Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 403101	**Description:** Engineering Workshop

Full Course Description: Materials and their classifications, measuring devices, fitting, forming, carpentry, casting, cutting welding, machining and electrical works, practical exercises and general safety.

Couse ID: 403221	**Description:** Manufacturing Processes (1)

Full Course Description:

Mechanical behaviour and forming of metals different types of mechanical behaviour and main factors affecting it, yield criteria, representative stress and representative strain, work due to plastic deformation, classification of forming processes with respect to temperature and strain rate, bulk deformation processes (forging, extrusion, rolling), rod and wire drawing sheet forming processes (blanking and piercing, deep drawing and bending, introduction to high energy rate forming processes).

Couse ID: 403222	**Description:** Manufacturing Procsses (2)

Full Course Description: Material removal processes, cutting tools, fluids mechanics formation and types of chips merchants theory for determining different forces in orthogonal cutting and power consumption turning, milling drilling shaping and grinding.

Couse ID: 403223	**Description:** Manufacturing Processes Lab.

Full Course Description: Experiments concerning basic material processing, operations: casting, pattern design in sand casting, welding, effect of welding variables in spot welding and arc welding, tensile test for welded specimens, cutting: tool geometry, calculations of cutting forces in turning and drilling processes, metal forming: forging process: open-die, impression-die and closed-die forging, drop hammer process, extrusion process, deep drawing process, blanking process.

Couse ID: 403241	**Description:** Engineering Statistics (1)

Full Course Description: Probability concepts, discrete and continuous random variables, joint probability distribution covariance and correlations of random variables sampling and empirical distributions.

Couse ID: 403251	**Description:** Properties of Materials

Full Course Description: Bonding forces and energies, classification of engineering materials, crystals graphly, imperfection and strengthening mechanisms diffusion, metallography, thermal equilibrium diagram & relative cost of materials.

Couse ID: 403252	**Description:** Properties of Materials Lab.

Full Course Description: Tensile and hardness testing of different materials, impact testing, non-destructive testing microscopic testing, thermal conductivity and electrical resistively of materials.

Couse ID: 403253	**Description:** Properties of Materials

Full Course Description: a

Couse ID: 403311	**Description:** Human Factors Engineering

Full Course Description: Physical work, physiological capacity and luminations, improving worker efficiency, anthropemetry mental work and information & input processing and decision making, design of display and control, study of the physical and social environment of the work place.

Couse ID: 403313	**Description:** Human Factors Engineering Lab.

Full Course Description: Topics covered include experiments on the maximum voluntary contraction (MVC), endurance, the eye of vision testers, coordination of measurement of dextircty, maximum voluntary lefting capacity (MVLC), hand tool design, response time.

Couse ID: 403321	**Description:** Manufacturing Processes (3)

Full Course Description: Casting: melting and solidification, sand and shell casting, defects in casting, joining of metals adhesives mechanical joint; welding, classification of solid welds, liquid welds defects and inspection of weld.

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 403322	**Description:** Metrology & Measurements

Full Course Description: Errors, linear, angular and contour measurements, sine bar, rotating table fits and tolerances, interchangability, ISO shaft and hole systems of fits and tolerances, thread and gear metrology, surface texture, out of roundness and flatness measurement, sensing devices, transducers, smart sensors and transmitters, force, torque and train measurements, design of load cells, temperature, pressure and flow measurements.

Couse ID: 403323	**Description:** Metrology Lab.

Full Course Description: Experiments concerning the metrology instruments: linear measurements: callipers, height, depth and dial gauges, micrometers and block gauges, angular measurements: sinebar, universal bevel protector, comparison test, snap micrometer, optical comparator, surface texture, roundness test. the coordinate measurement system, alignment test with auto-collimator, temperature, force and displacement measurements.

Couse ID: 403331	**Description:** Cost Analysis

Full Course Description: Concepts and theories in accounting and cost analysis, financial statements, product cost, accounting models, systems and methods.

Couse ID: 403332	**Description:** Production Planning & Control

Full Course Description: Strategic issues in designing production planning and control systems, aggregate planning, master production scheduling, material requirements, planning capacity, planning and scheduling.

Couse ID: 403333	**Description:** Organization Design & Control

Full Course Description: Strategic planning, organization structures, philosophies and models for organizing dynamics of organization, change and organizational behaviour and culture.

Couse ID: 403342	**Description:** Quality Control

Full Course Description: Concepts and statistical methods employed in the assurance of product conformance to specifications, control charts for attributes and variables, proven capability analysis, acceptance of sampling plans, international standards and continuous quality improvement.

