Dr. MAHALINGAM
COLLEGE OF ENGINEERING AND TECHNOLOGY

MCET
COLLEGE OF ENGINEERING AND TECHNOLOGY
Enlightening Technical Minds   Estd. 1998

An Autonomous Institution
(Since 2011)

Affiliated to Anna University, Chennai; Approved by AICTE ; Accredited by NAAC with Grade 'A++'

Accredited by NBA - Tier1 (Mech, Auto, Civil, EEE, ECE, EIE and CSE)

(A Unit of NIA Educational Institutions)

Dr. MAHALINGAM

Dr. N. Mahalingam
Founder Chairman

Dr. M. Manickam
Chairman

Mr. M. Hari Hara Sudhan
Correspondent

Dr. C. Ramaswamy
Secretary

Dr. P. Govindasamy
Principal

MCET/IQAC/NAAC/Criterion I/1.2/1.2.1

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the following are the new courses introduced of the total number of courses across all programs offered by the institution from 2017-18 to 2021-22.

1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the last five years.

Academic Year	2021-22	2020-21	2019-20	2018-19	2017-18	Total
Total Number of courses	578	618	687	717	679	**3279**
Number of courses introduced	158	132	283	304	345	**1222**

We hereby declare that, the **percentage of new courses** introduced during 2017-18 to 2021-22 is **37.27%**

We hereby enclosed the sample document for the number of new courses introduced of the total number of courses across all programs offered from 2017-18 to 2021-22for your kind reference.

Steering Committee Coordinator
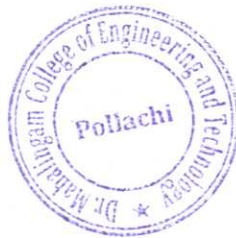
PRINCIPAL
PRINCIPAL
Dr. Mahalingam College of
Engineering and Technology
Pollachi - 642 003.

Udumalai Road, Pollachi - 642 003, Tamil Nadu, India. Tel : +91 - 4259 - 236030 / 40 / 50, Fax : +91 - 4259 - 236070
Email : principal@drmcet.ac.in   www.mcet.in

NIA
EDUCATIONAL INSTITUTIONS | Enlightening Minds

Department of Mechanical Engineering

Vision

To transform students from background into professional leaders of tomorrow in the field of mechanical engineering with strong sense of social commitment

Mission:

- To impart quality –engineering education leading to specialization in the energy areas of CAD/CAM/CAE, Energy Engineering and Materials Technology.

- To provide continually updated and intellectually stimulating environment to pursue research and consultancy activities.

Programme: B.E. Mechanical Engineering

Programme Educational Objectives (PEOs) - Regulation 2019

B.E. Mechanical Engineering graduates will:

PEO1.Technical Expertise: Actively apply technical and professional skills in engineering practices towards the progress of the organization or the entrepreneurial venture in competitive and dynamic environment.

PEO2.Lifelong Learning: Own their professional and personal development by continuous learning and apply the learning at work to create new knowledge.

PEO3.Ethical Knowledge: Conduct themselves in a responsible, professional and ethical manner supporting sustainable economic development which enhances the quality of life.

Programme Outcomes (POs) - Regulations 2019

On successful completion of B.E. Mechanical Engineering programme, graduating students/graduates will be able to:

PO1. Apply knowledge of basic sciences and engineering concepts to solve complex mechanical engineering problems.

PO2. Identify, formulate, and analyze engineering problems using scientific principles and concepts.

PO3. Design products, manufacturing processes and facilities that deliver the requirements of the target customers and desired quality functions.

PO4. Conduct experiments, analyze and interpret data to provide solutions for engineering problems.

PO5. Use appropriate tools and techniques to solve engineering problems.

PO6. Apply contextual knowledge to make informed decisions in societal, health, safety, legal, entrepreneurial and cultural issues.

PO7. Demonstrate the knowledge of need for sustainable development in providing engineering solutions in global, environmental and societal contexts.

PO8. Practice Ethical responsibility.

PO9. Work effectively in teams and build/manage interpersonal relationships.

PO10. Communicate effectively through oral, non-verbal and written means.

PO11. Apply management principles to manage individual and team work for executing projects in a multidisciplinary environment.

PO12. Articulate and engage in pursuit of career and life goals through continuous Learning.

Programme Specific Outcomes (PSOs) - Regulations 2019

On successful completion of B.E. Mechanical Engineering programme, graduating students/graduates will be able to:

PSO 1: Demonstrate functional competencies for roles in design, manufacturing and service by learning through centers of excellence and industrial exposure.

PSO 2: Demonstrate behavioral competencies required for roles in design, manufacturing and service by learning through structured professional skills training.

