



# **B. TECH. AUTOMOBILE ENGINEERING**

**(Duration: 4 Years)**

**REGULATION 2022**  
**(in line with NEP 2020)**

**Curriculum for B.Tech Automobile Engg**

**(Applicable for students admitted from 2022 onwards)**

**DEPARTMENT OF AUTOMOBILE ENGINEERING**  
**SCHOOL OF ENGINEERING AND TECHNOLOGY**



# **HINDUSTAN**

INSTITUTE OF TECHNOLOGY & SCIENCE  
(DEEMED TO BE UNIVERSITY)

## **MOTTO, VISION, MISSION AND VALUE STATEMENT OF INSTITUTE**

### **Motto**

To Make Every Man a Success and No Man a Failure.

### **Vision**

To be an International Institute of Excellence, providing a conducive environment for education with a strong emphasis on innovation, quality, research and strategic partnership blended with values and commitment to society.

### **Mission**

- To create an ecosystem for learning and world class research.
- To nurture a sense of creativity and innovation.
- To instill highest ethical standards and values with a sense of professionalism.
- To take up activities for the development of Society.
- To develop national and international collaboration and strategic partnership with industry and institutes of excellence.
- To enable graduates to become future leaders and innovators.

### **Value Statement**

Integrity, Innovation, Internationalization

## **DEPARTMENT OF AUTOMOBILE ENGINEERING**

### **VISION**

To enable the graduates to be successful in their career as an Automobile Engineer.

### **MISSION**

- M1: To inculcate knowledge in Automobile Engineering
- M2: To impart skills and training on the advancements in Automobile Engineering such as Automotive Electronics, Autonomous Vehicles, etc.

M3: To instill the highest ethical standards to be a Professional Automobile Engineer for social development.

### **PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)**

- PEO-I : Employability/ Industry Ready:** To provide in-depth knowledge in Automobile Engineering and awareness of latest development in allied fields of engineering to the students and make them industry ready engineers (T – shaped engineers).
- PEO-II : Research:** To provide a range of specialized modules integrated within the structured learning environment for encouraging the students for higher studies and do research in automobile and related fields.
- PEO-III : Entrepreneurship:** To develop a challenging environment that supports and encourages the students to become an entrepreneur.
- PEO-IV : Individual and Team work:** To develop a culture that promotes individual and team work for carrying out innovative projects, assignments and research work in engineering sciences.
- PEO-V : Worldwide Recognition:** A competitive degree structure is provided, that responds to time, need and technology.

### **PROGRAMME OUTCOMES (PO's)**

**Engineering Graduates will be able to:**

- PO1 : Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2 : Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

- PO3 : Design Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4 : Conduct Investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5 : Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- PO6 : The Engineer & Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7 : Environment & Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 : Individual & Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 : Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write

effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11 : Project Management & Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12 : Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

**PROGRAMME SPECIFIC OUTCOMES: (PSO's)**

**Graduates of B. Tech Automobile Engineering students will be able to**

**PSO1 : Design and Analysis:** Design, Analysis, Fabrication and Testing of vehicles, which enable the students to compete globally.

**PSO2 Environment and Society:** Carry out research in fuel economy, emission reductions, alternate fuels and solar vehicle for the benefit of the society and environment.

## B. TECH. AUTOMOBILE ENGINEERING

### CURRICULUM FRAMEWORK FOR SEMESTERS I TO VIII

FRAMEWORK OF CURRICULUM 2022 (in line with NEP 2020)									
SEMESTER – I									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	BS	EMA51001	Matrices and Calculus	3	0	2	4	2	5
2	BS	Any One Course to be Opted		3	0	2	4	2	5
		EPH51001	Engineering Physics						
		ECT51001	Engineering Materials						
3	HS	Any One Course to be Opted		2	0	1	2	1	3
		GLS51001	Communication Skills						
		GLS51002	Personality Development and Soft Skills						
4	ES	Any One Course to be Opted		2	0	2	3	2	4
		ECS51009	Programming Fundamentals using C						
		ECS51010	Programming in Python						
		OR							
		EME51001	Engineering Graphics and Computer Aided Design						
5	ES	EGE51002	Design Thinking	2	0	2	3	2	4
6	ES	Any One Course to be Opted		0	0	4	2	2	4
		EGE51406	Engineering Practices Lab						
		EGE51408	Fab Lab for Core Engineering						
7	HS	Any One Course to be Opted (Outreach)		0	0	2	1	4	2
		GGE51401	Outreach (NCC) – Level I #						
		GGE51402	Outreach (NSS, Y's Men, Rotaract) – Level I #						
		Any One Course to be Opted (Indian / foreign language)							
8	HS	GLS51008	Tamil	2	0	0	2	2	2
		GLS51009	Hindi						
		GLS51010	Telugu						
		GLS51011	French						
		GLS51012	German						
		GLS51013	Spanish						
		GLS51014	Korean						
		GLS51015	Mandarin						
		GLS51016	Japanese						
		OR							
GGE51001	Universal Human Values								
9	HS	GLS51017	Tamil Culture and Technology	1	0	0	1	2	1
			Total	15	0	15	22	19	30

