

Department of Mechanical Engineering

Course Curriculum

The program curriculum as prescribed by the affiliating university Dr. A. P. J. Abdul Kalam Technical University (AKTU), Lucknow is followed by the Institutes. The course curriculum of B.Tech. (Mechanical Engineering) for academic year 2020-21 is listed below-

Sr.No.	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credits
Semester I						
1	KAS101T/ KAS102T	Engineering Physics/ Engineering Chemistry	3	1	0	4
2	KAS103T	Engineering Mathematics-I	3	1	0	4
3	KEE101T/ KEC101T	Basic Electrical Engineering/ Emerging Domain in Electronics Engineering	3	0	0	3
4	KCS101T/ KME101T	Programming for Problem Solving / Fundamentals of Mechanical Engineering & Mechatronics	3	0	0	3
5	KAS151P/ KAS152P	Engineering Physics Lab/ Engineering Chemistry Lab	0	0	2	1
6	KEE151P/ KEC151P	Basic Electrical Engineering Lab/ Electronics Engineering Lab	0	0	2	1
7	KCS151P/ KAS154P	Programming for Problem Solving / English Language Lab	0	1	2	1
8	KCE151P/ KWS151P	Engineering Graphics & Design Lab/ Mechanical Workshop Lab	0	1	2	1
9	KMC101/ KMC102	AI For Engineering/ Emerging Technology for Engineering	2	0	0	2
10	KNC101	Soft Skill I	2	0	0	
Semester II						

11	KAS201T/ KAS202T	Engineering Physics/ Engineering Chemistry	3	1	0	4
12	KAS203T	Engineering Mathematics-I	3	1	0	4
13	KEE201T/ KEC201T	Basic Electrical Engineering/ Emerging Domain in Electronics Engineering	3	0	0	3
14	KCS201T/ KME201T	Programming for Problem Solving / Fundamentals of Mechanical Engineering & Mechatronics	3	0	0	3
15	KAS251P/ KAS252P	Engineering Physics Lab/ Engineering Chemistry Lab	0	0	2	1
16	KEE251P/ KEC151P	Basic Electrical Engineering Lab/ Electronics Engineering Lab	0	0	2	1
17	KCS251P/ KAS254P	Programming for Problem Solving / English Language Lab	0	1	2	1
18	KCE251P/ KWS251P	Engineering Graphics & Design Lab/ Mechanical Workshop Lab	0	1	2	1
19	KMC201/ KMC202	AI For Engineering/ Emerging Technology for Engineering	2	0	0	2
20	KNC201	Soft Skill I	2	0	0	

Sources: <https://aktu.ac.in/syllabus%202020-2021.html>

Semester III						
10	KOE031-38/ KAS302	Engg. Science Course/Maths IV	3	1	0	4
11	KAS301/ KVE301	Technical Communication/Universal Human Values	2	1	0	3
			3	0	0	
12	KME301	Thermodynamics	3	1	0	4
13	KME302	Fluid Mechanics & Fluid Machines	3	1	0	4

14	KME303	Materials Engineering	3	0	0	3
15	KME351	Fluid Mechanics Lab	0	0	2	1
16	KME352	Material Testing Lab	0	0	2	1
17	KME353	Computer Aided Machine Drawing-I Lab	0	0	2	1
18	KME354	Mini Project or Internship Assessment*	0	0	2	1
19	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	0
Semester IV						
20	KAS402/ KOE041-48	Maths IV/Engg. Science Course	3	1	0	4
21	KVE401/ KAS401	Universal Human Values/Technical Communication	3	0	0	3
			2	1	0	
22	KME401	Applied Thermodynamics	3	0	0	3
23	KME402	Engineering Mechanics	3	1	0	4
24	KME403	Manufacturing Processes	3	1	0	4
25	KME451	Applied Thermodynamics Lab	0	0	2	1
26	KME452	Manufacturing Processes Lab	0	0	2	1
27	KME453	Computer Aided Machine Drawing-II Lab	0	0	2	1
28	KNC402/ KNC401	Python Programming / Computer System Security	2	0	0	0

Source <https://aktu.ac.in/syllabus%202020-2021.html>

Semester V						
29	KME 501	Heat and Mass Transfer	3	1	0	4
30	KME 502	Strength of Material	3	1	0	4
31	KME 503	Industrial Engineering	3	1	0	4
32		Departmental Elective-I	3	0	0	4

