

Programme Specifications

B.Tech. Programme



Programme: Automotive Engineering
Department: Automotive and Aeronautical Engineering

Faculty of Engineering & Technology
M.S.Ramaiah University of Applied Sciences University House, New BEL Road,
MSR Nagar, Bangalore– 560054 www.msruas.ac.in

PROGRAMME SPECIFICATIONS: AUTOMOTIVE ENGINEERING

Faculty	Engineering and Technology (FET)
Department	Automotive and Aeronautical Engineering
Programme	Automotive Engineering
Dean of Faculty	Prof. H. K. Narahari
Head of Department	Prof. Raja R

1	Title of the Award B.Tech. in Automotive Engineering
2	Modes of Study Full Time
3	Awarding Institution /Body M.S.Ramaiah University of Applied Sciences
4	Joint Award Not Applicable
5	Teaching Institution Faculty of Engineering and Technology, M.S.Ramaiah University of Applied Sciences
6	Date of Programme Specifications February 2017
7	Date of Programme Approval by the Academic Council of MSRUAS April 2017
8	Next Review Date: March 2021
9	Programme Approving Regulating Body and Date of Approval --
10	Programme Accredited Body and Date of Accreditation --
11	Grade Awarded by the Accreditation Body --
12	Programme Accreditation Validity --
13	Programme Benchmark N/A

14	<p>Rationale for the Programme</p> <p>Automotive engineering is one of the specialized disciplines of engineering. Designing and manufacturing of automotive components and system have been there world over for many centuries. Automotive Engineering is a specialized discipline, critical to the success of many enterprises. It plays a key role in energy, transportation, development of infrastructure and manufacturing of automotive vehicles. Presently, automotive engineers are contributing in research and development pertaining to environmental and bio-fuel fields. Automotive engineers are responsible for selection and processing of eco-friendly materials, fuels and processes, design and fabrication of automotive components and system to improve the quality of transportation.</p> <p>The automotive engineering programme at Faculty of Engineering and Technology at RUAS has been developed by the members of the faculty based on interactions with various universities and industries in India and abroad.</p> <p>The curriculum is outcome based and helps students to develop critical thinking abilities and imbibe relevant practical skills for a smooth transition from academics to real-lifework environment. Opportunities are provided for the students to do their internship in India or abroad depending on their preferences.</p> <p>The alumni of the faculty hold respected positions in industry and business in India and abroad. The faculty interacts with the industry and business offering engineering and consultancy, product design and development services along with training modules to practicing professionals. The faculty interacts with more than 150 companies in public and private sectors including OEMs spread across India. The above mentioned features of the programme and the faculty members' strong footing in industry and business make the programme unique. The student admitted to the programme in automotive engineering is given a strong foundation in real-life problem solving which quite are with many institutions is offering similar programme.</p>
15	<p>Programme Mission</p> <p>The purpose of the programme is creation of innovative problem solvers in multi-disciplinary settings, entrepreneurs and leaders applying the knowledge, understanding, cognitive abilities, practical skills and transferrable skills gained through systematic, flexible and rigorous learning in the chosen academic domain</p>
16	<p>Graduate Attributes</p> <ol style="list-style-type: none"> 1. Ability to apply knowledge of mathematics, science, and Engineering fundamentals to solve complex problems in engineering 2. Ability to analyse engineering problems, interpret data and arrive at meaningful conclusions involving mathematical inferences 3. Ability to design an engineering system, component, or process to meet desired needs considering public health and safety, and the cultural, societal, and environmental considerations 4. Ability to understand and solve complex engineering problems by conducting experimental investigations 5. Ability to apply appropriate tools and techniques and understand utilization of resources appropriately to complex engineering activities 6. Ability to understand the effect of engineering solutions on legal, cultural, social and public health and safety aspects 7. Ability to develop sustainable solutions and understand their effect on society and environment 8. Ability to apply ethical principles to engineering practices and professional responsibilities 9. Ability to work as a member of a team, to plan and to integrate knowledge of various engineering disciplines and to lead teams in multidisciplinary settings 10. Ability to make effective oral presentations and communicate technical ideas to a Broad audience using written and oral means 11. Ability to lead and manage multidisciplinary teams by applying engineering and management principles 12. Ability to adapt to the changes and advancements in technology and engage in independent and life-long learning