# Students should choose Level I and Level II of same outreach course in the semester 1 and 2 respectively.

SEMESTER – II											
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH		
1	BS	EMA51002	Analytical Mathematics	3	0	2	4	2	5		
2	BS	Any One Course to be Opted		3	0	2	4	2	5		
		EPH51001	Engineering Physics								
		ECT51001	Engineering Materials								
3	HS	Any One Course to be Opted		2	0	1	2	1	3		
		GLS51001	Communication Skills								
		GLS51002	Personality Development and Soft Skills								
4	PC	EAT51001	Mechanics of Rigid bodies	2	1	2	4	2	5		
5	ES	Any One Course to be Opted		2	0	2	3	2	4		
		ECS51009	Programming Fundamentals using C								
		ECS51010	Programming in Python								
		OR									
		EME51001	Engineering Graphics and Computer Aided Design								
6	ES	Any One Course to be Opted		0	0	4	2	2	4		
		EGE51406	Engineering Practices Lab								
		EGE51408	Fab Lab for Core Engineering								
7	HS	Any One Course to be Opted		0	0	2	1	4	2		
		GGE51403	Outreach (NCC) – Level II #								
		GGE51404	Outreach (NSS, Y's Men, Rotaract) – Level II #								
8	HS	Any One Course to be Opted (Indian / Foreign language)		2	0	0	2	2	2		
		GLS51008	Tamil								
		GLS51009	Hindi								
		GLS51010	Telugu								
		GLS51011	French								
		GLS51012	German								
		GLS51013	Spanish								
		GLS51014	Korean								
		GLS51015	Mandarin								
		GLS51016	Japanese								
		OR									
		GGE51001	Universal Human Values								
9	MC	*****	Mandatory Course I Mandatory Course I is a Non-credit course (Student shall select one course from the list given under Mandatory Course I)	3	0	0	*	2	3		
			Total			17	1	15	22	19	33

# Students should choose Level I and Level II of same outreach course in the semester 1 and 2 respectively.

\* Non Credit Course

FRAMEWORK OF CURRICULUM 2022 (in line with NEP 2020)									
SEMESTER – III									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	BS	EMA51003	Partial Differential Equations and Transforms	3	1	0	4	2	4
2	HS	GLS51003	Advanced Academic Writing	1	0	1	1	1	2
3	PC	EAT51002	Thermodynamics and Heat transfer	2	1	2	4	2	5
4	PC	EAT51003	Automotive Engine Technology	2	0	2	3	2	4
5	PC	EAT51004	Materials and Manufacturing Process of Automotive Components	2	0	2	3	2	4
6	DE	EAT515xx	Department Elective-1	2	0	2	3	2	4
7	ES	EGE51003	Environmental Science and Sustainable Development	2	0	0	2	2	2
8	EEC	EAT51800	Design Project – 1	0	0	2	1	6	2
9	EEC	EAT51801	Internship -1 (To be carried out in summer after 2 <sup>nd</sup> semester and evaluated in 3 <sup>rd</sup> semester)	#			1	2	0
10	MC	*****	Mandatory Course- II Mandatory Course II is a Non-credit course (Student shall select one course from the list given under Mandatory Course II)	3	0	0	*	2	3
<b>Total</b>				<b>17</b>	<b>2</b>	<b>11</b>	<b>22</b>	<b>23</b>	<b>30</b>
<b>* Non Credit Course</b> <b># 15 Days Minimum</b>									
SEMESTER – IV									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	BS	EMA51007	Probability and Statistics	3	1	0	4	2	4
2	HS	GLS51004	Professional Editing and Project Writing	1	0	1	1	1	2