33		Departmental Elective-II	3	0	0	3
34	KME 551	Heat Transfer LAB	0	0	2	4
35	KME 552	Python Lab	0	0	2	1
36	KME 553	Internet of Things Lab	0	0	2	1
37	KME 554	Mini Project or Internship Assessment*	0	0	2	1
38	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	1
Semester VI						
39	KME 601	Refrigeration and AirConditioning	3	1	0	3
40	KME 602	Machine Design	3	1	0	3
41	KME 603	Theory of Machine	3	1	0	3
42		Departmental Elective-III	3	0	0	4
43		Open Elective-I	3	0	0	3
44	KME 651	Refrigeration and AirConditioning Lab	0	0	2	4
45	KME 652	Machine Design Lab	0	0	2	1
46	KME 653	Theory of Machine Lab	0	0	2	1
47	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	1

Source: <https://aktu.ac.in/pdf/syllabus/Syllabus1819/allnew/3rd%20Year%20Syllabus%20Computer%20Science%20&%20Engineering%202018-19.pdf>

Semester VII						
49		OPEN ELECTIVE COURSE-1	3	0	0	3
50		DEPTT ELECTIVE COURSE-3	3	0	0	3
51		DEPTT ELECTIVE COURSE-4	3	1	0	4
52	RME701	CAD/CAM	3	1	0	4

53	RME702	Automobile Engineering	3	0	0	3
54	RME751	CAD/CAM Lab	0	0	2	1
55	RME752	IC Engine & Automobile Lab	0	0	2	1
56	RME753	INDUSTRIAL TRAINING	0	0	3	2
57	RME754	PROJECT-1	0	0	6	3
Semester VIII						
58		OPEN ELECTIVE COURSE-2	3	0	0	3
59		DEPTT ELECTIVE COURSE-5	3	1	0	4
60		DEPTT ELECTIVE COURSE-6	3	0	0	3
61	RME851	SEMINAR	0	0	3	2
62	RME852	PROJECT-2	0	0	12	12

Source: <https://aktu.ac.in/syllabus%202019-2020.html>

<u>DEPARTMENTAL ELECTIVES</u>	
<u>Departmental Electives 1</u>	
KME 051-Computer Integrated Manufacturing	
KME 052-Mechatronics Systems	
KME 053-Finite Element Methods	
KME 054-I C Engine Fuel and Lubrication	
KAU 051-Automobile Engines & Combustion	
KME 055-Advance welding	
KME 056-Programming, Data Structures and Algorithms Using Python	
KME 057-Mechanical Vibrations	
KME 058-Fuels and Combustion	
KAU 052-Automotive chassis and suspension	
DEPARTMENTAL ELECTIVE-3	
Sub.Code	Subject Name
RME070	Composite Materials
RME071	Power Plant Engineering
RME072	Supply Chain Management
RME073	Additive Manufacturing

DEPARTMENTAL ELECTIVE-4	
S.Code	Subject Name
RME075	Operation Research
RME076	Modelling & Simulation
RME077	Computational Fluid Dynamics
RME078	Automation & Robotics
DEPARTMENTAL ELECTIVE-5	
Sub.Code	Subject Name
RME080	Non-Destructive Testing
RME081	Advance Welding
RME082	Thermal Turbo Machine
RME083	Energy Conservation & Management
DEPARTMENTAL ELECTIVE-6	
S.Code	Subject Name
RME085	Total Quality Management
RME086	Gas Dynamics & Jet Propulsion
RME087	Design & Transmission System
RME088	Theory of Elasticity.
<u>OPEN ELECTIVES</u>	
<u>Open Electives-1</u>	
ROE071 - Modeling and Simulation of Dynamic Systems	
ROE072 - Introduction to Smart Grid	
ROE073 - Cloud computing	
ROE074 - Understanding the human being Comprehensively Human Aspiration audits fulfillment	
<u>Open Electives-2</u>	
ROE081 - Digital and Social Media Marketing	
ROE082 - Entrepreneurship Development	
ROE083 - Machine Learning	
ROE084 - Micro and Smart Systems	
ROE085 - Operations Research	
ROE086 - Renewable Energy Resources	
ROE087 - *Human Values in Madhyasth Darshan	
ROE088 - *Values, Relationship & Ethical Human Conduct-For a Happy & Harmonious Society	
<u>Science Based Open Electives</u>	
KOE031/041 Engineering Mechanics	
KOE032/042 Material Science	
KOE033/043 Energy Science & Engineering	
KOE034/044 Sensor & Instrumentation	
KOE035/045 Basics Data Structure & Algorithms	
KOE036/046 Introduction to Soft Computing	
KOE037/047 Analog Electronics Circuits	
KOE038/048 Electronics Engineering	

