



M.I.E.T. ENGINEERING COLLEGE
(AUTONOMOUS)

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

Accredited by NBA

Accredited with 'A+' grade by NAAC

(An ISO 9001:2015 Certified Institution)

(Recognized by UGC under section 2(f) & 12(B) of UGC Act, 1956)

TRICHY - PUDUKKOTTAI MAIN ROAD, TRICHY - 620 007



DEPARTMENT OF MECHANICAL ENGINEERING

List of COs for all courses Regulations

2017

and

CO-POs & PSOs Mapping for all courses Regulations 2017

LIST OF COs FOR ALL COURSES-REGULATIONS 2017

C101/CY8151 - ENGINEERING CHEMISTRY	
C101.1	Understand the main knowledge and processes for drinking water and the design for basic treatment processes.
C101.2	Relate basic knowledge of surface science and catalysis.
C101.3	Illustrate the phase transition of one component and two component systems and the types of alloys and their applications in industries.
C101.4	Determine the calorific values of fuels, perform flue gas analysis and combustion analysis.
C101.5	Analyze and identify alternative energy storage devices.
C101.6	Applying the knowledge to perform gas analysis & combustion analysis in engineering fields.
C102/GE8151-PROBLEMS SOLVING AND PYTHON PROGRAMMING	
C102.1	Demonstrate algorithm, flowchart for various programs.
C102.2	Do simple programs using python programming basics.
C102.3	Illustrate programs by using arrays and string functions.
C102.4	Develop simple programs using functions and pointers.
C102.5	Design mini projects with structures.
C102.6	Develop applications using python Programming Language.
C103/GE8152-ENGINEERING GRAPHICS	
C103.1	Construct engineering curves.
C103.2	Sketch all the views of engineering objects in free hand.
C103.3	Draw the projection of points, lines and planes.
C103.4	Draw the projection of solids in any orientation.
C103.5	Develop the section and lateral surfaces of sectioned solids
C103.6	Sketch the solids in perspective and isometric approaches.
C104/HS8151 - COMMUNICATIVE ENGLISH	
C104.1	Read different genres of text adopting various reading strategies.
C104.2	Develop the collaborative and social aspects of research and writing process.
C104.3	Use different types of structure of writing skills in various situations.
C104.4	Understand the basics of English skills in Communicative and Technical Writing.
C104.5	Analyse various types of technical issues and solve the problem.
C104.6	Apply language aptly in their professional career.
C105/MA8151 - ENGINEERING MATHEMATICS-I	
C105.1	Evaluate limit indeterminate forms, using L hospital rule.
C105.2	Calculate the maxima and minima value functions of two variables.
C105.3	Evaluate, Definite integrals using Reductions formula.
C105.4	Find the area of plain curves and volume of solid using double and triple integrals
C105.5	Have basic knowledge of differential equation in typical various engineering fields.
C105.6	Apply and solve physics and engineering problems.

C106/PY8151-ENGINEERING PHYSICS	
C106.1	Understand the importance of mechanics.
C106.2	Express their knowledge in electromagnetic waves.
C106.3	Demonstrate a strong foundational knowledge in oscillations, optics and lasers.
C106.4	Understand the importance of quantum physics.
C106.5	Comprehend and apply quantum mechanical principles towards the formation of energy bands.
C106.6	Understand the concept of gyroscope and non-linear oscillator.
C107/GE8161-PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	
C107.1	Write, test, and debug simple Python programs.
C107.2	Demonstrate algorithm, flowchart for various programs.
C107.3	Do simple programs using python programming basics.
C107.4	Illustrate programs by using arrays and string functions.
C107.5	Develop simple programs using functions and pointers.
C107.6	Design mini projects with structures.
C108/BS8161-PHYSICS AND CHEMISTRY LABORATORY	
C108.1	Analyze the physical principle involved in the various instruments; also relate the principle to new application.
C108.2	Perform various experiments in the areas of elasticity, optics, mechanics and thermal physics that will nurture the students in all branches of Engineering.
C108.3	Think innovatively and improve the creative skills that are essential for engineering.
C109/BE8253-BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING	
C109.1	Know about the functions of various electrical components and parameters measurement for electrical circuits.
C109.2	Design magnetic circuits and installation of various electrical circuit devices.
C109.3	Understand the basics of semiconducting materials and their applications in analog devices.
C109.4	Understand the working of various types of motors and transformers.
C109.5	Understand the fundamentals of communication engineering.
C109.6	Gain knowledge of working electrical components used in various instruments and devices.
C110/GE8291-ENVIRONMENTAL SCIENCE AND ENGINEERING	
C110.1	Understand the values, threats and conservation of biodiversity and classify various ecosystems.
C110.2	Identify and implement technological and eco solutions to environmental problems.
C110.3	Develop the knowledge on various natural resources, their causes and their effects.
C110.4	Understand various environmental acts and disaster management.
C110.5	Relate population, environment, and the role of IT in environment and human health.
C110.6	Analyze the impact of environment integrated themes and social issues.

C111/GE8292-ENGINEERING MECHANICS	
C111.1	Illustrate the vectorial and scalar representation of forces and moments.
C111.2	Analyze the rigid body in equilibrium
C111.3	Evaluate the properties of distributed forces
C111.4	Determine the friction and the effects by the laws of friction.
C111.5	Calculate dynamic forces exerted in rigid body.
C111.6	Understand the concept of statics of particles, equilibrium of rigid bodies, distributed forces, friction, dynamics of particles.
C112/HS8251-TECHNICAL ENGLISH	
C112.1	Acquire the skills in reading and listening of Technical English.
C112.2	Understand the basics of English skills in Technical Writing.
C112.3	Prepare resume, curriculum vitae and bio-data for the career development.
C112.4	Grasp the logical evolution of thought and content.
C112.5	Develop the collaborative and social aspects of research and writing process.
C112.6	Prepare job application, instructions, and recommendations confidently.
C113/MA8251- ENGINEERING MATHEMATICS II	
C113.1	Apply the vector concepts of vector calculus in engineering disciplines
C113.2	Apply the knowledge of mathematics in solving higher order differential equations with constant coefficients.
C113.3	To have the basic knowledge of differential equation in typical mechanical fields.
C113.4	Understand and apply the knowledge of Laplace transform in solving ordinary differential equation.
C113.5	Understand the standard techniques of complex variable theory and use them to solve core-engineering problems.
C113.6	Evaluate real integrals by applying concept of complex integration.
C114/PH8251-MATERIALS SCIENCE	
C114.1	Understand the various phase diagrams and their applications
C114.2	Explain the context of Fe-Fe ₃ C phase diagram, various microstructures and alloys
C114.3	Analyze the mechanical properties of materials and their measurement
C114.4	Understand magnetic, dielectric and superconducting properties of materials
C114.5	Understand the basics of ceramics, composites and nanomaterials.
C114.6	Selection of materials depends on particular applications.
C115/GE8261-ENGINEERING PRACTICES LABORATORY	
C115.1	Get exposure regarding Joining operations in engineering materials.
C115.2	Carry out the basic machining operations in engineering materials.
C115.3	Carry out basic home electrical works and appliances.
C115.4	Measure the electrical quantities.
C115.5	Understand basic electronic components.
C115.6	Integrate the components and gates using soldering practices.
C116/BE8261-BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING LABORATORY	
C116.1	Determine the speed characteristic of different electrical machines.
C116.2	Design simple circuits involving diodes and transistors.
C116.3	Use operational amplifiers.

