MATLAB CUSTOMIZED

1 M-SCRIPT MATLAB PROGRAMMING		
CONTENT	**CLASS DUR**	**LAB DUR**
TOTAL DURATION 5 hrs		
Introduction of MATLAB		
Getting started with Matlab		
Matlab basics: command set		
Algebra and arithmetic operations		
Vector and matrix	2 hours	3 hours
Relational operators		
Matlab programming		
Writing programs with .m files		
Matlab graphical user interface(GUI)		
Simple Tasks and Examples		
Introduction of MATLAB		
Basic M-script for Control system and Power Electronics		
2 SIMULINK & SIMSCAPE		
CONTENT	**CLASS DUR**	**LAB DUR**
TOTAL DURATION 6 hrs		
Introduction to Simulink Modelling		
Simple Mathematical Simulation		
Simple Circuit Simulations		
Mechanical System analysis [open and Closed loop system]		
System Analysis in Control System [Underdamped, Overdamped, Critical damped and Undamped System]		
Frequency and Time Plot analysis	3 hours	3 hours
Design of PID controller		
Introduction to Simscape		
Introduction Simscape Tools		
Simscape basic model design		

MATLAB CUSTOMIZED

3. AUTOMOTIVE COURSE (Vary based on customer Input)		
CONTENT	**CLASS DUR**	**LAB DUR**
TOTAL DURATION 15 hrs		
Introduction to Automotive Tools		
Introduction and design of Vehicle Modelling		
Design of Power train modelling		
Design of Vehicle drive and control		
Introduction to multibody simulation		
Building mechanical components and assembly	6 hours	9 hours
CAD model import into simmechanics		
Stateflow in vehicle modelling		
Introduction to Computer vision in Vehicle design		
Complete vehicle model design		
Introduction to Vehicle modelling tools (Autosar, etc)		
4. Stateflow Modelling 2hrs		
Stateflow and Truth table Introduction	30 mins	1hr 30mins
5. Testing and Validation 3hrs		
Testing Model – [MIL,SIL, PIL, HIL, VIL Introduction]		
Matlab C-coder and Embedded C coder	1 hour	2 hour
Verification and Validation of model		
Real time controller interfacing example		
6. ELECTRIC VEHICLE 6hrs		
Vehicle architecture		
Design of Battery system		
Design of Motor and Controller design	3hrs	3hrs
Drive cycle source		
Verification and validation on EV		
Introduction to standards in EV		

MATLAB CUSTOMIZED

7. INTRODUCTION TO ADAS 6hrs		
Introduction to ADAS and Levels of Autonomous driving		
Introduction to Sensors for ADAS	3 hrs	3hrs
ADAS related project discussion		
ADAS ECU		