ACADEMIC REGULATIONS & COURSE STRUCTURE

For

ADVANCED MANUFACTURING AND MECHANICAL SYSTEM DESIGN

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Production Automation & CIM	4	--	3
2	Interactive Computer Graphics & Design	4	--	3
3	Optimization Techniques & Applications	4		3
4	Advances in CNC Technologies	4	--	3
5	**Elective I** 1. Industrial Robotics 2. Mechanics of Composites 3. Total Quality Management	4	--	3
6	**Elective II** 1. Advanced CAD 2. Mechatronics 3. Quality Engg.in	4	--	3
7	Advanced CAD/CAM Lab	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Modeling & Simulation of Manufacturing Systems	4	--	3
2	Precision Engineering	4	--	3
3	Intelligent Manufacturing Systems	4	--	3
4	Production and Operations Management	4	--	3
5	**Elective III** 1. Finite Element Methods 2. Control Systems 3. Design and Manufacturing of MEMS and Microsystems	4	--	3
6	**Elective IV** 1. Product Design 2. Materials Technology 3. Flexible Manufacturing Systems	4	--	3
7	Manufacturing Simulation and Precision Engg. Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

ADVANCED MANUFACTURING SYSTEMS

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Automation in Manufacturing	4	--	3
2	Advances in CNC Technologies	4	--	3
3	Special Manufacturing Processes	4		3
4	Design for Manufacturing and Assembly	4	--	3
5	**Elective I** 1. Industrial Robotics 2. Product Design 3. Total Quality Management	4	--	3
6	**Elective II** 1. Advanced CAD 2. Mechatronics 3. Precision Engineering	4	--	3
7	Advance CAD/CAM Lab	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Modeling and Simulation of Manufacturing Systems	4	--	3
2	Quality Engineering in Manufacturing	4	--	3
3	Intelligent Manufacturing Systems	4	--	3
4	Optimization and Reliability	4	--	3
5	**Elective III** 1. Finite Element Methods 2. Concurrent Engineering 3. Design and Manufacturing of MEMS and Microsystems	4	--	3
6	**Elective IV** 1. Production and Operations Management 2. Materials Technology 3. Computational Fluid Dynamics	4	--	3
7	Manufacturing Simulation and Precision Engg. Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

COMPUTER AIDED ANALYSIS & DESIGN

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	Credits
1	Computational Methods in Engineering	4	-	3
2	Advanced Mechanics of Solids	4	-	3
3	Advanced Mechanisms	4	-	3
4	Advanced Finite Element Analysis	4	-	3
5	**Elective – I** 1. Mechanical Vibrations 2. Product Design 3. Geometric Modelling	4	-	3
6	**Elective – II** 1. Non Destructive Evaluation 2. Material Technology 3. Nano Technology	4	-	3
7	Machine Dynamics Lab		3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Optimization and Reliability	4	0	3
2	Experimental Stress Analysis	4	0	3
3	Signal Analysis and Condition Monitoring	4	0	3
4	Mechanics of Composite Materials	4	0	3
5	**Elective – III** 1. Fracture Mechanics 2. Computational Fluid Dynamics 3. Mechatronics	4	0	3
6	**Elective - IV** 1. Tribology 2. Design Synthesis 3. Theory of Plasticity	4	0	3
7	Design Practice Lab	0	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

COMPUTER AIDED DESIGN & MANUFACTURING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Industrial Robotics	4	--	3
2	Computer Aided Manufacturing	4	--	3
3	Special Manufacturing Processes	4		3
4	Geometric Modeling	4	--	3
5	**Elective I** 1. Computational Methods in Engineering 2. Mechanical Vibrations 3. Nano Technology 4. Total Quality Management	4	--	3
6	**Elective II** 1. Design for Manufacturing & Assembly 2. Mechatronics 3. Computer Aided Process Planning 4. Precision Engineering	4	--	3
7	Advanced CAD Lab	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Modeling & Simulation of Manufacturing Systems	4	--	3
2	Optimization and Reliability	4	--	3
3	Computer Graphics	4	--	3
4	Finite Element Methods	4	--	3
	Elective III 1. Quality Engineering in Manufacturing 2. Fracture Mechanics 3. Concurrent Engineering 4. Design and Manufacturing of MEMS and Microsystems	4	--	3
	Elective IV 1. Mechanics and Manufacturing Methods of Composites 2. Materials Technology 3. Intelligent Manufacturing Systems 4. Signal Analysis and Condition Monitoring	4	--	3
	Modeling & Analysis of Manufacturing Processes Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

CAD/CAM

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Industrial Robotics	4	--	3
2	Computer Aided Manufacturing	4	--	3
3	Special Manufacturing Processes	4		3
4	Geometric Modeling	4	--	3
5	**Elective I** 1. Computational Methods in Engineering 2. Mechanical Vibrations 3. Nano Technology	4	--	3
6	**Elective II** 1. Design for Manufacturing & Assembly 2. Mechatronics 3. Computer Aided Process Planning	4	--	3
7	Advanced CAD Lab	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Modeling & Simulation of Manufacturing Systems	4	--	3
2	Optimization and Reliability	4	--	3
3	Computer Graphics	4	--	3
4	Finite Element Methods	4	--	3
5	Elective III 1. Quality Engineering in Manufacturing 2. Fracture Mechanics 3. Concurrent Engineering	4	--	3
6	Elective IV 1. Mechanics and Manufacturing Methods of Composites 2. Materials Technology 3. Intelligent Manufacturing Systems			
7	Modeling and Analysis of Manufacturing Processes Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