SEMESTER – VI									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	HS	GLS51006	English for Competitive Examinations	1	0	1	1	1	2
2	PC	EAT51011	Vehicle Dynamics	2	1	2	4	2	5
3	PC	EAT51012	Design and simulation of Electric and Hybrid Vehicles	2	0	2	3	2	4
4	PC	EAT51013	Control system for Automotive applications	2	0	2	3	2	4
5	DE	EAT515xx	Department Elective-4	2	0	2	3	2	4
6	NE	Exx517xx	Non-Department Elective-3	2	0	2	3	2	4
7	PC	EAT51014	Introduction to Industry 4.0 (Case Study / Field Study / Product study)	2	0	2	3	6	4
8	EEC	EAT51805	Design Project – 4	0	0	2	1	6	2
<b>Total</b>				<b>13</b>	<b>1</b>	<b>15</b>	<b>21</b>	<b>23</b>	<b>29</b>

FRAMEWORK OF CURRICULUM 2022 (in line with NEP 2020)									
SEMESTER – VII									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	HS	GLS51007	Verbal Reasoning and Interview Skills	1	0	1	1	1	2
2	PC	EAT51015	Fundamentals of Finite Element Analysis	2	1	2	4	2	5
3	PC	EAT51016	Vehicle Diagnostics and Maintenance	2	0	2	3	2	4
4	PC	EAT51017	Advanced Vehicle Technology	2	0	2	3	2	4
5	DE	EAT515xx	Department Elective-5	2	0	2	3	2	4
6	NE	Exx517xx	Non-Department Elective-4	2	0	2	3	2	4
7	ES	EGE51005	Research Methodology & IPR	2	0	0	2	2	2
8	EEC	EAT51806	Project Phase 1	0	0	6	3	6	6
<b>Total</b>				<b>13</b>	<b>1</b>	<b>17</b>	<b>22</b>	<b>19</b>	<b>31</b>

SEMESTER – VIII									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	EEC	EAT51807	Project Phase - 2	0	0	26	13	10	26
Total				0	0	26	13	10	26
Total Credits for the Program							165		

#### MANDATORY COURSES I

SEMESTER – II									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	MC	GGE51011	Introduction to Women and Gender Studies	3	0	0	*	2	3
2	MC	GGE51012	Public and Personal Administration	3	0	0	*	2	3
3	MC	GGE51013	Constitution of India	3	0	0	*	2	3
4	MC	EGE51006	Law for Engineers	3	0	0	*	2	3
5	MC	GGE51015	Indian Knowledge System (IKS)	3	0	0	*	2	3

#### MANDATORY COURSES II

SEMESTER – III									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	MC	GGE51021	Traditional Indian Systems of Medicine and Therapies	3	0	0	*	2	3
2	MC	GGE51022	History of Science and Technology in India	3	0	0	*	2	3
3	MC	GGE51023	Political and Economic Thought for a Humane Society	3	0	0	*	2	3
4	MC	GGE51024	State, Nation-Building and Politics in India	3	0	0	*	2	3
5	MC	GGE51025	Industrial Safety	3	0	0	*	2	3

**MANDATORY COURSES III**

<b>SEMESTER – IV</b>									
<b>SL. NO</b>	<b>COURSE CATEGORY</b>	<b>COURSE CODE</b>	<b>NAME OF THE COURSE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>S</b>	<b>TCH</b>
1	MC	GGE51031	Principles of Management	3	0	0	*	2	3
2	MC	GGE51032	Human Resource Management	3	0	0	*	2	3
3	MC	GGE51033	Green Technology	3	0	0	*	2	3
4	MC	GGE51034	Industrial Management	3	0	0	*	2	3
5	MC	GGE51035	Fintech and Financing new Business	3	0	0	*	2	3

**\*Non Credit Course**

**COURSES OFFERED BY THE DEPARTMENT OF LANGUAGES**

<b>S.No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Semester</b>	<b>Credit</b>
1	GLS51001	Communication Skills (Improving English communication skills.)	I / II	2
2	GLS51002	Personality Development and Soft Skills (Enhancing the personality through English communication skills)	I / II	2
3	GLS51003	Advanced Academic Writing (Developing essential writing skills for academic and professional settings)	III	1
4	GLS51004	Professional Editing and Project Writing (Presenting the skills of creating professional documents and projects that are clear, concise, and effective)	IV	1
5	GLS51005	Public Speaking (Providing instruction and experience in preparation and delivery of speeches within a public setting and group discussion)	V	1
6	GLS51006	English for Competitive Examinations (Developing the necessary skills and knowledge to succeed in competitive exams)	VI	1
7	GLS51007	Verbal Reasoning and Interview Skills (Enhancing the understanding of reasoning using concepts framed in words and equipping to succeed in interviews)	VII	1

