Department Of Production Engineering

Course Outcomes

Third Year – 2012 Course			
Course Code	Course Name	Course Outcomes	
Semester-I			
311081	Metrology & Mechanical Measurements	CO1	Describe, work and measure of various linear and angular measuring devices.
		CO2	Design limit gauges & work with special measuring devices.
		CO3	Able to distinguish various comparators & use of profile projector.
		CO4	Understand basic concepts of mechanical measurement
		CO5	Learn various pressure/temperature/flow measurement devices and their applications
		CO6	Learn basic methods of force measurements
311082	Industrial Engineering & Quality Assurance	CO1	Understand the basics concepts, principles, types and function of management.
		CO2	Understand motivation and leadership theories and comparison for same.
		CO3	Application of entrepreneurship skills for setting up of new project.
		CO4	Understand basic concepts of industrial engineering and application of productivity improvement techniques.
		CO5	Apply and evaluate tools and techniques used in method study.
		CO6	Identify, Apply and evaluate tools and techniques used in Work Measurement.

311083	Material Forming	CO1	Classify and compare the forming processes and apply the yield criteria.
		CO2	Describe and analyze forging process
		CO3	Describe and analyze wire drawing/rod/tube drawing process
		CO4	Describe and analyze rolling process
		CO5	Describe and analyze extrusion process
		CO6	Classify and compare special forming processes
311084	Kinematics of Manufacturing Machines	CO1	To impart students with the knowledge about kinematic synthesis, analysis of mechanisms.
		CO2	To enable students to apply fundamental of kinematics to machines this includes kinematics of gears.
		CO3	To analyze and synthesis of gear trains.
		CO4	Acquiring knowledge of how to design cams and follower and to facilitate students to understand the function of flywheels.
		CO5	To understand concept of balancing of rotating and reciprocating masses
		CO6	To give awareness to students on the phenomenon of vibration and its effects
311085	Cutting Tool Engineering	CO1	Describe and Comprehend the fundamentals of metal cutting.
		CO2	Describe and understand cutting tool materials, cutting force measurement and non-conventional tool geometry.
		CO3	Understand and Evaluate tool life and cutting speed for minimum cost and maximum production rate.
		CO4	Design different types of single point and multi-point cutting tools.
		CO5	Describe and explain different locating, clamping and guiding principles in jigs and fixtures
		CO6	Design Jigs and fixtures for various machining processes

311086	Production Practice/Employable Skill Development Lab	CO1	Understand and Operate various machines like lathe, milling etc.
		CO2	Perform plain turning, taper turning etc. on lathe machine
		CO3	Perform gear cutting operation on milling machine
		CO4	Understand the all gear drive, back gear mechanism of lathe
		CO5	Learn indexing head and its use in gear cutting
		CO6	Learn CNC machines operating and programming and perform plain turning, taper turning etc. operations on it.
311087	Metrology & Mechanical Measurement	CO1	Describe, work and measure of various linear and angular measuring devices.
		CO2	Design limit gauges & work with special measuring devices.
		CO3	Able to distinguish various comparators & use of profile projector.
		CO4	Understand basic concepts of mechanical measurement
		CO5	Learn various pressure/temperature/flow measurement devices and their applications
		CO6	Learn basic methods of force measurements
311088	Material Forming Lab	CO1	Classify and compare the forming processes and apply the yield criteria.
		CO2	Describe and analyze forging process
		CO3	Describe and analyze wire drawing/rod/tube drawing process
		CO4	Describe and analyze rolling process
		CO5	Describe and analyze extrusion process
		CO6	Classify and compare special forming processes

311089	Kinematics of Manufacturing Machine Lab	CO1	Learn computer program for analysis and animation of any mechanism and test it.
		CO2	Learn to draw conjugate profile for any general shape of gear tooth & Determine of holding torque in epicyclic gear train.
		CO3	Learn To draw a cam profile for specific follower motion
		CO4	Understand construction & working flywheel.
		CO5	Learn how to balance of mass.
		CO6	Understand phenomena of free undamped and free damped vibration of single degree of freedom system
311090	Skill Development/ Cutting Tool Engineering Lab	CO1	Describe and Comprehend the fundamentals of metal cutting.
		CO2	Describe and understand cutting tool materials, cutting force measurement and non-conventional tool geometry.
		CO3	Understand and Evaluate tool life and cutting speed for minimum cost and maximum production rate.
		CO4	Design different types of single point and multi-point cutting tools.
		CO5	Describe and explain different locating, clamping and guiding principles in jigs and fixtures
		CO6	Design Jigs and fixtures for various machining processes

