JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Kakinada-533003, Andhra Pradesh (India)

Comparison of Program Structure R16 with R19

Program Code	Program Name	Total No. of Courses		No of Subjects			Total Courses	Percentage %
		R19	R16	Added in (R19)	Deleted (R16)	Content revised more than 20%		
15	M.Tech (MACHINE DESIGN)	42	31	11	7	3	21	50

Coordinator

REGISTRAR
J.N.T. University Kakinada
Kakinada-533003

HOD/Director

HEAD
Mechanical Engineering Department
University College of Engineering
J.N.T. University Kakinada
KAKINADA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Kakinada-533003, Andhra Pradesh (India)

Comparison of Course Structure R16 with R19

Program Code: M.Tech(1D)15 **Program Name: M. Tech – MACHINE DESIGN** **Year : I** **Semester: I**

R16						R19						Remarks		
Course code	Course name	L	T	P	C	Course code	Course name	L	T	P	C	New Course? (R19)	Deleted Course? (R16)	Content Revision %
MD 101	Computational Methods in Engineering	4	0	0	3	MD 101	Advanced Mechanics of Solids	3	0	0	3		yes	
MD 102	Advanced Mechanics of Solids	4	0	0	3	MD 102	Mechanical Vibrations and Acoustics	3	0	0	3			25
MD 103	Advanced Mechanisms	4	0	0	3	Program Elective – I MD 103	1. Design of Modern Vehicle Systems 2. **Product Design** 3. Geometric Modeling 4. Fracture Mechanics 5. Advanced Mechanisms	3	0	0	3			25
MD 104	Mechanical Vibrations	4	0	0	3	Program Elective – II MD	MD 1041 Non-Destructive Evaluation MD 1042 Robotics MD 1043 Design for Manufacturing & Assembly MD 1044 Multi Body Dynamics	3	0	0	3	Yes(2)		

							104	MD 1045	Vision Systems and Image Processing								
Elective – I MD 105	MD1051	Design of Automobile Systems	4	0	0	3	MD 105	Computational Mathematics Lab		0	0	4	2				
	MD 1052	Product Design															
	MD 1053	Geometric Modeling															
	MD 1054	Non Destructive Evaluation															
Elective – II MD 106	MD 1061	Fracture Mechanics	4	0	0	3	MD 106	Design Practice Lab-I		0	0	4	2		yes		
	MD 1062	Robotics															
	MD 1063	Design for Manufacturing & Assembly															
	MD 1064	Continuum Mechanics															
MD 107	Machine Dynamics Lab		0	0	3	2	MD 107	Research Methodology and IPR		2	0	0	2	yes			
							MD 108	Soft Skills		2	0	0	0	yes			
						20	**TOTAL**						18	4	2	2	

Program Code: M.Tech(1D)15 **Program Name: M. Tech – MACHINE DESIGN** **Year : I** **Semester: II**

R16						R19						Remarks		
Course code	**Course name**	**L**	**T**	**P**	**C**	**Course code**	**Course name**	**L**	**T**	**P**	**C**	**New Course? (R19)**	**Deleted Course? (R16)**	**Content Revision %**
MD201	Optimization and Reliability	4	0	0	3	MD 201	Advanced Finite Element Methods	3	0	0	3			
MD202	Experimental Stress Analysis	4	0	0	3	MD 202	Advanced Machine Design	3	0	0	3	yes		
MD203	Advanced Finite Element Methods	4	0	0	3	Program Elective–III MD 203	MD 2031 Theory of Plasticity MD 2032 Signal Analysis and Condition Monitoring MD 2033 Computational Fluid Dynamics MD 2034 Composite Materials MD 2035 Soft Computing	3	0	0	3	yes		20
MD204	Design with advanced Materials	4	0	0	3	Program Elective–IV MD 204	MD 2041 Experimental Techniques and data analysis MD 2042 Design with advanced Materials MD 2043 Mechatronics MD 2044 Tribology Experimental modal analysis Computational mathematics lab	3	0	0	3	yes		40
Elective–	MD 2051 Tribology MD 2052 Signal Analysis and Condition Monitoring	4	0	0	3	MD 205	Machine Dynamics Lab	0	0	4	2		YES	

III MD 205	MD 2053	Computational Fluid Dynamics															
	MD 2054	Design Synthesis															
Elective– IV MD 206	MD 2061	Pressure Vessel Design	4	0	0	3	MD 206	Design Practice Lab-II	0	0	4	2	yes	YES	
	MD 2062	Mechanics of Composite Materials													
	MD 2063	Mechatronics													
	MD 2064	Theory of Plasticity													
MD207	Design Practice Lab		0	0	3	2	MD 207	Value Education	2	0	0	0	yes		
							MD 208	Mini Project	0	0	4	2			
						20		**TOTAL**				18	5	4	1

Program Code: M.Tech(1D)**15** **Program Name:M.Tech –MACHINE DESIGN** **Year : II** **Semester: III**

R19						R20							Remarks		
Course code	**Course name**	**L**	**T**	**P**	**C**	**Course code**	**Course name**	**L**	**T**	**P**	**C**		**New Course? (R19)**	**Deleted Course? (R16)**	**Content Revision %**
1	Seminar - I	0	0	3	2	Program Elective– V MD301	MD 3011 Industrial Robotics MD 3012 Advanced Optimization Techniques MD 3013 Additive Manufacturing MD 3014 Mechanics of Composite Materials MD 3015 Vehicle Dynamics	3	0	0	3		YES(2)	YES	
2	comprehensive viva voce				2	Open Elective MD 302	MD 3021 Industrial Robotics MD 3022 Operations Research	3	0	0	3			YES	
3	Project Work - Part I				16	MD 303	Dissertation phase –I	0	0	20	10				
TOTAL					20		**TOTAL**				16		2	2	

Program Code: M.Tech(1D)15 **Program Name:M.Tech – MACHINE DESIGN** **Year : II** **Semester: IV**

R19						R20						Remarks		
Course code	**Course name**	**L**	**T**	**P**	**C**	**Course code**	**Course name**	**L**	**T**	**P**	**C**	**New Course? (R19)**	**Deleted Course? (R16)**	**Content Revision %**
1	Seminar -II	**0**	**0**	**3**	2	1	Dissertation phase – II	0	0	32	16		YES	
2	Project Work- Part II				18									
TOTAL					20	**TOTAL**					16		1	