C116.4	Design simple circuits involving diodes and transistors.
C201/EE8353-ELECTRICAL DRIVES AND CONTROLS	
C201.1	Select the rating and classes of duty of machines for particular application.
C201.2	Explain the mechanical and braking characteristics of dc and ac machines.
C201.3	Describe the starting methods of both dc and ac machines.
C201.4	Clarify conventional and solid-state speed control of dc drives.
C201.5	Enlighten the speed control of dc and ac drive by conventional and solid state methods.
C201.6	Select the rating and classes of duty of machines for particular application.
C202/ME8391-ENGINEERING THERMODYNAMICS	
C202.1	Apply the basic concepts of thermodynamics for energy conversion phenomenon.
C202.2	Calculate thermal efficiency and coefficient of performance for heat engines, refrigerators and heat pumps.
C202.3	Evaluate the performance of steam power cycles.
C202.4	Derive simple thermodynamic relations of ideal and real gases.
C202.5	Calculate the properties of air vapor mixtures using psychometrics.
C202.6	Explain the performance of refrigeration systems and its environmental impacts.
C203/CE8394-FLUID MECHANICS AND MACHINERY	
C203.1	Apply the concept of fluid properties with their effects on fluid flow.
C203.2	Apply the concepts of general energy equations in fluid flow problems.
C203.3	Calculate the major and minor losses in flow through pipes.
C203.4	Apply the mathematical knowledge in boundary layer concepts.
C203.5	Understand the working principle of pumps and turbines.
C203.6	Analyze the various performance characteristics of pumps and turbines.
C204/ME8351-MANUFACTURING TECHNOLOGY - I	
C204.1	Understand the fundamentals of casting, Welding, Forging and Sheet metal process.
C204.2	Understand the basic concepts of Fusion and Non-Fusion Welding process.
C204.3	Identify the different defects, which occur in welding and casting process.
C204.4	Explain the various forming operations can performed in sheet metal process.
C204.5	Compute the casting allowances and time taken for solidification in the process.
C204.6	Understand the concepts of thermo and thermo setting plastics used in plastic manufacturing components.
C205/MA8353-TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS	
C205.1	Apply basic concepts of PDE for solving standard partial differential equations.
C205.2	Apply Fourier series analysis which is central to many applications in engineering apart from its use in solving boundary value problems.
C205.3	Apply Fourier series techniques in solving heat flow problems used in various situations.
C205.4	Apply Fourier transform techniques used in wide variety of situations.
C205.5	Apply Z transform techniques for discrete time systems.
C205.6	Solve the transform and differential related applications in mechanical engineering.

C206/ME8361-MANUFACTURING TECHNOLOGY LABORATORY - I	
C206.1	Perform the taper turning operation in conventional lathe machine.
C206.2	Perform the various thread operations for the given specification.
C206.3	Estimate the taper angle and machining time calculations in various machining operations.
C206.4	Perform the hexagonal bolts and square studs using shaper machine.
C206.5	Calculate the eccentricity value to produce eccentric components.
C206.6	Selection of a material for a particular machining process.
C207/ME8381-COMPUTER AIDED MACHINE DRAWING LAB	
C207.1	Construct the machine drawing as per standards, Fits and Tolerances.
C207.2	Identify proper computer graphics techniques for 2D drawing and 3D model.
C207.3	Develop the part model for any machine components by using modeling software.
C207.4	Develop the assembly model for machine components by using modeling software.
C207.5	Develop the program code for CNC machines for simulation.
C207.6	Machine the components by using CNC machine.
C208/EE8361-ELECTRICAL ENGINEERING LABORATORY	
C208.1	Perform the load test, OCC, load characteristics and speed control of DC shunt and DC series motor.
C208.2	Perform the load test, OC and SC test on a single phase transformer.
C208.3	Examine the regulation of an alternator by EMF and MMF methods.
C208.4	Conduct the load test, speed control on various phase of induction motor.
C208.5	Explore the DC and AC starters.
C208.6	Perform the load test, OCC, load characteristics and speed control of DC shunt and DC series motor.
C209/HS8381-INTERPERSONAL SKILLS / LISTENING & SPEAKING	
C209.1	Take international examination such as IELTS and TOEFL.
C209.2	Participate in Group Discussion.
C209.3	Successfully answer questions in Interviews.
C209.4	Make effective Presentations.
C209.5	Participate confidently and appropriately in conversations both formal and informal.
C209.6	Expose himself to the world level examination and interview processes.
C210/MA8452-STATISTICS AND NUMERICAL METHODS	
C210.1	Apply test statistic, level of significance and decision rule.
C210.2	Explain the concept of analysis of variance to Distinguish between one and two factor analysis of variance tests.
C210.3	Solve Algebraic and Transcendental equations by various methods.
C210.4	Interpret the data for Interpolation using various methods and compute the Numerical differentiation for Equal & Unequal intervals.
C210.5	Solve first order differential equations using various types of single.
C210.6	Applying finite difference methods for solving 2 nd order differential equations.