17	Programme Goal The programme goal is to produce graduates with critical, analytical and problem solving skills, and ability to think independently, to pursue a career in Automotive Engineering.
18	Programme Objectives The Automotive Engineering degree programme will impart knowledge of automotive systems and their subsystems; enhances the understanding of underlying engineering principles that govern the behavior of automotive systems; teach analytical modeling, simulation and analysis to study the behavior of automotive systems; provide the skills to design, build and test automotive systems. It also trains students on personal development and interactive skills with a feel for society. The objectives of the programme are: <ol style="list-style-type: none">1. To impart knowledge on automotive systems and their sub-systems2. To facilitate the understanding of underlying engineering principles of automotive systems to explain their construction and working3. To model, simulate and analyze the behavior of automotive systems to predict and improve their performance4. To design and develop prototypes of automotive systems to meet the specific needs5. To instrument and test automotive systems for validation6. To train students on commercial software tools to design, model, simulate automotive vehicle systems7. To train students on manufacture and production of automotive systems8. To educate on professional ethics, economics, social sciences and inter personal skills relevant to professional practice9. To provide a general perspective on lifelong learning and opportunities for a career in industry, business and commerce

19	<p>Programme Intended Learning Outcomes</p> <p>The intended learning outcomes are listed under four headings:</p> <ol style="list-style-type: none"> 1. Knowledge and Understanding, 2. Cognitive skills 3. Practical skills and 4. Capability/ Transferable skills. <p>Knowledge and Understanding</p> <p>After undergoing this programme, a student will be able to-</p> <p>KU1: Identify and describe the various systems of relevance to automotive engineering</p> <p>KU2: Explain the underlying science and engineering principles that govern the systems/ processes relevant to automotive engineering</p> <p>KU3: Compare and contrast new technologies over the existing technologies</p> <p>KU4: Collect, classify and interpret information relevant to automotive engineering</p> <p>Cognitive Skills</p> <p>After undergoing this programme, a student will be able to-</p> <p>CS1: Design automotive systems/processes based on the desired function</p> <p>CS2: Model and simulate automotive systems to analyze the behavior</p> <p>CS3: Modify the existing design/processes to meet newer requirements</p> <p>CS4: Apply science and engineering principles to evaluate performance of automotive systems and answer "what if" questions</p> <p>Practical Skills</p> <p>After undergoing this programme, a student will be able to-</p> <p>PS1: Manufacture/Fabricate automotive components and assemble the system</p> <p>PS2: Instrument a system and test for its performance</p> <p>PS3: Operate and maintain automotive system for efficient and safe operations</p> <p>PS4: Program/Control an automotive system to deliver desired level of performance</p> <p>Capability Skills / Transferrable Skills</p> <p>After undergoing the programme, a student will be able to-</p> <p>TS1: Manage information, develop technical reports and make presentations</p> <p>TS2: Build, Manage and Lead a team to successfully complete a project and Communicate across teams and organizations to achieve professional objectives</p> <p>TS3: Work under various constraints to meet project targets</p> <p>TS4: Adopt to the chosen profession by continuously upgrading his/her knowledge and understanding through Life-long Learning philosophy</p>
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20	Programme Structure							
	Semester -1, Physics Cycle[AU,AS,ME, E&C Branches]							
	S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
	1	BSC101A	Engineering Mathematics-1	3	2	0	4	100
	2	BSC102B	Engineering Physics	3	2	0	4	100
	3	ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
	4	ESC102A	Elements of Electronics Engineering	3	2	0	4	100
	5	ESC103A	Engineering Drawing	1	0	4	3	100
	6	BSC103B	Engineering Physics Laboratory	0	0	2	1	50
	7	ESC104A	Basic Workshop Practice	0	0	2	1	50
	8	ESC105A	Basic Electronics Laboratory	0	0	2	1	50
	9	HSC101B	Sociology and Elements of Indian History	2	0	0	2	50
	10	MCC101B	Technical Communication and Soft Skills	2	0	0	2	50
	Total			17	6	10	25	750
	Total number of contact hours per week				33 hours			
	Number of credits can be registered				Minimum	20	Maximum	25
	Semester -2							
	S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
	1	BSC104A	Engineering Mathematics-2	3	2	0	4	100
	2	BSC105B	Engineering Chemistry	4	0	0	4	100
3	ESC106A	Construction Materials and Engineering Mechanics	3	2	0	4	100	
4	ESC107A	Elements of Electrical Engineering	3	2	0	4	100	
5	ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100	
6	ESC109A	Computer Programming Laboratory	0	0	2	1	50	
7	BSC106B	Engineering Chemistry Laboratory	0	0	2	1	50	
8	ESC110A	Basic Electrical Laboratory	0	0	2	1	50	
9	HSC102B	Business Communication and Presentation Skills	2	0	0	2	50	
10	MCC102A	Environmental Studies	2	0	0	2	50	
Total			20	8	6	27	750	
Total number of contact hours per week				34 hours				
Number of credits can be registered				Minimum	22	Maximum	27	

