



NAGARJUNA

COLLEGE OF ENGINEERING & TECHNOLOGY

**Outcome Based Education(OBE)/
Choice Based Credit System (CBCS) Curricula**

2016-2017

Department of Mechanical Engineering

NAGARJUNA COLLEGE OF ENGINEERING & TECHNOLOGY

Mudugurki Village, VenkatagiriKote Post, Devanahalli taluk,
Bangalore district - 562 164

PRINCIPAL

Nagarjuna College of Engineering & Technology
Devanahalli (Tq) Bengaluru (Dt.)-Pin: 562164



NAGARJUNA

COLLEGE OF ENGINEERING & TECHNOLOGY

An Autonomous College under VTU

***DEPARTMENT OF MECHANICAL
ENGINEERING***

VISION

To train the students as professionals in Mechanical Engineering blended with leadership qualities to achieve excellence in the challenging future.

MISSION

- M1:** Maintaining excellence in Mechanical Engineering education through academic professionalism and teaching for the changing needs of the society.
- M2:** Establishing Centre of excellence for research to promote industrial exposure in the area of Mechanical Engineering.
- M3:** Developing communication skill, leadership qualities, team work and skills for continuing education among the students
- M4:** Inculcating ethics, human values and skills for solving societal problems and environmental protection
- M5:** Creating opportunities to the students for experiencing real time problems through project works to enhance employability and entrepreneurship.

Scheme and Syllabus

Academic Year 2016-17

Third Semester B.E. - Scheme

Sl. No.	Course Code	Course	Teaching Dept.	L-T-P-S (Hrs/week)	Total Credits	Marks
1	16MEM31	Engineering Mathematics - III	Mathematics	3-0-2-0	4	100
2	16MET32	Measurements and Manufacturing Process	ME	3-0-0-0	3	100
3	16MET33	Basic Thermodynamics	ME	4-0-0-0	4	100
4	16MEI34	Mechanics of Materials (IC)	ME	3-0-2-0	4	100
5	16MET35	Computer Aided Machine Drawing	ME	1-0-4-0	3	100
6	16MET36 X	Foundation Elective-I	ME	3-0-0-0	3	100
7	16MEL37	Manufacturing Process Laboratory	ME	1-0-2-0	2	100
8	16MEL38	Mechanical Measurements and Metrology Laboratory	ME	1-0-2-0	2	100
9	16MEH39	Integrated Rural Development – Part 1	ME	0-2-0-0	1	100
Total				19-2-12-0	26	900

Foundation Elective-I

Sl. No.	Courses Code	Course
1	16MET361	Automobile Engineering-I
2	16MET362	Engineering Metallurgy
3	16MET363	Industrial Pollution Control

Fourth Semester B.E. - Scheme

Sl. No.	Subject Code	Course	Teaching Dept.	L-T-P-S (Hrs/week)	Total Credits	Marks
1	16MEM41	Engineering Mathematics- IV (IC)	Mathematics	3-0-2-0	4	100
2	16MET42	Manufacturing Technology	ME	3-0-0-0	3	100
3	16MEI43	Applied Thermodynamics (IC)	ME	3-0-2-0	4	100
4	16MET44	Kinematics of Machines	ME	4-0-0-0	4	100
5	16MET45 X	Foundation Elective-II	ME	3-0-0-0	3	100
6	16MET46 X	Engineering Elective-I	ME	3-0-0-0	3	100
7	16MEL47	Machine Shop Laboratory	ME	1-0-2-0	2	100
8	16MEL48	Material Testing Laboratory	ME	1-0-2-0	2	100
9	16MEH49	Integrated Rural Development – Part 2	ME	0-2-0-0	1	100
Total				21-2-8-0	26	900

Foundation Elective-II			Engineering Elective-I	
Sl. No.	Course Code	Course	Course Code	Course
1	16MET451	Automobile Engineering– II	17MET461	Renewable Energy Resources
2	16MET452	Advanced Material Science	17MET462	Object Oriented Programming using C++
3	16MET453	Air Pollution and Control	17MET463	Management Information System
4			17MET464	Smart Materials

Fifth Semester B.E. - Scheme

Sl. No.	Course Code	Course	Teaching Dept.	L-T-P-S (Hrs/week)	Total Credits	Marks
1	16MET51	Machine Design-I	ME	3-0-0-0	3	100
2	16MEI52	Dynamics of Machines (IC)	ME	3-0-2-0	4	100
3	16MET53	Artificial Intelligence And Robotics	ME	3-0-0-0	3	100
4	16MEI54	Fluid Mechanics (IC)	ME	3-0-2-0	4	100
5	16MET55X	Foundation Elective-III	ME	3-0-0-0	3	100
6	16MET56X	Engineering Elective-II	ME	3-0-0-0	3	100
7	16MEL57	Energy Conversion Laboratory	ME	1-0-2-0	2	100
8	16MEL58	Robotics Laboratory	ME	1-0-2-0	2	100
9	16MEH59	General Aptitude	ME/ BS&H	2-0-0-0	2	100
Total				22-0-8-0	26	900