C211/ME8492-KINEMATICS OF MACHINERY	
C211.1	Understand the various kinematic concepts in different mechanisms.
C211.2	Analyze the velocity and acceleration of links at any point in various mechanisms.
C211.3	Construct the various cam profiles with follower motion.
C211.4	Solve the problems on gear and gear trains.
C211.5	Recognize the effect of friction in different friction drives.
C211.6	Design the various motion transmission elements with their relative movements.
C212/ME8451-MANUFACTURING TECHNOLOGY– II	
C212.1	Understand the constructional features of lathe and special machines.
C212.2	Explain the various mechanism used in special machines.
C212.3	Develop the part program in CNC milling and turning centers.
C212.4	Compute the tool nomenclature and tool life calculation in metal cutting process.
C212.5	Select the suitable grinding wheels used in different grinding process.
C212.6	Identify the suitable process to manufacture simple engineering components.
C213/ME8491-ENGINEERING METTALLURGY	
C213.1	Explain alloys and phase diagram, Iron-Iron carbon diagram and steel classification.
C213.2	Explain isothermal transformation, continuous cooling diagrams and different heat treatment processes.
C213.3	Clarify the effect of alloying elements on ferrous and non-ferrous metals.
C213.4	Summarize the properties and applications of non metallic materials.
C213.5	Explain the testing of mechanical properties.
C213.6	Identify the mechanical properties and deformation using various mechanical testing methods.
C214/CE8395-STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS	
C214.1	Understand the concept of deformation due to different loading conditions.
C214.2	Understand the fundamentals of various stresses and strains in the structural member.
C214.3	Construct the shear force and bending moment diagram for load transferring mechanism in different beams.
C214.4	Apply the basic equations to design the shaft and helical springs.
C214.5	Determine the slope and deflection in beams using different methods.
C214.6	Design thin and thick cylinders subjected to internal and external pressures.
C215/ME8493-THERMAL ENGINEERING-I	
C215.1	Calculate the efficiency of various gas power cycles.
C215.2	Compute the performance test on IC engines.
C215.3	Estimate the concert of single and multi-stage steam turbines.
C215.4	Apply the thermodynamic concepts in various thermal systems.
C215.5	Calculate the properties of air vapor mixtures using psychometrics.
C215.6	Explain the importance of efficient energy utilization in engineering practices and its impact on the environment.
C216/ME8462-MANUFACTURING TECHNOLOGY LABORATORY–II	
C216.1	Calculate the various cutting forces using tool dynamometers.
C216.2	Generate gears using gear hobbling machines.

C216.3	Perform surface finish operations using surface grinding and cylindrical grinding machines.
C216.4	Develop CNC part programming for turning and milling operations.
C216.5	Perform contour milling operation in various milling machine.
C216.6	Perform gear-cutting operation using milling machine.
C217/CE8381-STRENGTH OF MATERIALS & FLUID MECHANICS AND MACHINERY LABORATORY	
C217.1	Determine the elastic constants by using tensile and torsion test machine for mild steel (MS) specimen.
C217.2	Conduct hardness test for different metals and carry out impact test for MS specimen.
C217.3	Determine deflection in beams.
C217.4	Determine the discharge coefficients for venturimeter & Orifice meter.
C217.5	Analyze the flow measurement by using flow measuring equipment.
C217.6	Evaluate the performance of hydraulic turbines & pumps under different working conditions.
C218/HS8461-ADVANCED READING AND WRITING LABORATORY	
C218.1	Make effective Presentations.
C218.2	Participate in Group Discussion.
C218.3	Successfully answer questions in Interviews.
C218.4	Take international examination such as IELTS and TOEFL.
C218.5	Participate confidently and appropriately in conversations both formal and informal.
C218.6	Use of digital and laboratory-based resources to enhance reading comprehension and writing proficiency.
C301/ME8595-THERMAL ENGINEERING-II	
C301.1	Analyze problems in Steam Nozzle.
C301.2	Explain the functioning and features of different types of Boilers and auxiliaries and calculate performance parameters.
C301.3	Explain the flow in steam turbines, draw velocity diagrams for steam turbines and solve problems.
C301.4	Summarize the concept of Cogeneration, Working features of Heat pumps and Heat exchangers.
C301.5	Solve problems using refrigerant table / charts and psychometrics charts.
C301.6	Explain the importance of efficient energy utilization in engineering practices and its impact on the environment.
C302/ME8593-DESIGN OF MACHINE ELEMENTS	
C302.1	Understand the basic design parameters of various machine elements.
C302.2	Understand the various stresses induced due to different loading conditions.
C302.3	Apply the basic design procedure to design the shafts, bearing and couplings.
C302.4	Apply the basic design steps to design the temporary and permanent joints.
C302.5	Design the various energy storing elements and engine components.
C302.6	Design the various machine members as per standard design catalogues.
C303/ME8501-METROLOGY AND MEASUREMENTS	
C303.1	Discuss the concepts of measurements in metrological instruments.
C303.2	Explain the principles of linear and angular measuring instruments for industrial

	applications.
C303.3	Understand the concepts of various computer aided inspection tools.
C303.4	Explain the different form measurements in industry.
C303.5	Understand the basic concepts of interchangeability and selective assembly.
C303.6	Understand the working principle of measuring equipment's to measure intensive and extensive properties.
C304/ME8594-DYNAMICS OF MACHINES	
C304.1	Understand the various force-motion relationships in different mechanisms.
C304.2	Apply the principles of statics and dynamics to machinery.
C304.3	Analyze the balancing masses in the rotating and reciprocating machines.
C304.4	Solve the free vibration problems in longitudinal, transverse and torsional systems.
C304.5	Apply the basic principles to reduce the undesirable effects of forced vibrations.
C304.6	Apply the principles in mechanisms used for speed control and stability control.
C305/OIM552-LEAN MANUFACTURING	
C305.1	Explain the fundamental principles, concepts, and philosophy of Lean Manufacturing.
C305.2	Understand various concepts, principles in Kanban and TPM.
C305.3	Analyze production processes to identify bottlenecks, waste, inefficiencies, and opportunities for continuous improvement.
C305.4	Understand the six sigma concepts
C305.5	Apply continuous improvement principles and teamwork in implementing Lean initiatives.
C305.6	Design a basic Lean Manufacturing improvement plan for a real or simulated industrial process.
C306/ME8511-KINEMATICS AND DYNAMICS LABORATORY	
C306.1	Understand the concept of differential gear trains and kinematic links.
C306.2	Evaluate the frequency of the vibrating system.
C306.3	Analyze the controlling mechanisms.
C306.4	Analyze the balancing masses in the rotating and reciprocating machines.
C306.5	Determination of mass moment of inertia for different component.
C306.6	Use the measuring devices for dynamic testing.
C307/ME8512-THERMAL ENGINEERING LABORATORY	
C307.1	Conduct a test to find thermal conductivity of various engineering materials.
C307.2	Measure the heat transfer rate in natural and forced convection environment.
C307.3	Evaluate radiation heat transfer between black body surfaces and grey body surfaces.
C307.4	Analyze the effectiveness of parallel and counter flow heat exchanger.
C307.5	Compare the performance of theoretical and experimental refrigeration and air conditioning systems.
C307.6	Evaluate the performance of air compressors.
C308/ME8513-METROLOGY AND MEASUREMENTS LABORATORY	
C308.1	Handle different measurement tools and perform measurements in quality impulsion.
C308.2	Identify various gauges for measurement.
C308.3	Demonstrate linear and angular measurement using precision instruments.