Dr. Mahalingam College of Technology, Pollachi
2019 Regulations - Course Code Generation Procedure for UG Courses(v1)

Regulations

Mode of Assessment	
Character Type – Number	
1	Theory
2	Theory with Practical
3	Practical
4	Practical with Theory
5	Theory with SSU
6	Customized

Semester Number	
Character Type – Number	
1 to 8	Semester
0	Floating

Sequence Number
Character Type – Number
01, 02, 03, . . . , 99

1	2	3	4	5	6	7	8	9	10
1	9	A	U	B	G	1	1	0	1
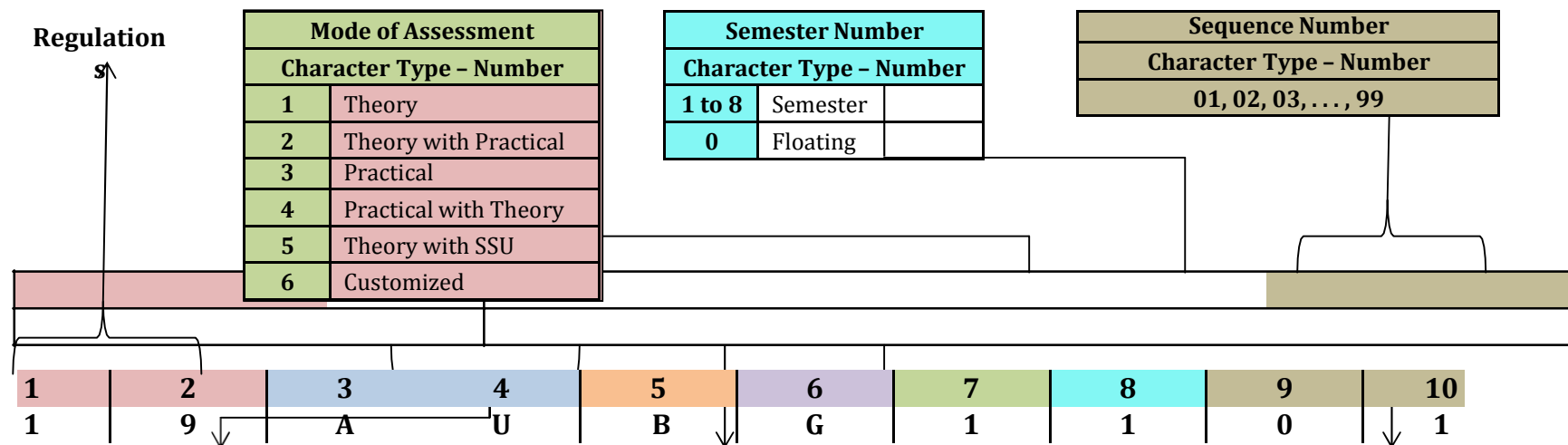
Board/Department/Programme	
Character Type – Alphabet	
AU	Automobile
CE	Civil
CS	Computer Science
EC	Electronics and Communication
EE	Electrical and Electronics
EI	Electronics and Instrumentation
IT	Information Technology
MC	Mechatronics
ME	Mechanical
CH	Chemistry
EN	English
MA	Mathematics
PH	Physics
PS	Professional Skills
SH	Science and Humanities

Course Type	
Character Type – Alphabet	
B	Basic Science
S	Engineering Science
H	Humanities
C	Professional Core
E	Professional Elective
O	Open Elective
N	Online
I	Industry Offered
V	One Credit
P	Project/Skill Development/ Internship
M	Mandatory Non-Credit

Common to any Programme	
Character Type – Alphabet	
G	Generic
C	Common
N	Non-Common

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Udumalai Road, Pollachi - 642 003 Tel: 04259-236030/40/50 Fax: 04259-236070 www.mcet.in

Programme: B.E Mechanical Engineering
2019 Regulations
Curriculum for Semesters I to II

Course Code	Course Title	Duration	Credits	Marks
19SHMG6101	Induction Program	3 Weeks	-	100

Semester I (2019 Batch)

Course Code	Course Title	Hours/Week L	T	P	Credits	Marks	Common to Programmes
19MABC1101	Matrices and Calculus	3	1	0	4	100	AU, CE, MC, ME, EC, EI, EE
19ENHG2101	Communication Skills - I	2	0	2	3	100	All
19PHBC2101	Physics for Mechanical Sciences	3	0	2	4	100	AU, ME, MC,
19CSSC2001	C Programming	3	0	2	4	100	AU, ME, MC
19MESC4001	Engineering Drawing	1	0	3	2.5	100	AU, ME, MC, CS, IT, EC, EI
19PSHG3001	Wellness for Students	0	0	2	1	100	All
Total		**12**	**1**	**11**	**18.5**	**600**	

