

COURSE OUTCOMES

REGULATION: 2013

S.NO	COURSE NAME	COURSE OUT COMES	
1	C101- Technical English – I (HS6151)	C101.1	Understand the basic grammatical functions and vocabulary.
		C101.2	Speak and write clearly and communicate using appropriate communicative strategies
		C101.3	Write Informal letters /blog/email with a wide range of vocabulary
		C101.4	listen/view and comprehend different spoken discourses and passages in different accents.
		C101.5	Read and write different genres of texts.
2	C102 - Mathematics – I (MA6151)	C102.1	Understand the Concepts of Diagonalization of matrices.
		C102.2	Apply simple techniques for testing the convergence of sequences and series
		C102.3	Use the differentiation concepts to differentiate functions
		C102.4	Apply partial differentiation in functions of several variables.
		C102.5	Apply integration concepts to compute multiple integrals.
3	C103 - Engineering Physics – I (PH6151)	C103.1	Able to classify various crystal structures and its parameters.
		C103.2	Explain the basics of properties of matter, the thermal properties of materials like thermal conductivity and its application.
		C103.3	Acquire knowledge on the concepts of quantum theory and its application in tunneling microscopes.
		C103.4	Understands the basic concepts of Acoustics in buildings and the production of ultrasonic waves and its application in NDT and medical field.
		C103.5	Understands the concept of photonics and its usage in the production of different types of laser and the principle of fibre optics with its application in various fields.
4	C104 - Engineering Chemistry-1 (CY6151)	C104.1	Understand the types of water and water treatment techniques.
		C104.2	Utilize the various adsorbent in industries.
		C104.3	Classify the types of alloys and understand the component present in the alloys.
		C104.4	Explain the types of fuels and manufacturing of secondary fuels.
		C104.5	Illustrate the types of energy resources.
	Computer (CY6151)	C105.1	Know the organization of digital Computer
		C105.2	Design C Programs for problems.

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5	C105 - Computer programming (GE6151)	C105.3	Write and execute C programs using Arrays and Strings for simple applications
		C105.4	Usage of Pointers and Function in C programming
		C105.5	Design Programming using Structures and Union
6	C106 - Engineering Graphics (GE6152)	C106.1	Discuss about conics and orthographic views of engineering components
		C106.2	Draw the projection of points, lines and planes
		C106.3	Classify solids and projection of solids at different positions
		C106.4	Show sectioned view of solids and development of surface
		C106.5	Draw isometric projection and perspective views of an object/solid
7	C107 - Computer Practices Laboratory (GE6161)	C107.1	Know about Data Manipulation in MS Office Packages
		C107.2	Apply good programming design methods for program development using Decision making and looping statements.
		C107.3	Design and implement C programs using strings and arrays.
		C107.4	Design and implement C programs using functions and string functions.
		C107.5	Develop recursive functions and develop programs using structures and unions.
8	C108 - Engineering Practices Laboratory (GE6162)	C108.1	Apply the knowledge of pipeline connections to household fittings and industrial buildings.
		C108.2	Prepare the different joints in roofs, doors, windows and furniture.
		C108.3	Perform step turning operation in a lathe.
		C108.4	Perform the various welding processes and know about its applications.
		C108.5	Produce a funnel using sheet metal.
9	C109 - Physics and Chemistry Laboratory - I (GE6163)	C109.1	Understand the concept of Laser and its diffraction for different usage
		C109.2	Able to find the velocity of ultrasonic waves in different liquid.
		C109.3	Apply principle of diffraction to determine the wavelength of visible spectrum.
		C109.4	Understand the various parameter affecting the thermal conductivity of poor conductor
		C109.5	Analyze the various modulus of elasticity of different types of materials.
10	Technical English – II (HS6251)	C110.1	Understand basic grammar and know to engage in conversation.
		C110.2	Write and produce different types of technical write ups.
		C110.3	Read and write different genres of technical texts.
		C110.4	Create Job applications and Resume / E - Resume

