

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Automobile Engineering
(Applicable from the academic session 2018-2019)

Curriculum Structure
Semester III (Second year)

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Basic Science Courses	BS-M 301	Mathematics III (PDE, Probability & Statistics)	3	1	0	4	4
2	Basic Science Courses	BS-BIO 301	Biology	3	0	0	3	3
3	Engineering Science Courses	ES-ECE 301	Basic Electronics Engineering	3	0	0	3	3
4	Engineering Science Courses	ES-AUE 301	Engineering Mechanics	3	1	0	4	4
5	Professional Core Courses	PC-AUE 301	Applied Thermodynamics	3	1	0	4	4
6	Professional Core Courses	PC-AUE 302	Manufacturing Methods	4	0	0	4	4
7	Professional Core Courses	PC-AUE 391	Machine Drawing	0	0	3	3	1.5
Total				19	3	3	25	23.5

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Semester IV (Second year)

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Engineering Science Courses	ES-AUE 401	Materials Engineering	3	0	0	3	3
2	Professional Core Courses	PC-AUE 401	Strength of Materials	3	1	0	4	4
3	Professional Core Courses	PC-AUE 402	Fluid Mechanics & Hydraulic Machines	4	0	0	4	4
4	Professional Core Courses	PC-AUE 403	Theory of Machine	3	1	0	4	4
5	Professional Core Courses	PC-AUE 404	Metrology & Instrumentation	3	0	0	3	3
7	Professional Core Courses	PC-AUE 491	Manufacturing & Testing Lab	0	0	3	3	1.5
8	Mandatory Courses	MC-401	Environmental Science	2	-	-	2	0
Total				18	2	3	23	19.5

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Semester V (Third year)

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core Courses	PC-AUE 501	Automotive Engines	3	0	0	3	3
2	Professional Core Courses	PC-AUE 502	Automotive Body & Chassis Engineering	3	0	0	3	3
3	Professional Core Courses	PC-AUE 503	Heat Transfer	3	1	0	4	4
4	Professional Core Courses	PC-AUE 504	Design of Machine Element	3	1	0	4	4
5	Humanities and Social Sciences including Management Courses	HSMC (OEL I)-HM-HU 511A-511B	Humanities I	3	0	0	3	3
6	Professional Core Courses	PC-AUE 591	Fluid Mechanics & Heat Transfer Lab	0	0	3	3	1.5
7	Professional Core Courses	PC-AUE 592	Automobile Engineering Lab I (Engine & Chassis Component Lab)	0	0	3	3	1.5
8	Professional Core Courses	PC-AUE 593	Automobile Engineering Lab II (ETPM Lab)	0	0	3	3	1.5
9	Project (Mini Project)	PW-AUE 581	Project - I	0	0	0	(30 hrs total)	1
Total				15	2	9	26	22.5

HSMC (OEL I)

HM-HU 511A: Values & Ethics

HM-HU 511B: Education Technology & Society

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Semester VI (Third year)

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core Courses	PC-AUE 601	Automotive Transmission	3	0	0	3	3
2	Professional Core Courses	PC-AUE 602	Hybrid & Electric Vehicles	3	0	0	3	3
3	Professional Elective Courses	PE-AUE 611A-611B	Elective - I	3	0	0	3	3
4	Humanities and Social Sciences including Management courses	HM-HU 611A-611B	(Humanities-II)	3	0	0	3	3
5	Professional Core Courses	PC-AUE 691	Automobile Engineering Lab III (Automotive Design Lab) (Catia/ Creo etc.)	0	0	3	3	1.5
6	Professional Core Courses	PC-AUE 692	Automobile Engineering Lab IV (Vehicle Maintenance Lab)	0	0	3	3	1.5
9	Mandatory Courses	MC-III	Essence of Indian Traditional Knowledge	1	0	0	1	0
7	Project (Summer Internship)	PW-AUE 681	Project - II	0	0	0	90 hrs	3
Total				13	0	6	19	18

PE-AUE 611A: Electronic Vehicle Management System
 PE-AUE 611B: Transport Management & Motor Vehicles Act

HM-HU 611A: Introduction to Industrial Management
 HM-HU 611B: Quantitative Methods for Decision Making

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Semester VII (Fourth year)

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core Courses	PC-AUE 701	Vehicle Dynamics	3	0	0	3	3
2	Professional Elective Courses	PE-AUE 711A-711B	Elective – II	3	0	0	3	3
3	Professional Elective Courses	PE-AUE 712A-712B	Elective – III	3	0	0	3	3
4	Open Elective Courses	OE-AUE 711A-711C	Open Elective – I	3	0	0	3	3
5	Humanities and Social Sciences including Management courses	HM-HU 701	Economics for Engineers	2	0	0	2	2
5	Professional Core Courses	PC-AUE 791	Automobile Engineering Lab V (Automotive Electrical & Electronics Lab)	0	0	3	3	1.5
6	Project	PW-AUE 781	Project - III	0	0	6	6	3
Total				14	0	9	23	18.5

PE-AUE 711A: Alternate Fuels and Energy Systems
 PE-AUE 711B: CAD/CAM and Modern Manufacturing Methods

PE-AUE 712A: Automotive Component & System Design
 PE-AUE 712B: Two and Three Wheelers

OE-AUE 711A: Quality Control & Reliability Engineering
 OE-AUE 711B: Machine Learning
 OE-AUE 711C: Cloud Computing

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Semester VIII (Fourth year)

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Elective Courses	PE-AUE 811A-811B	Elective - IV	3	0	0	3	3
2	Professional Elective Courses	PE-AUE 812A-812C	Elective - V	3	0	0	3	3
3	Open Elective Courses	OE-AUE 811A-811C	Open Elective - II	3	0	0	3	3
4	Open Elective Courses	OE-AUE 812A-812C	Open Elective - III	3	0	0	3	3
5	Professional Core Courses	PC-AUE 881	Comprehensive viva voce	0	0	0	0	2
6	Project	PROJ-AUE 882	Project - IV	0	0	12	12	6
Total				12	0	12	24	20

PE-AUE 811A: Off Road Vehicles
 PE-AUE 811B: Automotive Air Conditioning

PE-AUE 812A: Non-Destructive Testing Methods
 PE-AUE 812B: Noise, Vibrations and Harshness
 PE-AUE 812C: Finite Element Method & its Applications

OE-AUE 811A: Tribology
 OE-AUE 811B: Internet of Things
 OE-AUE 811C: Soft Computing

OE-AUE 812A: Computational Fluid Dynamics
 OE-AUE 812B: Entrepreneurship Development
 OE-AUE 812C: Robotics and Robot Application