Semester II (2019 Batch)

Course Code	Course Title	Hours/Week L	T	P	Credits	Marks	Common to Programmes
19MABC1201	Ordinary Differential equation and Complex Variables	3	1	0	4	100	AU, CE, MC, ME, EC, EI, EE
19ENHG2201	Communication Skills - II	2	0	2	3	100	All
19CHBC2201	Chemistry for Mechanical Sciences	3	0	2	4	100	AU, ME, MC
19MESC2001	Introduction to Engineering	2	0	2	3	100	AU, MC, ME, EC, EI, EE
19MESC2201	Engineering Materials	2	0	2	3	100	AU, MC, ME
19MECC3201	Engineering Practices Laboratory	0	0	3	1.5	100	AU, ME, MC
19PSHG3002	Personal Effectiveness	0	0	2	1	100	All
19CHMG6201	Environmental Science	1	0	0	-	-	All
Total		**13**	**1**	**13**	**19.5**	**700**	

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Programme: Mechanical Engineering
2019 Regulations
Curriculum for Semesters I to VIII

Course Code	Course Title	Duration	Credits	Marks
19SHMG6101	Induction Program	3 Weeks	-	-

Semester I (2020 Batch)

Course Code	Course Title	Hours/Week			Credits	Marks	Common to Programmes
		L	T	P			
19MABC1101	Matrices and Calculus	3	1	0	4	100	AU, CE, MC, ME, EC, EI, EE
19ENHG2101	Communication Skills - I	2	0	2	3	100	All
19PHBC2101	Physics for Mechanical Sciences	3	0	2	4	100	AU, ME, MC
19CSSC2001	C Programming	3	0	2	4	100	AU, CE, MC, ME, EC, EI, EE
19MESC4001	Engineering Drawing	1	0	3	2.5	100	AU, ME, MC, CS, IT, EC, EI
19PSHG6001	Wellness for Students*	0	0	2	-	-	All
Total		**12**	**1**	**11**	**17.5**	**500**	

Semester II (2020 Batch)

Course Code	Course Title	Hours/Week			Credits	Marks	Common to Programmes
		L	T	P			
19MABC1201	Ordinary Differential equations and Complex Variables	3	1	0	4	100	AU, CE, MC, ME, PR, EC, EI, EE
19ENHG2201	Communication Skills - II	2	0	2	3	100	All
19CHBC2201	Chemistry for Mechanical Sciences	3	0	2	4	100	AU, CE, ME, MC, PR, EE
19MESC2001	Introduction to Engineering	2	0	2	3	100	AU, MC, ME, PR, EC, EI, EE
19MESC2201	Engineering Materials	2	0	2	3	100	AU, MC, ME,PR
19MECC3201	Engineering Practices Laboratory	0	0	3	1.5	100	AU, ME, MC, PR
19PSHG6001	Wellness for Students*	0	0	2	1	100	All
19CHMG6201	Environmental Sciences	1	0	0	-	-	All
TOTAL		**13**	**1**	**13**	**19.5**	**700**	

*Annual Pattern

Semester III

Course Code	Course Title	L	T	P	Credits	Marks	Common to Programmes
19MABC1301	Numerical Methods	3	1	0	4	100	AU, ME
19MESC1301	Engineering Mechanics	3	1	0	4	100	AU, ME, MC
19MECC2301	Fluid Mechanics and Hydraulic Machinery	3	0	2	4	100	AU, ME, MC
19MECN2301	Metrology and Measurement	3	0	2	4	100	-
19MECN1301	Manufacturing Processes	3	0	0	3	100	-
19MECN3301	Computer Aided Modeling and Drafting Laboratory	0	0	3	1.5	100	-
19MECN3302	Manufacturing Processes Laboratory	0	0	3	1.5	100	-
XXXXXXXXXX	One Credit Course	0	0	2	1	100	-
Total		**15**	**2**	**12**	**23**	**800**	

Semester IV

Course Code	Course Title	L	T	P	Credits	Marks	Common to Programmes
19MABG1401	Probability and Statistics	3	1	0	4	100	AU, ME, CS, IT, EC, EE,CE
19MECC2401	Strength of Materials	3	0	2	4	100	AU, ME, MC
19MECN2401	Theory of Machines	2	1	2	4	100	-
19MECN1401	Manufacturing Technology	3	0	0	3	100	-
19MECN3401	Manufacturing Technology Laboratory	0	0	3	1.5	100	-
19PSHG6002	Universal Human Values 2: Understanding Harmony	2	1	0	3	100	All
19MEPN6401	Mini-Project	0	0	4	2	100	
XXXXXXXXXX	One Credit Course	0	0	2	1	100	-
Total		**13**	**3**	**9**	**22.5**	**700**	