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	C110 -	C110.5	Express opinions and initiate a discussion using appropriate communicative strategies
11	C111 - Mathematics – II (MA6251)	C111.1	Understand the concepts of Vector Calculus and their applications.
		C111.2	Interpret the Concepts of analytic functions and Conformal mapping.
		C111.3	Understand the integration concepts on Complex integration
		C111.4	Demonstrate the main concepts on Laplace transformations and their applications
		C111.5	Use various techniques in solving differential equations.
12	C112 - Engineering Physics – II (PH6251)	C112.1	Gain knowledge on the conducting materials and its properties
		C112.2	Acquire knowledge on the concepts of carrier concentration in intrinsic and extrinsic semiconductors and its determination using Hall effect.
		C112.3	Classify the different types of magnetic materials and know the properties of superconductors.
		C112.4	Understands the basic concepts of dielectric materials and its usage in capacitors and transformers.
		C112.5	Able to classify the different modern engineering materials and its application in different fields.
13	C113 - Engineering Chemistry – II (CY6251)	C113.1	Illustrate the types of electrochemical cell..
		C113.2	Summarize the types of corrosion and corrosion prevention methods.
		C113.3	Explain the types of fuels and manufacturing of secondary fuels.
		C113.4	Classify the types of alloys and understand the component present in the alloys.
		C113.5	Analyze the sample using various spectroscopy.
14	C114 - Basic Electrical and Electronics Engineering (GE6252)	C114.1	Applying the fundamentals of electric circuits and electrical measuring instruments
		C114.2	Understanding the concepts of electrical machines
		C114.3	Understand the concepts of various electronic devices
		C114.4	Understand the concepts of various Digital Electronics
		C114.5	Acquire knowledge on basic concepts of Communication Engineering
15	C115 - Engineering Mechanics (GE6253)	C115.1	Illustrate the vectorial and scalar representation of forces and moments.
		C115.2	Analyse the rigid body in equilibrium.
		C115.3	Evaluate the properties of surfaces and solids.
		C115.4	Calculate dynamic forces exerted in rigid body.
		C115.5	Determine the friction and the effects by the laws of friction.

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16	C116 - Computer Aided Drafting and Modeling Laboratory (GE6261)	C116.1	Sketch simple figures with title block using AutoCAD software commands.
		C116.2	Sketch curves like parabola, spiral and involute of square & circle and draw the orthographic projection of simple solids.
		C116.3	Prepare orthographic projection of simple machine parts and draw a plan of residential building.
		C116.4	Sketch simple steel truss and sectional views of simple solids.
		C116.5	Prepare 2D multi view drawing from 3D model.
17	C117 - Physics and Chemistry Laboratory - II (GE6262)	C117.1	Analyze the various modulus of elasticity of different types of materials.
		C117.2	Understand the various parameters affecting the band gap of semiconductor.
		C117.3	Apply principle of diffraction to determine the parameters of optical prism.
		C117.4	Analyze the co-efficient of viscosity of different liquids.
		C117.5	Apply the basic principles of optics to determine the thickness of thin materials.
18	C201 - Transforms and Partial Differential Equations (MA6351)	C201.1	Demonstrate the effective mathematical tools used for Solving partial differential equations
		C201.2	Illustrate the Fourier series which is central to many applications in engineering.
		C201.3	Apply the applications of partial differential equations for boundary value problems using Fourier series analysis.
		C201.4	Acquire Fourier transform techniques used in wide variety of situations.
		C201.5	Explain Z transform techniques for discrete time systems and solve difference equations using Z transform.
19	C202 - Manufacturing Technology (ME6352)	C202.1	Provide with the basic concepts of engineering fundamentals on various molding and casting processes, apply appropriate techniques by to obtain defect free casting.
		C202.2	Acquire the basic knowledge, engineering fundamentals of metal joining processes and identify the suitable welding techniques and apply them to the specific needs with safe environmental conditions in welding industries.
		C202.3	Explain the basic engineering fundamentals of various metal forming processes, equipments, design of forming dies and select the suitable forming techniques.
		C202.4	Identify the basic characteristics of sheet metals and its forming processes, apply appropriate techniques and resources to fabricate sheet metal components.
		C202.5	Illustrate the basics of plastics and apply suitable methods, resources, modern engineering tools in manufacture of plastic components
20	C203 - Engineering Thermodynamics (AE6301)	C203.1	Able to relate laws of thermodynamics to jet engine components.
		C203.2	Apply Mathematical foundations, principles in solving thermodynamics
		C203.3	Able to identify efficient cycle of air and jet engines.