C308.4	Apply the load cell to measure the force and torque.
C308.5	Use thermocouple and comparator for taking measurement.
C308.6	Measure bore diameter using Bore gauge, telescope gauge and surface roughness using Surface Finish Measuring Equipment.
C309/ME8693 –HEAT AND MASS TRANSFER	
C309.1	Understand the basic laws of heat transfer in the engineering systems.
C309.2	Compute the temperature distribution in steady and unsteady state heat conduction.
C309.3	Evaluate the heat transfer coefficient for convection.
C309.4	Calculate the phase change properties and the heat exchanger performance by varying the methods.
C309.5	Calculate radiation heat transfer between black and gray body surfaces.
C309.6	Analyze the diffusion and convective mass transfer occurring in different applications.
C310/ME8651-DESIGN OF TRANSMISSION SYSTEMS	
C310.1	Select the materials for mechanical transmission systems.
C310.2	Apply the design knowledge to design the various flexible drives.
C310.3	Apply the design concepts to design the parallel axis mating gears.
C310.4	Apply the basic design steps to design the perpendicular and oblique axis mating gears.
C310.5	Apply the design procedure to design the Gearbox.
C310.6	Apply the design principles to design the various friction drives.
C311/ME8691–COMPUTER AIDED DESIGN AND MANUFACTURING	
C311.1	Explain the 2D and 3D transformations, clipping algorithm, Manufacturing models and Metrics.
C311.2	Explain the fundamentals of parametric curves, surfaces and Solids.
C311.3	Summarize the different types of Standard systems used in CAD.
C311.4	Apply CNC programming concepts to develop part programme for Lathe & Milling Machines.
C311.5	Summarize the different types of techniques used in Cellular Manufacturing and FMS.
C311.6	Apply the various CAD algorithm in the area of product design and development.
C312/ME8692 - FINITE ELEMENT ANALYSIS	
C312.1	Solve Boundary value problems in structural and non-structural application.
C312.2	Apply finite element methods in one-dimensional Problem.
C312.3	Solve dynamic problem by using finite element procedure.
C312.4	Apply finite element technique in two-dimensional scalar Problems.
C312.5	Apply finite element method in two-dimensional Vector problems.
C312.6	Apply finite element procedure to solve problems on iso-parametric element.
C313/ME8694-HYDRAULICS AND PNEUMATICS	
C313.1	Explain the Fluid power and operation of different types of pumps.
C313.2	Summarize the features and functions of Hydraulic motors, actuators and flow control valves.
C313.3	Explain the different types of hydraulic circuits and systems.
C313.4	Explain the working of different pneumatic circuits and systems.

C313.5	Summarize the various trouble shooting methods and applications of hydraulic and pneumatic systems.
C313.6	Design and develop a multi cylinder circuits in hydraulics and pneumatics.
C314/ME8091-AUTOMOBILE ENGINEERING	
C314.1	Explain the various parts of the automobile and their functions and materials.
C314.2	Explain the engine auxiliary systems and engine emission control.
C314.3	Summarize the working of different types of transmission systems.
C314.4	Explain the Steering, Brakes and Suspension Systems.
C314.5	Explain the possible alternate sources of energy for IC Engines.
C314.6	Apply the various vehicle components for Hybrid and E-vehicles.
C315/ME8681-C.A.D. / C.A.M. LABORATORY	
C315.1	Construct the machine drawing as per standards, Fits and Tolerances.
C315.2	Identify proper computer graphics techniques for 2D drawing and 3D model.
C315.3	Develop the part model for any machine components by using modeling software.
C315.4	Develop the assembly model for machine components by using modeling software.
C315.5	Develop the program code for CNC machines for simulation.
C315.6	Machine the components by using CNC machine.
C316/HS8581-PROFESSIONAL COMMUNICATION LABORATORY	
C316.1	Take international examination such as IELTS and TOEFL.
C316.2	Participate in Group Discussion.
C316.3	Successfully answer questions in Interviews.
C316.4	Make effective Presentations.
C316.5	Participate confidently and appropriately in conversations both formal and informal.
C316.6	Use of digital and laboratory-based resources to enhance reading comprehension and writing proficiency.
C317/ME8682-DESIGN AND FABRICATION PROJECT	
C317.1	Identify problems with their technical skills.
C317.2	Design a product as per requirement.
C317.3	Develop the detailed drawing for fabrication product with latest tool.
C317.4	Create prototype of a working model.
C317.5	Contribute effectively as an individual and as a member in a team.
C317.6	Develop detailed report for new product.
C401/ME8792-POWER PLANT ENGINEERING	
C401.1	Understand the layout and components of various power plants.
C401.2	Understand different types of cycles and it's efficiencies in various power plants.
C401.3	Understand the sources and concepts of renewable energy.
C401.4	Calculate the factors associated with power plant economics.
C401.5	Select the suitability of site for a power plant.
C401.6	Identify safety aspects of power plants.
C402/ME8793-PROCESS PLANNING AND COST ESTIMATION	
C402.1	Introduce the process planning concepts to make cost estimation for various products after process planning.
C402.2	Identify the documents required for the process planning.