Course Code	Course Title	Duration	Credits	Marks
XXXXXXXXXX	Internship or Skill Development*	2/4 Weeks	1	100

*Refer to clause:4.8 in UG academic regulations 2019

Semester V

Course Code	Course Title	Hours/Week			Credits	Marks	Common to Programmes
		L	T	P			
19MECC1501	Mechanical Design	3	1	0	4	100	MC,ME
19MECN2501	Applied Thermodynamics	3	0	2	4	100	-
19MECN2502	Electrical and Electronics Engineering	3	0	2	4	100	-
19MECC2501	Problem solving using PYTHON for Mechanical Sciences	2	0	2	3	100	AU, MC, ME
19MEEXXXXX	Professional Elective -I	3	0	0	3	100	-
19MEEXXXXX	Professional Elective -II	3	0	0	3	100	-
19MEOCXXXX	Open Elective - I	3	0	0	3	100	-
19MECN3501	Computer Aided Machine Drawing Laboratory	0	0	3	1.5	100	-
19PSHG6501	Employability Skills 1 : Teamness and Interpersonal Skills	0	0	2	1	100	All
Total		**20**	**1**	**11**	**26.5**	**900**	

Semester VI

Course Code	Course Title	Hours/Week			Credits	Marks	Common to Programmes
		L	T	P			
19MECC1601	Finite Element Analysis	3	1	0	4	100	AU, ME
19MECN2601	Heat and Mass Transfer	2	1	2	4	100	-
19MECC1602	Data Science for Engineers	3	0	0	3	100	AU, MC, ME
19MEEXXXXX	Professional Elective -III	3	0	0	3	100	-
19MEEXXXXX	Professional Elective -IV	3	0	0	3	100	-
19MEOCXXXX	Open Elective -II	3	0	0	3	100	-
19PSHG6601	Employability Skills 2 : Campus to Corporate	0	0	2	1	100	All
19MEPN6601	Innovative and Creative Project	0	0	4	2	100	-
Total		**18**	**1**	**8**	**23**	**800**	

Course Code	Course Title	Duration	Credits	Marks
XXXXXXXXXX	Internship or Skill Development*	2/4 Weeks	1	100

*Refer to clause: 4.8 in UG academic regulations 2019

Semester VII

Course Code	Course Title	Hours/Week			Credits	Marks	Common to Programmes
		L	T	P			
19MECN1701	Mechatronics	3	0	0	3	100	-
19MECC1701	Artificial Intelligence and Machine Learning	3	0	0	3	100	AU, MC, ME
19MECN1702	CNC Programming and Robotics	3	0	2	4	100	-
19MEEXXXXX	Professional Elective - V	3	0	0	3	100	-
19MEEXXXXX	Professional Elective - VI	3	0	0	3	100	-
19MEOCXXXX	Open Elective - III	3	0	0	3	100	-
19MECC3701	Simulation and Analysis Laboratory	0	0	3	1.5	100	MC, ME
19MECN3701	Mechatronics Laboratory	0	0	3	1.5	100	-
Total		**21**	**0**	**8**	**22**	**800**	

Semester VIII

Course Code	Course Title	Hours/Week			Credits	Marks	Common to Programmes
		L	T	P			
19MEPN6801	Project	0	0	16	8	200	-
Total		**0**	**0**	**16**	**8**	**200**	-

Course Code	Course Title	Duration	Credits	Marks
XXXXXXXXXX	Internship or Skill Development*	8 /16 weeks	4	100