Semester -1, Chemistry Cycle[CE, CSE and EEE Branches]

S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC101A	Engineering Mathematics-1	3	2	0	4	100
2	BSC105B	Engineering Chemistry	4	0	0	4	100
3	ESC106A	Construction Materials and Engineering Mechanics	3	2	0	4	100
4	ESC107A	Elements of Electrical Engineering	3	2	0	4	100
5	ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100
6	ESC109A	Computer Programming Laboratory	0	0	2	1	50
7	BSC106B	Engineering Chemistry Laboratory	0	0	2	1	50
8	ESC110A	Basic Electrical Laboratory	0	0	2	1	50
9	HSC102B	Business Communication and Presentation Skills	2	0	0	2	50
10	MCC102A	Environmental Studies	2	0	0	2	50
Total			20	8	6	27	750
Total number of contact hours per week			34 hours				
Number of credits can be registered			Minimum	22	Maximum	27	

Semester -2

S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC104A	Engineering Mathematics-2	3	2	0	4	100
2	BSC102B	Engineering Physics	3	2	0	4	100
3	ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
4	ESC102A	Elements of Electronics Engineering	3	2	0	4	100
5	ESC103A	Engineering Drawing	1	0	4	3	100
6	BSC103B	Engineering Physics Laboratory	0	0	2	1	50
7	ESC104A	Basic Workshop Practice	0	0	2	1	50
8	ESC105A	Basic Electronics Laboratory	0	0	2	1	50
9	HSC101B	Sociology and Elements of Indian History	2	0	0	2	50
10	MCC101B	Technical Communication and Soft Skills	2	0	0	2	50
Total			17	6	10	25	750
Total number of contact hours per week			33 hours				
Number of credits can be registered			Minimum	20	Maximum	25	

Semester-3							
S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC207A	Engineering Mathematics-3	3	2	0	4	100
2	ESC201A	Materials Science	3	0	0	3	100
3	AUC201A	Elements of Automotive Engineering and Technologies	3	0	0	3	100
4	MEC202A	Engineering Thermodynamics	3	0	0	3	100
5	AUC203A	Fluid Mechanics and Machines	3	2	0	4	100
6	AUC202A	Automotive Systems Laboratory	0	0	2	1	50
7	AUC204A	Fluid Mechanics and Machines Laboratory	0	0	2	1	50
8	AUC205A	3D Modeling and Machine Drawing	0	0	4	2	100
9	ESC202A	Materials Science Laboratory	0	0	2	1	50
10	MCC201B	Human Rights and Legislative Procedures	2	0	0	2	50
Total			17	4	10	24	800
Total number of contact hours per week			31 hours				
Number of credits can be registered			Minimum	19	Maximum	24	
Semester-4							
S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC208A	Engineering Mathematics-4	3	2	0	4	100
2	MEC201A	Strength of Materials	3	2	0	4	100
3	MEC208A	Kinematics of Machinery	3	0	0	3	100
4	AUC206A	Manufacturing Processes for Automotive and Aerospace Systems	4	0	0	4	100
5	MEC210A	Mechanical Measurements and Metrology	4	0	0	4	100
6	HSC201A	Law for Engineers	2	0	0	2	50
7	MEC211A	Measurements and Metrology Laboratory	0	0	2	1	50
8	MEC204A	Strength of Materials Laboratory	0	0	2	1	50
9	AUC207A	Manufacturing Processes Laboratory	0	0	2	1	50
10	MEC214A	Mechanisms and Kinematics Simulation Laboratory	0	0	2	1	50
Total			19	4	8	25	750
Total number of contact hours per week			31 hours				
Number of credits can be registered			Minimum	20	Maximum	25	