## DEPARTMENTAL ELECTIVES

VERTICAL 1: ELECTRIC VEHICLE TECHNOLOGY									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
3	DE	EAT51500	Electric Drives and Control	2	0	2	3	2	4
OR									
3	DE	EAT51501	Policy for E-Mobility	2	0	2	3	2	4
4	DE	EAT51508	Battery Technology	2	0	2	3	2	4
OR									
4	DE	EAT51509	Electric and Hybrid vehicles	2	0	2	3	2	4
5	DE	EAT51516	Charging Technology	2	0	2	3	2	4
OR									
5	DE	EAT51517	Power Electronics for EV	2	0	2	3	2	4
6	DE	EAT51524	Modelling and Simulation of EV	2	0	2	3	2	4
OR									
6	DE	EAT51525	Coding for EV	2	0	2	3	2	4
7	DE	EAT51532	Computer Architecture and Data Analytics	2	0	2	3	2	4
OR									
7	DE	EAT51533	Smart Grid for EV	2	0	2	3	2	4

VERTICAL 2: INTELLIGENT MOBILITY									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
3	DE	EAT51502	Instrumentation for Intelligent Mobility	2	0	2	3	2	4
<b>OR</b>									
3	DE	EAT51503	Intelligent Transportation system	2	0	2	3	2	4
4	DE	EAT51510	Advanced Driver Assistance System	2	0	2	3	2	4
<b>OR</b>									
4	DE	EAT51511	V2V and V2X Technology	2	0	2	3	2	4
5	DE	EAT51518	ECU Model Based System Design	2	0	2	3	2	4
<b>OR</b>									

5	DE	EAT51519	Cyber security for Automotive Engineers	2	0	2	3	2	4
6	DE	EAT51526	Automotive Safety Systems	2	0	2	3	2	4
<b>OR</b>									
6	DE	EAT51527	Automotive Electronic Management System	2	0	2	3	2	4
7	DE	EAT51534	Self-Driving Cars	2	0	2	3	2	4
<b>OR</b>									
7	DE	EAT51535	Pose estimation and state estimation of self-driving cars	2	0	2	3	2	4

<b>VERTICAL 3: ENGINE AND VEHICLE TECHNOLOGY</b>									
<b>SEM</b>	<b>COURSE CATEGORY</b>	<b>COURSE CODE</b>	<b>NAME OF THE COURSE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>S</b>	<b>TCH</b>
3	DE	EAT51504	Alternative Fuels and Energy Systems	2	0	2	3	2	4
<b>OR</b>									
3	DE	EAT51505	Vehicle body engineering	2	0	2	3	2	4
4	DE	EAT51512	Automotive Pollution and Control	2	0	2	3	2	4
<b>OR</b>									
4	DE	EAT51513	Off Road Vehicles	2	0	2	3	2	4
5	DE	EAT51520	Vehicle Design Data Characteristics	2	0	2	3	2	4
<b>OR</b>									
5	DE	EAT51521	Design of Engine Exhaust system	2	0	2	3	2	4
6	DE	EAT51528	Renewable Source of Energy	2	0	2	3	2	4
<b>OR</b>									
6	DE	EAT51529	Automotive Heating Ventilation Air Conditioning (HVAC)	2	0	2	3	2	4
7	DE	EAT51536	Vibration and Noise Control	2	0	2	3	2	4
<b>OR</b>									
7	DE	EAT51537	Fuel Cell Technology	2	0	2	3	2	4