MACHINE DESIGN

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Computational Methods in Engineering	4	--	3
2	Advanced Mechanics of Solids	4	--	3
3	Advanced Mechanisms	4	--	3
4	Mechanical Vibrations	4	--	3
5	**Elective – I** 1. Design of Automobile Systems 2. Product Design 3. Geometric Modeling 4. Non Destructive Evaluation	4	--	3
6	**Elective – II** 1. Fracture Mechanics 2. Gear Engineering 3. Design for Manufacturing & Assembly 4. Continuum Mechanics	4	--	3
7	Machine Dynamics Lab	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Optimization and Reliability	4	--	3
2	Experimental Stress Analysis	4	--	3
3	Finite Element Method	4	--	3
4	Design with advanced Materials	4	--	3
5	Elective – III 1. Tribology 2. Signal Analysis and Condition Monitoring 3. Computational Fluid Dynamics 4. Design Synthesis	4	--	3
6	Elective-IV 1. Pressure Vessel Design 2. Mechanics of Composite Materials 3. Mechatronics 4. Theory of Plasticity	4	--	3
7	Design Practice Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

MECHANICAL ENGG. DESIGN

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Computational Methods in Engineering	4	--	3
2	Advanced Mechanics of Solids	4	--	3
3	Advanced Mechanisms	4	--	3
4	Mechanical Vibrations	4	--	3
5	**Elective – I** 1. Design of Automobile Systems 2. Product Design 3. Geometric Modelling 4. Non Destructive Evaluation	4	--	3
6	**Elective – II** 1. Fracture Mechanics 2. Gear Engineering 3. Design for Manufacturing & Assembly 4. Continuum Mechanics	4	--	3
7	Machine Dynamics Laboratory	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Optimization and Reliability	4	--	3
2	Experimental Stress Analysis	4	--	3
3	Finite Element Method	4	--	3
4	Design with advanced Materials	4	--	3
5	Elective - III 1. Tribology 2. Signal Analysis and Condition Monitoring 3. Computational Fluid Dynamics 4. Design Synthesis	4	--	3
6	Elective-IV 1. Pressure Vessel Design 2. Mechanics of Composite Materials 3. Mechatronics 4. Theory of Plasticity	4	--	3
7	Design Practice Laboratory	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

THERMAL ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Optimization Techniques & Applications	4	--	3
2	Advanced Thermodynamics	4	--	3
3	Advanced Heat & Mass Transfer	4	--	3
4	Advanced Fluid Mechanics	4	--	3
5	**Elective – I** 1. Gas Dynamics 2. Refrigeration & Cryogenics 3. Renewable Energy Technologies 4. Theory and Technologies of Fuel Cells	4	--	3
6	**Elective – II** 1. Advanced IC Engines 2. Solar Energy Technology 3. Turbo Machines 4. Alternative Fuels Technologies	4	--	3
7	Thermal Engineering Lab	--	3	2
Total Credits				**20**

II SEMESTER

S.No.	Subject	L	P	C
1	Fuels, Combustion & Environment	4	--	3
2	Energy Management	4	--	3
3	Finite Element Method	4	--	3
4	Computational Fluid Dynamics	4	--	3
5	**Elective– III** 1. Materials Technology 2. Convective Heat Transfer 3. Thermal and Nuclear Power Plants 4. Advanced Automobile Engg.	4	--	3
6	**Elective– IV** 1. Thermal Measurements and Process Controls 2. Cryogenic Engineering 3. Jet Propulsion and Rocketry 4. Equipment Design for Thermal Systems	4	--	3
7	Thermal Systems Design Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

THERMAL SCIENCES AND ENERGY SYSTEMS

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No	Subject	L	P	C
1	Computational Methods in Engineering	4	0	3
2	Advanced Thermodynamics	4	0	3
3	Advanced Fluid Mechanics	4	0	3
4	Advanced Heat Transfer	4	0	3
5	**Elective – I** 1. Computational Fluid Dynamics 2. Refrigeration & Cryogenics 3. Thermal & Nuclear Power Plants 4. Gas Turbines & Jet Propulsion	4	0	3
6	**Elective –II** 1. Design of Heat Transfer Equipment 2. Combustion in IC engines 3. Nano Technology 4. Advanced Finite Element Methods	4	0	3
7	Simulation Laboratory	0	3	2
Total Credits				**20**

II Semester

S.No	Subject	L	P	C
1	Solar Thermal and Photovoltaic Systems	4	--	3
2	Hydrogen and Fuel Cells	4	--	3
3	Biomass, Wind and Ocean Energy	4	--	3
4	Energy Audit and Conservation	4	--	3
5	Elective – III 1. Energy Systems Modelling & Analysis 2. Energy Economics and Planning 3. Optimization Techniques & Applications	4	--	3
6	Elective – IV 1. Instrumentation & Controls 2. Waste Heat Recovery Systems 3. Green Energy Technologies	4	--	3
7	Thermal Systems Laboratory	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**