Foundation Elective-III

Sl. No.	Course Code	Course
1	16MET551	Composite Material Technology
2	16MET552	Power Plant Engineering
3	16MET553	HVAC-I

Engineering Elective-II

Sl. No.	Course Code	Course
1	16MET561	Metal Forming Process
2	16MET562	Mechatronics
3	16MET563	Economics of Engineering

Sixth Semester B.E. - Scheme

Sl. No	Course Code	Course	Teaching Dept.	L-T-P-S (Hrs/week)	Total Credits	Marks	
1	16MET61	Machine Design-II	ME	3-0-0-0	3	100	
2	16MEI62	Computer Integrated Manufacturing (IC)	ME	3-0-2-0	4	100	
3	16MEI63	Finite Element Methods (IC)	ME	3-0-2-0	4	100	
4	16MET64X	Foundation Elective-VI	ME	3-0-0-0	3	100	
5	16MET65X	Engineering Elective-III PBL	ME	3-0-0-0	3	100	
6	16HOE66X	Open Elective-I	ME/ BS&H	2-0-0-4	3	100	
7	16MEL67	Fluid Machinery Laboratory	ME	1-0-2-0	2	100	
8	16MEP68	Mini Project and Seminar	ME	1-0-2-0	2	100	
9	16MEH69	Technical Aptitude and Group Discussion	ME/ BS&H	2-0-0-0	2	100	
Total					21-0-8-4	26	900

Foundation Elective-VI

Sl. No.	Course Code	Course
1	16MET641	Non-Conventional Machining
2	16MET642	Turbo machines
3	16MET643	HVAC-II

Engineering Elective-III / PBL

Sl. No.	Course Code	Course
1	16MET651	Refrigeration and Air Conditioning
2	16MET652	Operations Research
3	16MET653	Wind Energy Engineering

Open Elective-I

Sl. No.	Course Code	Course
1	16HOE661	Lab View – Level 1
2	16HOE662	Yoga and Meditation
3	16HOE663	Martial Arts
4	16HOE664	Music (Carnatic Vocal / Instrumental)
5	16HOE665	Dance
6	16HOE666	Sports
7	16HOE667	Online Certification Courses from IITs / IISc / SWAYAM / EDX

Seventh Semester B.E. - Scheme

Sl. No.	Course Code	Course	Teaching Dept.	L-T-P-S (Hrs/week)	Total Credits	Marks
1	16MEI71	Mechanical Vibrations (IC)	ME	3-0-2-0	4	100
2	16MET72	Heat and Mass Transfer	ME	3-0-0-0	3	100
3	16MET73X	Foundation Elective-V	ME	3-0-0-0	3	100
4	16MET74X	Engineering Elective-IV	ME	3-0-0-0	3	100
5	16HOE75X	Open Elective-II	ME/BS&H	2-0-0-4	3	100
6	16HOE76X	Open Elective-III	ME/BS&H	2-0-0-4	3	100
7	16MEL77	Computer Aided Modelling and Analysis Laboratory	ME	1-0-2-0	2	100
8	16MEL78	Heat and Mass Transfer Laboratory	ME	1-0-2-0	2	100
9	16MEP79	Project Phase-I and Seminar	ME	1-0-4-0	3	100
Total				19-0-10-8	26	900

Foundation Elective-V

Sl. No.	Subject Code	Course
1	16MET731	Engineering Management & Entrepreneurship
2	16MET732	Hydraulics and Pneumatics
3	16MET733	HVAC-III

Engineering Elective-IV

Sl. No.	Subject Code	Course
1	16MET741	Safety, Security & Building Management Systems
2	16MET742	Foundry Technology
3	16MET743	Biomass Energy Systems

Open Elective-II

Sl. No.	Course Code	Course
1	16HOE751	Tax Management
2	16HOE752	Assessment of Building Energy Performance
3	16HOE753	Natural Disaster Mitigation & Management
4	16HOE754	Online Certification Program – MOOCS/NPTEL/IIT/EDX/ Course Era certification. Equivalent to 36 – 40 hours approved by Department

Open Elective-III

Sl. No.	Course Code	Course
1	16HOE761	Small and Medium Enterprise Management
2	16HOE762	Occupational Safety & Health Administration
3	16HOE763	Animation & Multimedia Engineering
4	16HOE764	Online Certification Program – MOOCS/NPTEL/IIT/ EDX/Course Era certification. Equivalent to 36 – 40 hours approved by Department

Eighth Semester B.E. - Scheme

Sl. No.	Course Code	Course	Teaching Dept.	Total Credits	Marks
1	16MEP81	Project Phase-II	ME	4	100
2	16MEP82	Project Phase-III	ME	4	100
3	16MEP83	Evaluation and Viva-Voce (External)	ME	10	100
Total				18	300