C402.3	Calculate the material cost of a product.
C402.4	Explain the various associated in manufacturing shops.
C402.5	Calculate the machining time for various machining operations.
C402.6	Analyzing and approving subcontractor's capabilities and their quality plans.
C403/ME8791-MECHATRONICS	
C403.1	Explain mechatronics design process.
C403.2	Choose sensors based on their working principle.
C403.3	Discuss the working of various actuators.
C403.4	Discuss the architecture of microprocessors and microcontroller.
C403.5	Explain the architecture of PLC, contrast it from PC and relay systems.
C403.6	Discuss the various case studies.
C404/OIE751-ROBOTICS	
C404.1	Understand the various robot structures and their workspace.
C404.2	Perform spatial transformations associated with rigid body motions.
C404.3	Perform kinematics analysis of robot systems.
C404.4	Understand the singularity issues associated with the operation of robotic systems.
C404.5	Analysis robotic movement associated with trajectory planning.
C404.6	Control the robot using various programming skills.
C405/ME8073-UNCONVENTIONAL MACHINING PROCESSES	
C405.1	Understand the difference between traditional and non-traditional machining processes.
C405.2	Understand the mechanical energy based processes.
C405.3	Understand the chemical and electro chemical energy based processes.
C405.4	Understand the thermo-electric energy based processes.
C405.5	Understand the nano finishing processes.
C405.6	Understand the hybrid non-traditional machining processes.
C406/ME8097-NON DESTRUCTIVE TESTING AND EVALUATION	
C406.1	Explain the fundamental concepts of NDT.
C406.2	Discuss the different methods of NDE.
C406.3	Explain the concept of Thermography and Eddy current testing.
C406.4	Explain the concept of Ultrasonic Testing and Acoustic Emission.
C406.5	Explain the concept of Radiography.
C406.6	Explain the concept of advanced NDT examination techniques.
C407/ME8711-SIMULATION AND ANALYSIS LABORATORY	
C407.1	Simulate the dynamic system by using MAT lab software.
C407.2	Simulate the mechanism by using multi-body dynamic software.
C407.3	Analyze the stresses for trusses and beams using analysis software
C407.4	Analyze the stresses for axis-symmetric components by using analysis software.
C407.5	Analyze the response of vibrating system analysis software.
C407.6	Analyze the Thermal stress and heat transfer analysis of plates and cylindrical shells analysis software.

C408/ME8781-MECHATRONICS LABORATORY	
C408.1	Simulate Hydraulic, Pneumatic circuit using software tool.
C408.2	Simulate Electro pneumatic circuits using trainer kits.
C408.3	Design and test various fluid power circuits using software tool.
C408.4	Interface stepper motor with 8051micro controller.
C408.5	Conduct experiments using servo controller and stepper motor.
C408.6	Conduct experiments PID Controller interfacing.
C409/ME8712-TECHNICAL SEMINAR LABORATORY	
C409.1	Enrich the communication skills of the student technical topics of interest
C409.2	Familiarize the preparation of content of technical writing
C409.3	Enrich the presentations skills of the student technical topics of interest.
C409.4	Participate confidently and appropriately in conversations both formal and informal
C409.5	Participate in technical group discussion.
C409.6	Participate in technical quiz programs.
C410/MG8591-PRINCIPLES OF MANAGEMENT	
C410.1	Identifies the global context for taking managerial organization.
C410.2	Predict the global opportunity that will impact the management of an organization.
C410.3	Prepare the management principles into management practices.
C410.4	Analyze the managerial problem with ethical practice standards.
C410.5	Breakdown the managerial task executed in the variety of circumstances.
C410.6	Identify the most effective Action to take in the specific situation of addressing issues.
C411/IE8693-PRODUCTION PLANNING AND CONTROL	
C411.1	Prepare production planning and control activities such as work-study.
C411.2	Plan for manufacturing requirements manufacturing requirement Planning (MRP II) and Enterprise Resource Planning (ERP).
C411.3	Analyse the flow of work so that the required number of production are manufactured in required quantity.
C411.4	Analyse the cost estimation and implementation.
C411.5	Utilize resources of inventory.
C411.6	Analysis the overall view of manufacturing interfaces.
C412/ME8811-Project Work	
C412.1	Identify problems with their technical skills
C412.2	Design a product as per requirement
C412.3	Develop the detailed drawing for fabrication product with latest tool
C412.4	Create prototype of a working model
C412.5	Contribute effectively as an individual and as a member in a team
C412.6	Develop detailed report for new product.

CO-POs & PSOs MAPPING FOR ALL COURSES-REGULATIONS 2017

Course Outcome	Programme Outcomes (POs)											PSOs	
	1	2	3	4	5	6	7	8	9	10	11	1	2
C101/CY8151 - ENGINEERING CHEMISTRY													
C101.1	3	3	-	2	-	-	-	-	-	-	2	2	-
C101.2	3	2	2	2	-	-	-	-	-	-	2	2	-
C101.3	3	2	2	2	-	-	-	-	-	-	2	2	-
C101.4	2	2	-	2	-	-	-	-	-	-	2	2	-
C101.5	2	3	2	2	-	-	-	-	-	-	2	2	-
C101.6	2	3	2	2	-	-	-	-	-	-	2	2	-
C102/GE8151 PROBLEMS SOLVING AND PYTHON PROGRAMMING													
C102.1	2	2	2	2	2	-	-	-	-	-	-	-	-
C102.2	2	2	2	2	2	-	-	-	-	-	-	-	-
C102.3	2	2	2	2	2	-	-	-	-	-	-	-	-
C102.4	2	2	2	2	2	-	-	-	-	-	-	-	-
C102.5	2	2	1	1	2	-	-	-	-	-	-	-	-
C102.6	2	2	1	1	2	-	-	-	-	-	-	-	-
C103/GE8152 ENGINEERING GRAPHICS													
C103.1	3	3	2	3	-	-	-	-	-	-	3	2	2
C103.2	2	3	3	2	-	-	-	-	-	-	3	3	2
C103.3	3	2	2	2	2	-	-	-	-	-	2	3	3
C103.4	2	2	3	2	2	-	-	-	-	-	3	3	2
C103.5	3	2	2	2	2	-	-	-	-	-	2	2	2
C103.6	2	2	2	2	-	-	-	-	-	-	2	2	3
C104/HS8151 - COMMUNICATIVE ENGLISH													
C104.1	-	-	-	-	-	-	3	2	2	-	2	2	2
C104.2	-	-	-	-	-	-	3	2	2	-	2	2	2
C104.3	-	-	-	-	-	-	3	3	3	-	3	2	3
C104.4	-	-	-	-	-	-	2	2	2	-	2	2	2
C104.5	-	-	-	-	-	-	2	3	3	-	3	2	3
C104.6	-	-	-	-	-	-	1	2	2	-	2	2	2
C105/MA8151 - ENGINEERING MATHEMATICS-I													
C105.1	3	3	3	3	2	-	-	-	-	-	3	3	3
C105.2	3	3	3	3	2	-	-	-	-	-	2	2	2
C105.3	3	3	3	3	2	-	-	-	-	-	2	3	3
C105.4	2	2	2	2	2	-	-	-	-	-	2	2	3
C105.5	2	2	2	2	2	-	-	-	-	-	3	2	2
C105.6	2	2	2	2	2	-	-	-	-	-	3	3	2
C106/PY8151 - ENGINEERING PHYSICS													
C106.1	3	2	2	2	-	-	-	-	-	-	2	2	2
C106.2	3	2	2	2	-	-	-	-	-	-	2	2	2
C106.3	2	2	2	2	3	-	-	-	-	-	2	2	2

