

Mahindra University Hyderabad
École Centrale School of Engineering

M.Tech in Autonomous Electric Vehicles (AEVs) Course curriculum

Semester 1						
	Code	Course	L	T	P	Credits
1	EE5101	Power Electronics and EV Drives	3	0	0	3
2	EE5102	Power train architecture and Control Systems	3	0	0	3
3	EE5103	Embedded Systems for Automobiles	3	0	0	3
4	EE5104	Machine Learning for Automobiles	2	0	2	3
5	EE5105	Power Electronics and Control Architecture Lab	0	0	4	2
6	EE5106	Embedded Systems for Automobiles Lab	0	0	2	1
7	EE5107	Design Project – 1	0	0	4	2
Total Credits						17

Semester 2

	Code	Course	L	T	P	Credits
1	EE5201	Battery Management Systems	3	0	0	3
2	EE5202	Digital Image Processing and Computer Vision for Self-Driving Cars	3	0	0	3
3	EE5203	Vehicular Communication Networks	3	0	0	3
4	EE5XXX	Elective I	3	0	0	3
5	EE5XXX	Elective II	3	0	0	3
6	EE5204	BMS and Controls Lab	0	0	4	2
7	EE5205	Vehicular Communication Networks Lab	0	0	2	1
8	EE5206	Design Project - 2	0	0	4	2
Total Credits						20

Semester 3

	Code	Course	L	T	P	Credits
1	EE5108	Safety and Standards in Autonomous Electric Vehicles	2	0	0	2
2	EE5XXX	Elective II	3	0	0	3

3	EE5109	Master's Thesis	0	0	6	3
4	EE5110	Capstone Project (EV/AV Applications)	0	0	10	5
Total Credits						13

Semester 4

Code	Course	L	T	P	Credits
EE5207	Masters' Thesis	0	0	24	12
Total Credits					12

Electives

	Course	L	T	P	Credits
EE5XXX	Sensors and Controls in EVs	3	0	0	3
EE5XXX	Systems Engineering	3	0	0	3
EE5XXX	Deep Learning Applications for Self-Driving Cars (Compulsory Elective)	3	0	0	3
EE5XXX	Charging Infrastructure and Protocols	3	0	0	3
EE5XXX	Intelligent Transport Systems	3	0	0	3
EE5XXX	Communication Systems in Automobiles (Physical Layer Design)	3	0	0	3

EE5XXX	Design of Solar Photovoltaic Systems	3	0	0	3
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