Semester- 5

S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	AUC301A	Applied Thermodynamics and IC Engines	3	2	0	4	100
2	MEC302A	Dynamics of Machinery	3	2	0	4	100
3	MEC303A	Control Systems Engineering	4	0	0	4	100
4	AUC303A	Design of Machine Elements	3	2	0	4	100
5	HSC301A	Economics for Engineers	2	0	0	2	50
6	AUC304A	Automotive Power Train	3	0	0	3	100
7	AUC309A	Machining Practices	0	0	2	1	50
8	MEC307A	Dynamics and Simulation Laboratory	0	0	2	1	50
9	MEC308A	Control Systems Laboratory	0	0	2	1	50
10	AUC302A	Fuel Testing and Power Train Laboratory	0	0	2	1	50
Total			18	6	08	25	750
Total number of contact hours per week				32			
Number of credits can be registered				Minimum	20	Maximum	25

Semester-6

S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	MEC401A	Heat and Mass Transfer	3	2	0	4	100
2	AUC305A	Design of Automotive Components	3	2	0	4	100
3	AUC306A	Automotive Electrical and Electronic Systems	3	0	0	3	100
4	MEC403A	Industrial Management	3	0	0	3	100
5	AUC308A	Vehicle Body Engineering and Safety Systems	3	0	0	3	100
6	MEC405A	Heat Transfer Lab	0	0	2	1	50
7	AUC307A	Automotive Electrical and Electronic Systems Laboratory	0	0	2	1	50
8	AUCP31A	Project Work – 1 / Internship	0	0	16	8	100
Total			15	4	20	27	700
Total number of contact hours per week				39			
Number of credits can be registered				Minimum	22	Maximum	27

Note: Internship can be in any Industry, Business, University or Research organization in India or abroad.

Semester-7

S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	AUC 401A	Vehicle Aerodynamics and Styling	3	0	0	3	100
2	AUC403A	Finite Element Analysis	3	2	0	4	100
3	AUC405A	Automotive Noise Vibration and Harshness	4	0	0	4	100
4	AUEXXXA	Professional Core Elective-1	4	0	0	4	100
5	OEC401A	Open Elective-1	3	0	0	3	100
6	OEC402A	Open Elective-2	3	0	0	3	100
7	AUC404A	CAE Practices	0	0	2	1	50
8	AUC402A	Vehicle Aerodynamics and Styling Laboratory	0	0	2	1	50
9	AUC406A	Automotive NVH Laboratory	0	0	2	1	50
Total			19	2	06	24	750
Total number of contact hours per week			27 hours				
Number of credits can be registered			Minimum	19	Maximum	24	

Semester-8

S. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	AUC407A	Vehicle Dynamics and Handling	3	2	0	4	100
2	OEC403A	Open Elective-3	3	0	0	3	100
3	AUEXXXA	Professional Core Elective-2	4	0	0	4	100
4	AUCP42A	Project Work -2	0	0	24	12	100
Total			10	2	24	23	400
Total number of contact hours per week			36 hours				
Number of credits can be registered			Minimum	18	Maximum	23	

Professional Core Electives:

Professional Core Elective		
1. Semester 7 Group		
1	AUE401A	Electric and Hybrid Vehicle
2	AUE402A	Automotive Fuels and Combustion
3	AUE403A	Automotive Product Design
4	AUE404A	Light Weight and Novel Materials

Professional Core Elective		
2. Semester 8 Group		
1	AUE405A	Intelligent Vehicle Technology
2	AUE406A	Automotive Pollution and Control
3	AUE407A	Design of Automotive Systems
4	MEE409A	Fatigue and Fracture Mechanics