Couse ID: 403343	**Description:** Engineering Statistics (2)

Full Course Description: Point and interval estimation, test of hypotheses, goodness of fit test, contingency tables, design and analysis of single factor experiments, simple linear regression and factorial design.

Couse ID: 403344	**Description:** Statistical Analysis

Full Course Description: a

Couse ID: 403351	**Description:** Engineering Metallurgy

Full Course Description: Fe-C thermal equilibrium diagram, carbon steels plain carbon steels, heat treatment of steels, alloy steels, cast-iron, copper and aluminum alloys, experiments on metallographic examination, microstructure of carbon, alloy and stainless steel, heat treatment of steels: hardening, annealing and normalizing, hardenability, testing of steels.

Couse ID: 403361	**Description:** Industrial Automation

Full Course Description: a

Couse ID: 403362	**Description:** Industrial Automation Lab.

Full Course Description: a

Couse ID: 403411	**Description:** Facilities Planning

Full Course Description: Strategic facilities planning, plant location, product, process and schedule design, flow, space and activity relationship, personnel requirements, materials handling, computer-aided-layout, warehouse operations.

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 403412	**Description:** Time Analysis & Forecasting
Full Course Description: Steps of forecasting, regression analysis models, exponential smoothing and moving average technique, control therapy concepts in forecasting, on-line and off- line forecasting, technological forecasting and Delphi technique.	
Couse ID: 403413	**Description:** Simulation
Full Course Description: Probabilistic models, manual simulation, input modelling, simulation modelling, verification and validation of simulation models, output analysis tools for reducing the variance of simulation outputs, applications and case studies.	
Couse ID: 403414	**Description:** Safety Engineering
Full Course Description: Hazards in workplace, analytical tools of hazards and accidents, probabilistic concepts, safety and health systems, national regulations and requirements, hazard control, safety and health management.	
Couse ID: 403421	**Description:** Manufacturing Systems
Full Course Description: Mathematical models in manufacturing, models for output, productivity measures, design of flexible manufacturing systems, design of manufacturing cells and assembly system.	
Couse ID: 403422	**Description:** Die Design & Manufacturing
Full Course Description: Classification of forming dies, main parameters to be considered in die design, sheet metal forming dies (blanking, deep drawing and bending dies), materials used in dies, manufacturing of dies and heat treatment.	
Couse ID: 403423	**Description:** Theory of Metal Forming & Cutting
Full Course Description: Three dimensional stress and strain systems, Mohr's circle of three-dimensional stress and strain, Levy-Mises relations, slab analysis and upper bound, application to plain strain forging, rod drawing, extrusion and deep drawing, Merchant's theory and application to orthogonal cutting.	
Couse ID: 403425	**Description:** Mechanical Behaviour of Engineering Materials
Full Course Description: Stress-strain behaviour in tensile and compression tests. The materials behaviour under creep, fatigue, corrosion, wear.	
Couse ID: 403432	**Description:** Quality Management
Full Course Description: Leadership, customer focus, employee involvement, suppliers partnership, performance measures, tools of TQM, quality assurance systems.	
Couse ID: 403433	**Description:** Decision Analysis
Full Course Description: Decision under uncertainty, decision under risk, different criteria for decision making, Bayesian decision models, group decision making, computer tools in decision making, sensitivity analysis.	
Couse ID: 403434	**Description:** Total Quality Management
Full Course Description: a	
Couse ID: 403435	**Description:** Information Systems
Full Course Description: Concepts of information systems, analytical tools, organization concepts, computer hardware and software, systems design and analysis, computer and communication systems.	
Couse ID: 403441	**Description:** Operations Research (2)
Full Course Description: Probabilistic and stochastic models used in industrial engineering systems, mark or processes, stochastic processes, queuing and it's applications, discrete and continues processes.	