Semester-II				
311091	Production Management	CO1	Demonstrate awareness and an appreciation of the importance and strategies for the Production and operations management to the sustainability of an enterprise.	
		CO2	Demonstrate a basic understanding of Production Systems and Production Planning and Control.	
		CO3	Demonstrate an awareness of the importance of facility layouts and implement in their In-Plant training project work.	
		CO4	Demonstrate an understanding of the principles of just-in-time systems. Explain the importance of forecasting and demonstrate the ability to apply some mathematical forecasting techniques.	
		CO5	Demonstrate an understanding of the concept of operations scheduling.	
		CO6	Demonstrate an understanding of the problems involved in inventory management.	
311092	Numerical Techniques and Database	CO1	Design the database using ER model & work with relational algebra & relation calculus.	
		CO2	manage & control concurrent transactions using query process optimization & normalization.	
		CO3	Apply IT tools for production management.	
		CO4	Apply numerical methods: Bisection method, Newton Raphson Method, Guass elimination method, Gauss seidel method to Solve production engineering problems	
		CO5	Apply numerical methods: Curve Fitting, Interpolation, Lagrange's formula, Newton's forward difference method to Solve production engineering problems	
		CO6	Apply numerical methods: Runge-Kutta Method, Finite difference method, Numerical finite Integration to Solve production engineering problems	

311093	Machine Tool Engineering	CO1	Classify and Describe the various automates
		CO2	Compare and Contract NC/CNC/DNC
		CO3	Classify and Describe material handling equipment and also selection criteria
		CO4	Classify, compare and explain various non conventional machining
		CO5	Explain processes for manufacturing of gear
		CO6	Explain meaning, consideration , types and significance as applicable
311094	Tool Design	CO1	Describe press working operations and design and construct blanking die.
		CO2	Apply knowledge to design and construct progressive, compound and combination die.
		CO3	Apply knowledge to design and construct drawing die.
		CO4	Apply knowledge to design and construct forging die.
		CO5	Describe and compare various plastic processing processes.
		CO6	Apply knowledge to design and construct various systems of injection mould.
311095	Process Planning and Industrial Statistics	CO1	Understand the concept of Process Engineering and Product Engineering to Carry out Part print analysis of industrial component drawing.
		CO2	Understand the concept of Dimension and Tolerance. To apply it for better communication of part drawing.
		CO3	Analyze and apply the concept about controlling of work piece during manufacturing.
		CO4	Understand the concept of manufacturing and select the proper equipments and tooling for part manufacturing.
		CO5	Understand the basic concept of Statistics, Probability, analyze with techniques like Hypothesis test and Regression model.
		CO6	Understand and Analyze importance of design of experiments and analyze data. By different experimental strategies.

311096	Seminar and Technical Communication Lab	CO1	Able to be familiar with basic technical writing concepts and terms, such as audience analysis, jargon, format, visuals, and presentation.
		CO2	Able to improve skills to read, understand, and interpret material on technology
		CO3	Improve communication and writing skills
		CO4	Ability to evaluate information and use and apply relevant theories
		CO5	Demonstrate problem-solving skills and apply theoretical knowledge
		CO6	To identify promising new directions of various cutting edge technologies
311097	Numerical Techniques and Database Lab	CO1	Design the database using ER model & work with relational algebra & relation calculus.
		CO2	manage & control concurrent transactions using query process optimization & normalization.
		CO3	Apply IT tools for production management.
		CO4	Apply numerical methods: Bisection method, Newton Raphson Method, Guass elimination method, Gauss seidel method to Solve production engineering problems
		CO5	Apply numerical methods: Curve Fitting, Interpolation, Lagrange's formula, Newton's forward difference method to Solve production engineering problems
		CO6	Apply numerical methods: Runge-Kutta Method, Finite difference method, Numerical finite Integration to Solve production engineering problems

311098	Machine Tool Engineering lab	CO1	Classify and Describe the various automates
		CO2	Compare and Contract NC/CNC/DNC
		CO3	Classify and Describe material handling equipment and also selection criteria
		CO4	Classify, compare and explain various non conventional machining
		CO5	Explain processes for manufacturing of gear
		CO6	Explain meaning, consideration , types and significance as applicable
311099	Process Planning and Industrial Statistics Lab	CO1	By Understanding the concept of Process Engineering and Product Engineering to take industrial components for Part print analysis from industrial component drawing.
		CO2	Apply the concept of Dimension and Tolerance to the part drawing.
		CO3	Analyze and apply the concept about controlling of work piece during manufacturing components.
		CO4	Apply the concepts and select the concept of manufacturing and select the proper equipments and tooling for industrial part.
		CO5	Use the basic concept of Statistics, Probability, for proper analysis of ant components use in Industry.
		CO6	Apply the concepts design of experiments and analyze data. By different experimental strategies.
311100	Tool Design Lab	CO1	Describe press working operations and design and construct blanking die.
		CO2	Apply knowledge to design and construct progressive, compound and combination die.
		CO3	Apply knowledge to design and construct drawing die.
		CO4	Apply knowledge to design and construct forging die.
		CO5	Describe and compare various plastic processing processes.
		CO6	Apply knowledge to design and construct various systems of injection mould.