	<p>Open Electives: A number of electives from faculty of engineering, management and commerce, art and design, hospitality management and catering technology, pharmacy, dental sciences will be announced one semester prior to the scheduled semester.</p>
21	<p>Course Delivery As per the Time Table</p>
22	<p>Teaching and Learning Methods</p> <ol style="list-style-type: none"> 1. Face to Face Lectures using Audio-Visuals 2. Workshops, Group Discussions, Debates, Presentations 3. Demonstrations 4. Guest Lectures 5. Laboratory work/Fieldwork/Workshop 6. Industry Visit 7. Seminars 8. Group Exercises 9. Project Work 10. Project Exhibitions 11. Technical Festivals
23	<p>Assessment and Grading</p> <ol style="list-style-type: none"> 1. Every course will be assessed for a weight of 100 2. There are two components- Component-1 and Component-2 3. Component-1 carries a weight of 50% and Component-2 carries a weight of 50% 4. Component-1 (CE) is subdivided into Tests and Assignments, tests carry 25% weight and assignment carry 25% weight. 5. Component-2 is a written examination (SEE) carries 50% weight 6. Laboratory Examination will have two components: Component-1 (CE): Conduction of Laboratory Exercises and Submission of Report: 50% weight Component-2: SEE (Semester End Laboratory Examination): 50% weight 7. A minimum of overall 40% is required for a pass with 40% in each of the Components 8. The marks distribution for each course is given in the programme structure- section 20 9. Other flexibilities (exceptions) are as per the Academic Regulations of B.Tech. Programme.
24	<p>Attendance</p> <p>A minimum of 85% attendance is compulsory to appear for semester end examinations. Condoning of attendance shortage is as per the Academic Regulations of B.Tech. Programme.</p>
25	<p>Award of Class As per the Academic Regulations of B.Tech. Programme</p>
26	<p>Student Support for Learning</p> <ol style="list-style-type: none"> 1. Course Notes 2. Reference Books in the Library 3. Magazines and Journals 4. Internet Facility 5. Computing Facility 6. Laboratory Facility 7. Workshop Facility 8. Staff Support 9. Lounges for Discussions 10. Any other support that enhances their learning

27	Quality Control Measures <ol style="list-style-type: none">1. Review of Course Notes2. Review of Question Papers and Assignment Questions3. Student Feedback4. Moderation of Assessed Work5. Opportunities for students to see their assessed work6. Review by external examiners and external examiners reports7. Staff Student Consultative Committee meetings8. Student exit feedback9. Subject Assessment Board(SAB)10. Programme Assessment Board(PAB)
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28 Curriculum Map																	
Course Code						Intended Learning Outcomes											
						Knowledge and Understanding				Cognitive (Thinking) Skills (Critical, Analytical, Problem Solving)				Practical skills			
HSC	BSC	ESC	AUC	OEC	MCC	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
a	b	c	d	e	f												
101B	101A	101A	201A	401A	101B	cd	cd	cd	Cd	d	d	d					
102B	102B	102A	202A	402A	102A	bc	bc	bc	bc						d	d	d
201A	103A	103A	MEC201A	403A	201B	cd	cd	d	d	d	d	d		bc			
301A	104A	104A	MEC202A			bd	d	d	d			d	d	c			
	105B	105A	203A			bd	d	d	d	d	d	d	d	c			
	106A	106A	204A			c								b	d		
	207A	107A	MEC204A			bc	c	c	c						d	d	
	208A	108A	205A			cd	bcd	c						d			
		109A	206A			d	d	d	d			d	d				c
		110A	207A											d	cd	cd	cd
		201A	MEC208A			d	cd	d	cd				d				
		202A	MEC210A			d	d	d	d	d		d	d	c	c		
			MEC211A												d	d	d
			MEC214A												d	d	d
			301A			d	d	d	d	d	d	d	d				
			302A												d	d	d
			MEC302A			d	d	d	d	d	d	d	d				
			MEC303A			d	d	d	d	d	d	d	d				
			303A			d	d	d	d	d	d	d	d				
			304A			d	d	d	d	d	d	d	d				
			305A			d	d	d	d	d	d	d	d				
			306A			d	d	d	d	d	d	d	d				
			MEC306A											d		d	d
			307A												d	d	d
			308A			d	d	d	d	d	d	d	d				
			MEC307A												d	d	d
			MEC308A												d	d	d
			401A			d	d	d	d	d	d	d	d				
			402A											d	d	d	d
			403A			d	d	d	d	d	d	d	d				
			MEC401A			d	d	d	d	d	d	d	d				
			MEC403A					d	d			d	d				
			404A												d	d	d
			MEC405A												d	d	d
			405A			d	d	d	d	d	d	d	d				
			406A												d	d	d
			AUE1A*														
			AUE2A*														
			P31A			d	d	d	d	d	d	d	d	d	d	d	d
			P42A			d	d	d	d	d	d	d	d	d	d	d	d
08	26	30	121	09	06	Total 200 credits											