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 403451	**Description:** Industrial Furnaces
Full Course Description: Melting furnaces, induction furnaces, atmosphere control in melting furnaces, heat treatment furnace part, vacuum energy, efficient furnace and operation, energy saving in furnaces.	
Couse ID: 403453	**Description:** Polymers & Plastic Engineering
Full Course Description: Raw plastic materials, types of polymer, polymerization techniques, polymer properties, engineering analysis of polymer processing, techniques (extrusion injections and blow molding), film blowing, thermoforming, concepts of mold, die and product design.	
Couse ID: 403461	**Description:** Industrial Automation
Full Course Description: Introduction to the various technologies used in manufacturing automation, Design for Automation, Analysis of production systems including automated flow times and balancing. Building blocks of automation, Numerical Control and CAD/CAM and CNC programming, Robotics and automated material handling systems. Programmable Logic Controllers (PLC), Laboratory applications.	
Couse ID: 403462	**Description:** Computer Aided Design (CAD)
Full Course Description: a	
Couse ID: 403463	**Description:** Industrial Engineering Design
Full Course Description: a	
Couse ID: 2403223	**Description:** Manufacturing Processes Lab.
Full Course Description: a	
Couse ID: 2403241	**Description:** Engineering Statistics (I)
Full Course Description: a	
Couse ID: 2403252	**Description:** Properties of Materials Lab.
Full Course Description: a	
Couse ID: 2403311	**Description:** Human Factors Engineering
Full Course Description: a	
Couse ID: 2403313	**Description:** Human Factors Engineering Lab
Full Course Description: a	
Couse ID: 2403322	**Description:** Metrology
Full Course Description: a	
Couse ID: 2403323	**Description:** Metrology Lab
Full Course Description: a	
Couse ID: 2403331	**Description:** Cost Analysis
Full Course Description: a	
Couse ID: 2403332	**Description:** Production Planning and Control
Full Course Description: a	
Couse ID: 2403341	**Description:** Operations Research (1)
Full Course Description: a	
Couse ID: 2403342	**Description:** Quality Control
Full Course Description: a	

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 2403351	**Description:** Engineering Metallurgy
Full Course Description: a	
Couse ID: 2403363	**Description:** Product Development
Full Course Description: a	
Couse ID: 2403411	**Description:** Facilities Planning
Full Course Description: a	
Couse ID: 2403413	**Description:** Simulation
Full Course Description: a	
Couse ID: 2403416	**Description:** Time and Motion Study
Full Course Description: a	
Couse ID: 2403431	**Description:** Project Management
Full Course Description: a	
Couse ID: 2403433	**Description:** Decision Analysis
Full Course Description: a	
Couse ID: 2403435	**Description:** Information Systems
Full Course Description: a	
Couse ID: 2403441	**Description:** Operations Research (2)
Full Course Description: a	
Couse ID: 3403499	**Description:** Graduation Project (2)
Full Course Description: a	
Couse ID: 4403221	**Description:** Manufacturing Processes(1)
Full Course Description:	
Couse ID: 4403241	**Description:** Engineering Statistics (1)
Full Course Description:	
Couse ID: 4403302	**Description:** Engineering Economy
Full Course Description:	
Couse ID: 4403311	**Description:** Human Factors Engineering
Full Course Description:	
Couse ID: 4403312	**Description:** Product Development
Full Course Description:	
Couse ID: 4403322	**Description:** Metrology & Measurements
Full Course Description:	
Couse ID: 4403415	**Description:** CAD / CAM
Full Course Description:	
Couse ID: 4403416	**Description:** Time and Motion Study
Full Course Description:	
Couse ID: 4403433	**Description:** Decision Analysis
Full Course Description:	

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 4403495	**Description:** Special Topics
Full Course Description:	
Couse ID: 110403242	**Description:** Statistics and Probabilities
Full Course Description: a	
Couse ID: 110403302	**Description:** Engineering Economy
Full Course Description: a	
Couse ID: 110403324	**Description:** Manufacturing Processes (1)
Full Course Description: a	
Couse ID: 110403325	**Description:** Manufacturing Processes Lab.
Full Course Description: a	
Couse ID: 110403331	**Description:** Cost Analysis
Full Course Description: a	
Couse ID: 110403341	**Description:** Opreation Research (1)
Full Course Description: a	
Couse ID: 110403363	**Description:** Engineering Materials and Manufacturing Technology
Full Course Description: a	
Couse ID: 110403400	**Description:** Practical Training
Full Course Description: a	
Couse ID: 110403426	**Description:** Manufacturing Processes (2)
Full Course Description: a	
Couse ID: 110403429	**Description:** Metrology Lab .
Full Course Description: a	
Couse ID: 110403465	**Description:** Industrial Automation Lab.
Full Course Description: a	
Couse ID: 110403521	**Description:** Industrial Engineering Design
Full Course Description: a	
Couse ID: 110403531	**Description:** Human Factors Engineering
Full Course Description: a	
Couse ID: 110403532	**Description:** Human Factors Engineering Lab.
Full Course Description: a	
Couse ID: 110403533	**Description:** Safety Engineering
Full Course Description: a	
Couse ID: 110403534	**Description:** Total Quality Management
Full Course Description: a	
Couse ID: 110403535	**Description:** Product Develpoment
Full Course Description: a	