C106.4	2	2	2	2	2	-	-	-	-	-	2	2	2
C106.5	2	2	2	2	1	-	-	-	-	-	1	1	2
C106.6	1	2	2	2	1	-	-	-	-	-	1	1	1
C107/GE8161 PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY													
C107.1	3	3	3	3	3	-	2	2	2	-	3	3	3
C107.2	3	3	3	3	3	-	2	2	2	-	3	3	3
C107.3	2	2	2	2	2	-	2	2	2	-	2	2	2
C107.4	2	2	2	2	2	-	2	2	2	-	2	2	2
C107.5	2	2	2	2	2	-	2	2	1	-	2	2	2
C107.6	2	2	2	2	2	-	2	2	1	-	2	2	2
C108/BS8161 PHYSICS AND CHEMISTRY LABORATORY													
C108.1	3	3	3	3	3	-	2	3	2	-	2	2	2
C108.2	2	2	2	2	2	-	2	2	2	-	2	2	2
C108.3	2	3	2	3	2	-	1	3	1	-	1	1	1
C108.4	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.5	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.6	-	-	-	-	-	-	-	-	-	-	-	-	-
C109/BE8253 BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING													
C109.1	3	2	-	-	-	-	-	-	-	-	2	3	-
C109.2	2	3	2	2	-	-	-	-	-	-	2	3	-
C109.3	2	2	-	-	-	-	-	-	-	-	2	2	-
C109.4	2	2	-	-	-	-	-	-	-	-	2	1	-
C109.5	2	2	-	-	-	-	-	-	-	-	2	1	-
C109.6	2	2	2	2	-	-	-	-	-	-	2	1	-
C110/GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING													
C110.1	2	2	2	-	-	2	2	2	-	-	2	2	-
C110.2	-	2	2	-	-	2	2	2	-	-	2	3	-
C110.3	2	3	1	-	-	1	2	2	-	-	3	2	-
C110.4	-	2	1	-	-	2	2	2	-	-	2	2	-
C110.5	-	1	2	-	-	1	2	2	-	-	1	1	-
C110.6	2	1	2	-	-	2	2	2	-	-	1	1	-
C111/GE8292 ENGINEERING MECHANICS													
C111.1	3	3	3	3	2	-	-	-	-	-	2	2	-
C111.2	3	3	3	3	2	-	-	-	-	-	2	2	-
C111.3	2	3	3	3	2	-	-	-	-	-	2	2	-
C111.4	2	3	2	2	2	-	-	-	-	-	2	2	-
C111.5	2	1	2	2	2	-	-	-	-	-	2	2	-
C111.6	2	1	2	2	2	-	-	-	-	-	2	2	-
C112/HS8251 TECHNICAL ENGLISH													
C112.1	-	-	-	-	-	-	3	2	2	-	2	2	2
C112.2	-	-	-	-	-	-	3	2	2	-	2	2	2

C202.3	2	2	2	2	-	-	-	-	-	-	2	2	2
C202.4	2	2	2	2	2	-	-	-	-	-	2	2	2
C202.5	2	2	2	2	2	-	-	-	-	-	2	2	1
C202.6	2	2	2	2	2	-	-	-	-	-	2	2	1
C203/CE8394-FLUID MECHANICS AND MACHINERY													
C203.1	3	2	2	2	-	-	-	-	-	-	2	2	2
C203.2	3	2	2	2	-	-	-	-	-	-	2	2	2
C203.3	3	2	2	2	-	-	-	-	-	-	2	2	2
C203.4	2	2	2	2	2	-	-	-	-	-	2	2	2
C203.5	2	2	2	2	2	-	-	-	-	-	2	2	2
C203.6	1	2	2	2	2	-	-	-	-	-	2	2	2
C204/ME8351-MANUFACTURING TECHNOLOGY - I													
C204.1	2	2	-	-	-	-	-	-	-	-	2	2	2
C204.2	2	2	-	-	-	-	-	-	-	-	2	2	2
C204.3	2	2	-	-	-	-	-	-	-	-	2	2	2
C204.4	2	2	-	-	2	-	-	-	-	-	2	2	2
C204.5	2	2	-	-	2	-	-	-	-	-	2	2	2
C204.6	2	2	-	-	2	-	-	-	-	-	2	2	2
C205/MA8353-TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS													
C205.1	3	3	3	2	2	-	-	-	-	-	-	-	-
C205.2	3	3	3	2	2	-	-	-	-	-	-	-	-
C205.3	3	2	3	2	2	-	-	-	-	-	-	-	-
C205.4	2	2	2	2	2	-	-	-	-	-	-	-	-
C205.5	2	2	1	2	2	-	-	-	-	-	-	-	-
C205.6	1	2	1	1	1	-	-	-	-	-	-	-	-
C206/ME8361-MANUFACTURING TECHNOLOGY LABORATORY - I													
C206.1	3	3	-	-	2	-	-	-	-	3	2	2	2
C206.2	2	2	-	-	2	-	-	-	-	2	2	2	2
C206.3	3	3	2	2	2	-	-	-	-	3	2	2	2
C206.4	2	2	2	-	2	-	-	-	-	2	2	2	2
C206.5	3	3	-	-	2	-	-	-	-	3	2	2	2
C206.6	2	2	2	2	2	-	-	-	-	2	2	2	2
C207/ME8381-COMPUTER AIDED MACHINE DRAWING LAB													
C207.1	3	3	-	-	2	-	-	-	-	3	3	3	2
C207.2	3	3	-	-	2	-	-	-	-	3	3	3	2
C207.3	3	3	-	-	2	-	-	-	-	3	3	3	2
C207.4	2	2	-	-	2	-	-	-	-	2	2	2	2
C207.5	2	2	-	-	1	-	-	-	-	2	2	2	2
C207.6	2	2	-	-	1	-	-	-	-	2	2	2	2
C208/EE8361-ELECTRICAL ENGINEERING LABORATORY													
C208.1	3	3	-	-	2	-	-	-	-	3	3	3	-
C208.2	3	3	-	-	2	-	-	-	-	3	3	3	-