*Depends on elective Course chosen

29	Capability / Transferable Skills Map															
	Course Code						Skills									
	HSC a	BSC b	ESC c	AEC d	OEC e	MCC f	GK	SL	WC	OC	P	B	IM	PM	L	AO
	101B	101A	101A	201A	401A	101B	abcdef	abcdef	abcdef	f	f	af	abcdef	abcdef	f	a
	102B	102B	102A	202A	402A	102A	abcdef	abcdef	abcdef	abcdef	a	a	abcdef	abcdef	af	af
	201A	103B	103A	MEC201A	403A	201B	abcdef	abcdef	abcdef	b		af	abcdef	abcdef		a
	301A	104A	104A	MEC202A			abcd	abcd	abcd	c		a	abcd	abcd		a
		105B	105A	203A			bcd	bcd	bcd	cd			bcd	bcd		
		106B	106A	204A			bcd	bcd	bcd	bd			bcd	bcd		
		207A	107A	MEC204A			bcd	bcd	bcd	d			bcd	bcd		
		208A	108A	205A			bcd	bcd	bcd	cd			bcd	bcd		
			109A	206A			cd	cd	cd	c			cd	cd		
			110A	207A			cd	cd	cd	cd			cd	cd		
			201A	MEC208A			cd	cd	cd	d			cd	cd		
			202A	210A			cd	cd	cd	cd			cd	cd		
				MEC211A			d	d	d	d			d	d		
				MEC214A			d	d	d	d			d	d		
				301A			d	d	d				d	d		
				302A			d	d	d	d			d	d		
				MEC302A			d	d	d				d	d		
				MEC303A			d	d	d				d	d		
				303A			d	d	d				d	d		
				304A			d	d	d	d			d	d		
				305A			d	d	d	d			d	d		
				306A			d	d	d	d			d	d		
				309A			d	d	d	d			d	d		
				307A			d	d	d	d			d	d		
				308A			d	d	d				d	d		
				MEC307A			d	d	d	d			d	d		
				MEC308A			d	d	d	d			d	d		
				401A			d	d	d				d	d		
				402A			d	d	d				d	d		
				403A			d	d	d				d	d		
				MEC401A			d	d	d				d	d		
				MEC403A			d	d	d				d	d		
				MEC405A			d	d	d	d			d	d		
				404A			d	d	d	d	d		d	d		
				405A			d	d	d				d	d		
				406A			d	d	d	d			d	d		
				AUE1A*			d	d	d				d	d		
				AUE2A*			d	d	d				d	d		
				P31A			d	d	d	d	d		d	d	d	d
				P42A			d	d	d	d	d		d	d	d	d

GK: Group Work, SL: Self Learning, WC: Written Communication, OC: Oral Communication, P: Presentation, B: Behavioral, IM: Information Management, PM: Personal Management, L: Leadership, AO: Any Other

30	<p>Co-curricular Activities</p> <p>Students are encouraged to take part in co-curricular activities like seminars, conferences, symposia, paper writing, attending industry exhibitions, project competitions and related activities for enhancing their knowledge and networking.</p>
31	<p>Cultural and Literary Activities</p> <p>Annual cultural festivals are held to show case the creative talents in students. They are involved in planning and organizing the activities.</p>
32	<p>Sports and Athletics</p> <p>Students are encouraged to take part in sports and athletic events regularly. Annual sports meet will be held to demonstrate sportsmanship and competitive spirit.</p>