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 110403537	**Description:** Project Management
Full Course Description: a	
Couse ID: 110403541	**Description:** Simulation
Full Course Description: a	
Couse ID: 110403542	**Description:** Decision Analysis
Full Course Description: a	
Couse ID: 110403543	**Description:** Opreation Research (2)
Full Course Description: a	
Couse ID: 110403572	**Description:** Graduation Project (2)
Full Course Description: a	
Couse ID: 110403581	**Description:** Special Topics in Industrial Engineering
Full Course Description: a	
Couse ID: 150403400	**Description:** Practical Training
Full Course Description: A	
Couse ID: 1704031436	**Description:** Production Planning & Control
Full Course Description: b	
Couse ID: 1704031511	**Description:** Facilities Planning
Full Course Description: The course introduces students to the role of facility design in improving performance. Additional topic includes: material flow analysis, personal requirements and material handling, generating and evaluation of layout and location alternatives, and organizing warehouse operations.	
Couse ID: 1704031561	**Description:** CAD/CAM
Full Course Description: J	
Couse ID: 1704031571	**Description:** Graduation Project (1)
Full Course Description: m	
Couse ID: 2004031400	**Description:** Practical Training
Full Course Description:	
Couse ID: 2104031212	**Description:** Mechanics of materials
Full Course Description:	
Couse ID: 2104031302	**Description:** Engineering Economy
Full Course Description:	
Couse ID: 2104031344	**Description:** Applied Statistics Engineering
Full Course Description:	
Couse ID: 2104031347	**Description:** Engineering Design of experiments
Full Course Description:	
Couse ID: 2104031352	**Description:** Material Science
Full Course Description:	
Couse ID: 2104031353	**Description:** Material Science Lab
Full Course Description:	

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 2104031427	**Description:** Design Industrial Systems and machine elements
Full Course Description:	
Couse ID: 2104031428	**Description:** Meteorology
Full Course Description:	
Couse ID: 2104031431	**Description:** Supply chain management and logistic services
Full Course Description:	
Couse ID: 2104031442	**Description:** Quality control
Full Course Description:	
Couse ID: 2104031464	**Description:** Industrial automation and control
Full Course Description:	
Couse ID: 2104031509	**Description:** Statistics and Operations Research LAB
Full Course Description:	
Couse ID: 2104031536	**Description:** Work Measurement and Analysis
Full Course Description:	
Couse ID: 2104031538	**Description:** Work Measurement Lab
Full Course Description:	
Couse ID: 2104031541	**Description:** Simulation
Full Course Description:	
Couse ID: 2104031542	**Description:** Simulation Lab
Full Course Description:	
Couse ID: 2104031544	**Description:** Decision making analysis
Full Course Description:	
Couse ID: 2104031548	**Description:** Product Design and Development
Full Course Description:	
Couse ID: 2104031551	**Description:** Creativity and Leadership
Full Course Description:	
Couse ID: 2104031553	**Description:** Management information Systems
Full Course Description:	
Couse ID: 2104031554	**Description:** Nanotechnology and its Applications
Full Course Description:	
Couse ID: 2104031557	**Description:** Marketing Engineering
Full Course Description:	
Couse ID: 2104031558	**Description:** Maintenance Management
Full Course Description:	
Couse ID: 2104031559	**Description:** Strategic Planning
Full Course Description:	
Couse ID: 2104031560	**Description:** Procurement Engineering
Full Course Description:	

Courses Description

College: Engineering

Department: Industrial Engineering

Couse ID: 2104031561	**Description:** CAD/CAM
Full Course Description:	
Couse ID: 2104031562	**Description:** CAD/ CAM Lab
Full Course Description:	
Couse ID: 2104031565	**Description:** six sigma and Lean Manufacturing
Full Course Description:	
Couse ID: 2104031574	**Description:** Quality Management
Full Course Description:	
Couse ID: 2104031577	**Description:** Reliability Engineering
Full Course Description:	
Couse ID: 2104031582	**Description:** Industrial Engineering in Healthcare
Full Course Description:	
Couse ID: 2104031583	**Description:** Polymer Engineering
Full Course Description:	