C214.3	3	3	2	-	2	-	-	-	-	-	2	2	2
C214.4	3	3	2	-	2	-	-	-	-	-	2	2	2
C214.5	3	2	2	-	2	-	-	-	-	-	2	2	2
C214.6	2	2	2	-	-	-	-	-	-	-	2	2	2
C215/ME8493-THERMAL ENGINEERING-I													
C215.1	3	3	2	2	-	-	-	-	-	-	-	2	2
C215.2	3	3	2	2	2	-	-	-	-	-	3	2	2
C215.3	3	3	2	2	2	-	-	-	-	-	3	2	2
C215.4	3	3	2	-	-	-	-	-	-	-	-	2	2
C215.5	2	2	2	2	2	-	-	-	-	-	2	2	1
C215.6	2	1	2	-	2	-	-	-	-	-	2	2	1
C216/ME8462-MANUFACTURING TECHNOLOGY LABORATORY-II													
C216.1	3	2	2	-	2	-	-	-	-	-	2	2	2
C216.2	3	2	2	-	2	-	-	-	-	-	2	2	2
C216.3	3	2	2	-	2	-	-	-	-	-	2	2	2
C216.4	2	2	2	-	2	-	-	-	-	-	2	2	2
C216.5	1	3	3	-	2	-	-	-	-	-	2	2	1
C216.6	2	3	3	-	2	-	-	-	-	-	1	2	1
C217/CE8381-STRENGTH OF MATERIALS & FLUID MECHANICS AND MACHINERY LABORATORY													
C217.1	3	2	-	2	-	-	-	-	-	-	-	2	2
C217.2	3	2	-	2	-	-	-	-	-	-	-	2	2
C217.3	3	2	-	3	3	-	-	-	-	-	2	2	2
C217.4	2	2	-	2	-	-	-	-	-	-	-	2	2
C217.5	2	2	-	3	1	-	-	-	-	-	2	2	2
C217.6	2	1	-	2	1	-	-	-	-	-	2	1	1
C218/HS8461-ADVANCED READING AND WRITING LABORATORY													
C218.1	-	-	-	-	-	-	3	3	3	-	3	3	2
C218.2	-	-	-	-	-	-	3	3	3	-	3	3	2
C218.3	-	-	-	-	-	-	3	2	2	-	2	2	2
C218.4	-	-	-	-	-	-	2	2	2	-	2	2	2
C218.5	-	-	-	-	-	-	2	2	2	-	2	2	3
C218.6	-	-	-	-	-	-	2	2	2	-	2	2	3
C301/ME8595-THERMAL ENGINEERING-II													
C301.1	3	3	2	2	-	-	-	-	-	-	-	3	2
C301.2	3	3	-	-	-	-	-	-	-	-	-	2	2
C301.3	3	2	2	2	2	-	-	-	-	-	-	2	2
C301.4	3	3	2	2	2	-	-	-	-	-	3	3	2
C301.5	3	3	2	2	-	-	-	-	-	-	2	3	1
C301.6	1	2	2	2	-	-	-	-	-	-	-	2	1
C302/ME8593-DESIGN OF MACHINE ELEMENTS													
C302.1	3	3	2	2	2	-	-	-	-	-	-	2	2
C302.2	2	2	2	2	2	-	-	-	-	-	-	2	2

C302.3	3	3	2	2	2	-	-	-	-	-	-	2	2
C302.4	3	2	2	2	2	-	-	-	-	-	2	2	2
C302.5	2	2	2	2	2	-	-	-	-	-	2	2	2
C302.6	1	1	2	2	2	-	-	-	-	-	2	2	2
C303/ME8501-METROLOGY AND MEASUREMENTS													
C303.1	3	2	-	-	-	-	-	-	-	-	2	2	-
C303.2	3	2	-	-	-	-	-	-	-	-	2	2	-
C303.3	2	2	-	-	2	-	-	-	-	-	2	2	-
C303.4	2	2	-	-	2	-	-	-	-	-	2	2	-
C303.5	2	2	-	-	2	-	-	-	-	-	2	2	-
C303.6	2	2	-	-	-	-	-	-	-	-	2	2	-
C304/ME8594-DYNAMICS OF MACHINES													
C304.1	2	2	2	-	-	-	-	-	-	-	2	2	2
C304.2	3	3	3	2	2	-	-	-	-	-	2	2	2
C304.3	3	3	3	2	2	-	-	-	-	-	2	2	2
C304.4	3	3	2	2	-	-	-	-	-	-	2	2	2
C304.5	2	2	2	2	2	-	-	-	-	-	3	2	2
C304.6	3	3	2	2	2	-	-	-	-	-	3	2	2
C305/OIM552 - LEAN MANUFACTURING													
C305.1	2	2	-	-	2	-	-	-	-	-	-	2	-
C305.2	3	2	2	-	2	-	-	-	-	-	-	2	-
C305.3	2	2	-	-	2	-	-	-	-	-	-	2	-
C305.4	2	2	2	-	2	-	-	-	-	-	-	2	-
C305.5	2	2	-	-	2	-	-	-	-	-	-	2	-
C305.6	2	2	2	-	2	-	-	-	-	-	-	2	-
C306/ME8511-KINEMATICS AND DYNAMICS LABORATORY													
C306.1	3	3	2	2	-	-	-	-	-	-	-	3	2
C306.2	3	3	2	2	-	-	-	-	-	-	-	3	2
C306.3	3	3	2	2	-	-	-	-	-	-	-	3	2
C306.4	2	2	2	2	2	-	-	-	-	-	2	2	2
C306.5	2	2	2	2	2	-	-	-	-	-	2	2	2
C306.6	2	2	1	1	-	-	-	-	-	-	2	2	1
C307/ME8512-THERMAL ENGINEERING LABORATORY													
C307.1	3	3	2	2	-	-	-	-	-	-	-	3	2
C307.2	3	3	2	2	-	-	-	-	-	-	-	3	2
C307.3	3	3	2	2	2	-	-	-	-	-	2	3	2
C307.4	3	2	2	2	2	-	-	-	-	-	2	3	2
C307.5	2	2	2	2	1	-	-	-	-	-	-	2	2
C307.6	2	2	2	2	2	-	-	-	-	-	-	2	1
C308/ME8513-METROLOGY AND MEASUREMENTS LABORATORY													
C308.1	3	3	-	2	2	-	-	-	-	-	-	2	2
C308.2	3	3	-	2	2	-	-	-	-	-	2	2	2

