA Signature over printed nar	ATOR
pies : (1) Student (2) Adviser (3) Course Coordinator				



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THESIS  CAPSTONE PROJECT  FEASIBILITY STUDY	PLANT DESIGN BUSINESS PLAN		PROPOSAL DEFENSE DATA GATHERING	FINAL DEFENSE	
Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature	
MARCAIDA, AR-JHAY A.	2015102107	,	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	2015141602		B.S. Electrical Engineering		
	DESCRIPTION OF WORK DO (Use back page or additio				
WEEK #: 11			COVERED DATE: FEB. 10 – F	EB. 16 2020	
FOR THE ELEVENTH WEEK, WE HAVE FINISHED DESIGNING OUR SPEED CONTROL MODULE. SIR MANALO PLAYED AN IMPORTANT ROLE IN HELPING US DESIGN THE CIRCUIT TO BE USED SINCE IT REQUIRED CRITICAL KNOWLEDGE ON THE USE OF POWER MOSFETS, SOMETHING WE ARE NOT VERY FAMILIAR WITH. THE CIRCUIT COMPRISED OF HIGH POWER RATED CERAMIC RESISTORS AND POWER MOSFETS. WE HAVE COMPLETED BUILDING IT BUT ARE STILL UNABLE TO TEST IF IT WORKS.					
To be filled up by adviser.					
Ready for Oral Defense	Endorsed by:	Pre	eferred Schedule:		
ATTESTED BY			NOTED BY		
ADVISER Signature over printed name / Date		MARIA CARMELA F. CAPUL  COURSE COORDINATOR  Signature over printed name / Date			
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Name of Students (SURNAME, GIVEN NAME MI.)	Student No.		Program of Study	Signature	
MARCAIDA, AR-JHAY A.	2015102107	•	B.S. Electrical Engineering		
MUÑIZ, JOHN DAVID M.	2015141602	2	B.S. Electrical Engineering		
DESCRIPTION OF WORK DONE FOR THE TIME PERIOD  (Use back page or additional sheets if necessary)					
WEEK #: 12	, , , ,		COVERED DATE: FEB. 17 – FI	EB. 23 2020	
FOR THE TWELFTH WEEK, WE HAVE COMPLETED OUR VOLTAGE SENSOR MODULE, CURRENT SENSOR MODULE, AND MOTOR FIELD CIRCUIT CONTROL MODULE. WE STARTED INTEGRATING THESE SENSORS TO WORK PROPERLY TOGETHER. BECAUSE OF TIME CONTRAINTS AND THE COMPLEXITIES THAT WILL INVOLVE THE OPERATION OF OUR SPEED SENSOR, WE HAVE ACCEPTED THE FACT THAT ITS COMPLETION WILL BE DELAYED. HOWEVER, THE WORKABILITY OF OUR SYSTEM STILL HOLDS TRUE. WE HAVE ENCODED AT LEAST TWO DC MOTOR EXPERIMENTS IN ORDER TO PERFORM THEM WITH THE USE OF OUR PROPOSED SYSTEM.					
To be filled up by adviser.					
Ready for Oral Defense End	lorsed by:	Pre	eferred Schedule:		
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