VERTICAL 4: DESIGN AND MANUFACTURING									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
3	DE	EAT51506	Production Technology	2	0	2	3	2	4
OR									
3	DE	EAT51507	Product Design and Development	2	0	2	3	2	4
4	DE	EAT51514	Computer Integrated Manufacturing	2	0	2	3	2	4
OR									
4	DE	EAT51515	Process Planning and Cost Estimation	2	0	2	3	2	4
5	DE	EAT51522	Digital Manufacturing	2	0	2	3	2	4
OR									
5	DE	EAT51523	Industrial Automation and Robotics	2	0	2	3	2	4
6	DE	EAT51530	Design of Experiments	2	0	2	3	2	4
OR									
6	DE	EAT51531	Industrial Engineering and Management	2	0	2	3	2	4
7	DE	EAT51538	Computational Fluid Dynamics	2	0	2	3	2	4
OR									
7	DE	EAT51539	Lean Manufacturing and Six sigma	2	0	2	3	2	4

### NON-DEPARTMENTAL ELECTIVES

Non-Department Elective-1									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
4	NE	EAT51700	Automotive Vehicle Technology	2	0	2	3	2	4
4	NE	EAT51701	Elements of Motorsports Engineering	2	0	2	3	2	4
4	NE	EAT51702	Energy from Renewable Sources	2	0	2	3	2	4
4	NE	EAT51703	Future Fuels for IC Engines	2	0	2	3	2	4

Non-Department Elective-2									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
5	NE	EAT51704	Smart Materials for Automotive Applications	2	0	2	3	2	4
5	NE	EAT51705	Industrial Safety and Hazard Management	2	0	2	3	2	4
5	NE	EAT51706	Hydrogen Engine Technology	2	0	2	3	2	4
5	NE	EAT51707	E-Mobility: Policy & Business	2	0	2	3	2	4

Non-Department Elective-3									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
6	NE	EAT51708	Automotive Safety Systems	2	0	2	3	2	4
6	NE	EAT51709	Introduction to Intelligent Transport Systems	2	0	2	3	2	4
6	NE	EAT51710	Fuel Cell Technology	2	0	2	3	2	4
6	NE	EAT51711	Sensor Technology & Sensor Fusion for Autonomous Car	2	0	2	3	2	4

Non-Department Elective-4									
SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
7	NE	EAT51712	Plant Layout and Material Handling	2	0	2	3	2	4
7	NE	EAT51713	Electric Vehicle Technology-Two and Three-Wheeler	2	0	2	3	2	4
7	NE	EAT51714	Introduction to Self- Driving Cars	2	0	2	3	2	4
7	NE	EAT51715	Automotive Air-conditioning and Climate Control.	2	0	2	3	2	4

### HONORS COURSES OFFERED BY THE DEPARTMENT

#### 1. LIST OF COURSES UNDER THE HONORS IN MOTORSPORT ENGINEERING:

SEMESTER - V									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1.	HN	EAT51900	Race Car Anatomy	3	0	0	3	1	3



SEMESTER - VI									
2.	HN	EAT51901	Motorsport Vehicle System Design	3	0	0	3	1	3
SEMESTER - VII									
3.	HN	EAT51902	Aerodynamics for Race Cars	3	0	0	3	1	3
4.	HN	EAT51903	Racetrack and Data Management	3	0	0	3	1	3
<b>Credits</b>				<b>Total</b>			<b>12</b>		

## 2. LIST OF COURSES UNDER THE HONOURS IN AUTOTRONICS:

SEMESTER - V									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1.	HN	EAT51904	Perception System for Autonomous Car	3	0	0	3	1	3
SEMESTER - VI									
2.	HN	EAT51905	Intelligent Transport system and V2V technology	3	0	0	3	1	3
SEMESTER - VII									
3.	HN	EAT51906	Pose Estimation for Autonomous Car	3	0	0	3	1	3
4.	HN	EAT51907	State Estimation and Vehicle control for Autonomous Car	3	0	0	3	1	3
<b>Credits</b>				<b>Total</b>			<b>12</b>		

## 3. LIST OF COURSES UNDER THE HONORS IN ELECTRIC VEHICLES AND E- MOBILITY:

SEMESTER - V									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1.	HN	EAT51908	Hybrid Vehicles	3	0	0	3	1	3
SEMESTER - VI									
2.	HN	EAT51909	Battery Technology and Management	3	0	0	3	1	3
SEMESTER - VII									
3.	HN	EAT51910	Advanced Propulsion System for Electric Drive Vehicles	3	0	0	3	1	3

4.	HN	EAT51911	Energy Storage Devices and Systems	3	0	0	3	1	3
<b>Credits</b>				<b>Total</b>			<b>12</b>		