C314.3	3	-	1	2	-	-	2	-	-	-	-	2	-
C314.4	2	2	2	1	-	-	1	-	-	-	-	2	-
C314.5	1	2	2	1	-	-	-	-	-	-	-	3	-
C314.6	3	2	3	2	-	-	-	-	-	-	-	2	-
C315/ME8681-C.A.D. / C.A.M. LABORATORY													
C315.1	3	2	2	-	2	-	-	-	-	-	2	3	2
C315.2	3	2	2	-	2	-	-	-	-	-	2	3	2
C315.3	3	3	3	3	3	-	-	-	-	-	-	3	2
C315.4	2	3	3	2	3	-	-	-	-	-	-	3	2
C315.5	2	2	2	3	2	-	-	-	-	-	2	2	2
C315.6	2	2	2	2	2	-	-	-	-	-	2	3	2
C316/HS8581-PROFESSIONAL COMMUNICATION LABORATORY													
C316.1	2	2	2	-	1	-	-	-	-	-	1	3	-
C316.2	2	2	1	-	1	-	-	-	-	-	2	2	-
C316.3	2	2	2	-	2	-	-	-	-	-	1	1	-
C316.4	2	1	2	-	2	-	-	-	-	-	1	2	-
C316.5	2	1	1	-	1	-	-	-	-	-	2	1	-
C316.6	2	1	1	-	2	-	-	-	-	-	2	2	-
C317/ME8682-DESIGN AND FABRICATION PROJECT													
C317.1	3	3	3	2	2	-	-	-	-	-	2	3	2
C317.2	3	3	3	2	2	-	-	-	-	-	2	3	2
C317.3	3	3	3	2	2	-	-	-	-	-	2	3	2
C317.4	3	3	3	2	2	-	-	-	-	-	2	3	2
C317.5	3	3	3	2	2	-	-	-	-	2	2	3	2
C317.6	3	3	3	2	2	-	-	-	-	2	2	3	2
C401/ME8792-POWER PLANT ENGINEERING													
C401.1	3	2	-	-	-	-	-	-	-	-	-	2	2
C401.2	3	2	2	2	-	-	-	-	-	-	-	2	2
C401.3	3	2	-	-	-	-	-	-	-	-	-	2	2
C401.4	2	2	2	2	-	-	-	-	-	2	-	2	2
C401.5	2	2	2	2	-	-	-	-	-	2	-	2	2
C401.6	1	2	-	-	-	-	-	-	-	2	-	2	2
C402/MEME8793-PROCESS PLANNING AND COST ESTIMATION													
C402.1	3	2	2	-	2	-	-	-	-	2	-	3	2
C402.2	2	2	2	-	2	-	-	-	-	2	-	2	2
C402.3	3	3	2	-	2	-	-	-	-	2	-	3	3
C402.4	2	2	2	-	2	-	-	-	-	2	-	2	2
C402.5	2	2	2	-	2	-	-	-	-	2	-	2	2
C402.6	1	2	2	-	2	-	-	-	-	2	-	1	2
C403/ME8791-MECHATRONICS													
C403.1	3	2	2	-	2	-	-	-	-	2	2	3	2
C403.2	2	2	2	-	2	-	-	-	-	2	2	3	2

C403.3	2	2	2	-	2	-	-	-	-	2	2	3	2
C403.4	3	2	2	-	2	-	-	-	-	2	2	2	2
C403.5	3	2	2	-	2	-	-	-	-	2	2	1	2
C403.6	1	2	2	-	2	-	-	-	-	2	2	1	2
C404/OIE751-ROBOTICS													
C404.1	3	2	2	2	2	-	-	-	-	2	2	2	2
C404.2	2	2	2	2	2	-	-	-	-	2	2	2	2
C404.3	3	2	2	2	2	-	-	-	-	3	2	2	2
C404.4	3	2	2	2	2	-	-	-	-	2	2	2	2
C404.5	2	2	2	2	2	-	-	-	-	1	2	2	2
C404.6	1	3	2	2	2	-	-	-	-	1	2	2	2
C405/ME8073-UNCONVENTIONAL MACHINING PROCESSES													
C405.1	2	2	-	2	-	-	-	-	-	2	3	3	2
C405.2	3	2	-	-	2	-	-	-	-	-	2	2	2
C405.3	3	2	-	-	2	-	-	-	-	-	3	3	2
C405.4	3	2	-	-	2	-	-	-	-	-	2	2	2
C405.5	1	2	-	-	2	-	-	-	-	-	2	2	2
C405.6	1	2	-	2	-	-	-	-	-	2	1	1	2
C406/ME8097 - NON DESTRUCTIVE TESTING AND EVALUATION													
C406.1	2	2	-	2	-	-	-	-	-	2	3	3	2
C406.2	3	2	-	-	2	-	-	-	-	-	2	2	2
C406.3	3	2	-	-	2	-	-	-	-	-	3	3	2
C406.4	3	2	-	-	2	-	-	-	-	-	2	2	2
C406.5	1	2	-	-	2	-	-	-	-	-	2	2	2
C406.6	1	2	-	2	-	-	-	-	-	2	1	1	2
C407/ME8711-SIMULATION AND ANALYSIS LABORATORY													
C407.1	3	3	-	-	3	3	-	-	-	2	-	3	2
C407.2	2	2	-	-	3	3	-	-	-	2	-	2	2
C407.3	2	2	-	-	3	3	-	-	-	2	-	2	3
C407.4	3	3	-	-	3	3	-	-	-	2	-	3	2
C407.5	3	3	-	-	3	3	-	-	-	2	-	3	2
C407.6	2	2	-	-	1	1	-	-	-	2	-	2	2
C408/ME8781-MECHATRONICS LABORATORY													
C408.1	3	3	3	-	3	-	-	-	-	-	-	3	2
C408.2	2	3	3	-	2	-	-	-	-	-	-	2	2
C408.3	3	3	2	-	2	-	-	-	-	-	-	2	2
C408.4	3	2	3	-	2	-	-	-	-	-	-	2	2
C408.5	3	1	3	-	2	-	-	-	-	-	-	2	2
C408.6	3	1	3	-	2	-	-	-	-	-	-	2	2
C409/ME8712-TECHNICAL SEMINAR LABORATORY													
C409.1	3	3	3	3	3	-	-	-	-	-	-	3	2
C409.2	2	3	3	3	2	-	-	-	-	-	-	2	2

[illegible]