

Project Schedule

Week	Literature Reading (IEEE Xplore/Books)	Simulation Task (MATLAB)	Experimental Task (Altium Protel)	Report Writing (Latex/WinEdt)
#01 – Sep. 18	NPC converters	Introduction to MATLAB/Simulink & SimPowerSystems	Introduction to Altium Watch YouTube videos	Write a report on NPC converters. Draw NPC converter circuit in Illustrator
#02 – Sep. 25	Predictive control	Build power circuits of two-level and NPC converters	Design a simple PCB project 1	Write a report on predictive control
#03 – Oct. 02	Grid connected 2L converter	Develop closed-loop current control for 2L converter with R load	Design a simple PCB project 2	Write a report on grid-connected 2L converter
#04 – Oct. 09	Grid connected multilevel converter	Develop closed-loop current control for NPC converter with R load	Design PCB for gate driver	Write a report on grid-connected multilevel converter
#05 – Oct. 16	PCC of 2L converter with R load	Develop PCC for 2L converter with R load	Design PCB for interface board	Write a report on PCC of 2L converter with R load
#06 – Oct. 23	PCC of 2L converter with grid	Develop PCC for 2L converter with grid	Design PCB for voltage sensors	Write a report on PCC of 2L converter with grid
#07 – Oct. 30	PCC of NPC converter	Develop PCC for NPC converter with R load	Design PCB for current sensors	Write a report on PCC of NPC converter with R load
#08 – Nov. 06	PCC of grid-connected NPC converter	Develop PCC for NPC converter with grid	Combine all PCBs	Write a report on PCC of NPC converter with grid
#09 – Nov. 13	VOC of 2L converter for grid	Develop VOC of 2L converter for grid	Combine all PCBs	Write a report on VOC of 2L converter for grid

#10 – Nov. 20	VOC of NPC converter for grid	Develop VOC of NPC converter for grid	Place order for PCBs Buy components from Digikey	Write a report on VOC of NPC converter for grid
#11 – Nov. 27	Solder PCBs			
#12 – Dec. 04	Solder PCBs			
#13 – Dec. 11	Final Exams for Fall 2017 Semester			
#14 – Dec. 18	Build NPC converter complete platform			
#15 – Dec. 25	Winter Break			
#16 – Jan. 01	Introduction to RTI using dSPACE DS1103			
#17 – Jan. 08	Test interface board and gate drivers			
#18 – Jan. 15	Test voltage and current sensors			
#19 – Jan. 22	RTI with open-loop PWM and R load			
#20 – Jan. 29	RTI with PCC of NPC with R load			
#21 – Feb. 05	RTI with PCC of NPC converter with grid			
#22 – Feb. 12	RTI with PCC of NPC converter with grid			
#23 – Feb. 19	RTI with VOC of NPC converter with grid			
#24 – Feb. 26	RTI with VOC of NPC converter with grid			
#25 – Mar. 05	Results and Analysis. Plot results in Illustrator			
#26 – Mar. 12	Results and Analysis. Plot results in Illustrator			
#27 – Mar. 19	Write IEEE Paper Section I			
#28 – Mar. 26	Write IEEE Paper Section II			
#29 – Apr. 02	Write IEEE Paper Section III			
#30 – Apr. 09	Write IEEE Paper Section IV			
#31 – Apr. 16	Write IEEE Paper Section V			
#32 – Apr. 23	Write IEEE Paper Section VI			
#33 – Apr. 30	Revise Complete Paper			
#34 – May 1	Professional Editing of IEEE Paper			
#35 – May 8	Paper Submission			
#36 – May 15	Final Exams for Spring 2018 Semester			
#37 – May 22	Dismantle Experimental Setup. Farewell Party			