*Refer to clause: 4.8 in UG academic regulations 2019

Total Credits (2019 Batch only): 169

Total Credits (2020 Batch onwards):168

PROFESSIONAL ELECTIVES

Course Code	Course Title	Hours / Week			Credits	Marks	Common to Programmes
		L	T	P			
DESIGN ELECTIVES							
19MEEC1001	Product Life Cycle Management	3	0	0	3	100	AU, MC, ME
19MEEC1002	Design for Manufacture, Assembly and Environment	3	0	0	3	100	AU, MC, ME
19MEEC1003	Vibration and Noise Engineering	3	0	0	3	100	MC, ME
19MEEC1004	Computational Fluid Dynamics	3	0	0	3	100	MC, ME
19MEEN1001	Mechanical System Design	3	0	0	3	100	-
19MEEC1005	Design of Transmission Systems	3	0	0	3	100	MC, ME
19MEEC1006	Automotive Engine and Its Systems	3	0	0	3	100	MC, ME
19MEEN1003	Motor Cycle Dynamics	3	0	0	3	100	-
19MEEC1007	Design for Sheet Metal	3	0	0	3	100	AU, ME
19MEEN1004	Design for Welding	3	0	0	3	100	-
19MEEC1008	Composite Materials	3	0	0	3	100	AU, MC, ME
19MEEN1020	Fluid Power System	3	0	0	3	100	-
19MEEC1023	Model Based Systems Engineering	3	0	0	3	100	AU, ME
19MEEC1024	New Product Development	3	0	0	3	100	AU, ME
MANUFACTURING ELECTIVES							
19MEEC1009	Additive Manufacturing	3	0	0	3	100	AU, MC, ME
19MEEN1005	Process Planning and Cost Estimation	3	0	0	3	100	-
19MEEN1006	Advanced Manufacturing Processes	3	0	0	3	100	-
19MEEC1010	Flexible Manufacturing Systems	3	0	0	3	100	MC, ME
19MEEC1011	Non Destructive Testing Methods	3	0	0	3	100	AU, MC, ME
19MEEN1007	Supply Chain Management	3	0	0	3	100	-
19MEEN1008	Nanomaterials Synthesis and Characterization	3	0	0	3	100	-
19MEEC1012	Lean Manufacturing	3	0	0	3	100	AU, ME
19MEEC1013	Logistics Engineering	3	0	0	3	100	AU, ME
19MEEN1010	Manufacturing Systems Engineering	3	0	0	3	100	-
19MEEC1014	Engineering Economics and Cost Analysis	3	0	0	3	100	AU, ME
19MEEN1022	Advanced Computer Integrated Manufacturing	3	0	0	3	100	-

ELECTIVES

Course Code	Course Title	Hours /Week			Credits	Marks	Common to Programmes
		L	T	P			
THERMAL AND QUALITY ELECTIVES							
19MEEC1015	Principles of Management	3	0	0	3	100	MC, ME
19MEEN1011	Operations Research	3	0	0	3	100	-
19MEEC1016	Quality Engineering	3	0	0	3	100	AU, MC, ME
19MEEN1012	Total Productive Maintenance	3	0	0	3	100	-
19MEEC1017	Industrial Safety Management	3	0	0	3	100	AU, MC, ME
19MEEN1013	Power Plant Engineering	3	0	0	3	100	-
19MEEC1018	Automobile Engineering	3	0	0	3	100	MC, ME
19MEEN1014	Refrigeration and Air-Conditioning	3	0	0	3	100	-
19MEEN1015	Solar and Wind Energy Engineering	3	0	0	3	100	-
19MEEN1016	Battery System for Electric Vehicles	3	0	0	3	100	-
19MEEC1020	Systems Approach for Engineers	3	0	0	3	100	EE, ME
19MEEC1025	Systems Engineering	3	0	0	3	100	AU, ME
EMERGING TECHNOLOGY & PROGRAMMING ELECTIVES							
19MEEC1019	Industrial IoT	3	0	0	3	100	AU, MC, ME
19AUEC1002	Fleet Management	3	0	0	3	100	AU, ME
19AUEC1003	In-Vehicular Networks	3	0	0	3	100	AU, ME
19AUEC1004	Automotive Infotronics	3	0	0	3	100	AU, ME
19MEEN1017	Embedded System for Automobiles	3	0	0	3	100	-
19MEEC1021	Java Programming For Mechanical Sciences	3	0	0	3	100	AU, ME
19MEEC1022	Data Structures and Object Oriented Programming with C++	3	0	0	3	100	AU, ME
INDUSTRY ORIENTED ELECTIVES							
	Embedded System Design and Development	3	0	0	3	100	ME,CS,EE,EC, MC
	Prototype Development	3	0	0	3	100	ME,CS,EE,EC, MC

OPEN ELECTIVES

Course Code	Course Title	Hours/Week			Credits	Marks
		L	T	P		
19MEOC1001	Automation systems	3	0	0	3	100
19MEOC1002	Entrepreneurship Development	3	0	0	3	100
19MEOC1003	Telematics for Transport	3	0	0	3	100
19MEOC1004	Industrial Automation and Robotics	3	0	0	3	100
19MEOC1005	Vehicular Communication Electronics	3	0	0	3	100
19MEOC1006	Total Quality Management	3	0	0	3	100
19MEOC1007	Industrial Safety Engineering	3	0	0	3	100
19MEOC1008	Industrial Engineering	3	0	0	3	100
19MEOC1009	Renewable Sources of Energy	3	0	0	3	100