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	C203 - Aerodynamics Thermodyn	C203.4	Capable to illustrate condition of working medium.
		C203.5	Critically analyse the problem, and solve the problems related to heat transfer and propulsion
21	C204 - Fluid Mechanics and Machinery (CE6451)	C204.1	Apply the mathematical knowledge and engineering fundamentals on the Characteristics of fluid flow and properties of fluids.
		C204.2	Identify the engineering problems and design system components of fluid flow through circular conduits.
		C204.3	Identify and formulate parameters of fluid flow by research based dimensional analysis.
		C204.4	Apply appropriate techniques and use the theoretical knowledge of the fluid flow in various pumps
		C204.5	Apply the fundamental knowledge of mathematics, science and engineering for the solution of complex engineering problems in turbines.
22	C205 - Solid Mechanics (CE6452)	C205.1	Understand the concepts of stress and strain in simple and compound bars, the importance of principal stresses and principal planes.
		C205.2	Understand the load transferring mechanism in beams and stress distribution due to shearing force and bending moment.
		C205.3	Calculate the slope and deflection in beams using different methods.
		C205.4	Apply basic equation of simple torsion in designing of shafts and helical spring
		C205.5	Solve the problems related to the structural components under various loading conditions.
23	C206 - Elements of Aeronautics (AE6302)	C206.1	Learn the history of aircraft & developments over the years
		C206.2	Ability to identify the types & classifications of components and control systems
		C206.3	Understand the basic concepts of flight & Physical properties of Atmosphere
		C206.4	An ability to differentiate the types of fuselage and constructions.
		C206.5	Different types of Engines and principles of Rocket
24	C207 - Strength of Materials Laboratory (CE6315)	C207.1	Apply the knowledge of mathematics, science, engineering fundamentals to conduct tension test, Torsion test experiments, to find strength of different materials.
		C207.2	Identify the properties of engineering materials and harness of different materials
		C207.3	Applying the norms of the engineering practice, under Compression test on helical springs
		C207.4	Identify the engineering properties in tempering process and identify the improvements in Mechanical properties.

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25	C208 - Fluid Mechanics and Machinery Laboratory (CE6461)	C208.1	Apply the mathematical knowledge and engineering fundamentals on the Characteristics of fluid flow and properties of fluids
		C208.2	Identify the engineering problems and use the practical knowledge on finding the characteristics of fluid flow in various pumps
		C208.3	Identify the solutions for turbine related problems and to meet the specified needs with appropriate consideration for fluid flow in turbines.
26	C209 - Thermodynamics Laboratory (AE6311)	C209.1	Ability to perform test on diesel/petrol engine
		C209.2	Ability to explain the characteristics of the diesel/Petrol engine
		C209.3	Ability to determine the properties of the fuels.
		C209.4	Participate confidently and appropriately in conversations both formal and informal
27	C210 - CAM and Manufacturing Laboratory (AE6312)	C210.1	Ability to design and model difficult aero component using available software packages
		C210.2	Ability to perform structural analysis using available software packages
28	C211 - Statistics and Numerical Methods (MA6459)	C211.1	Apply the concept of testing of hypothesis for small and large samples in real life problems
		C211.2	Illustrate the complex engineering problems by using the modern tools in Design of Experiments
		C211.3	Understand the basic concepts and numerical techniques for solving algebraic and transcendental equations
		C211.4	Interpret the various types of interpolation, numerical differentiation and integration models.
		C211.5	Utilize the numerical techniques for solving initial value problems.
29	C212 - Aerodynamics - I (AE6401)	C212.1	An ability to apply airfoil theory to predict airfoil performance
		C212.2	Analyze and optimize wing performance
		C212.3	A knowledge of incompressible flow
		C212.4	A knowledge of subsonic wing theory
		C212.5	An exposure to Boundary layer theory
30	Aircraft Systems and Components (AE6402)	C213.1	Compare the features of various flight control systems.
		C213.2	Describe the principle and working of different aircraft systems.
		C213.3	Analyze the performance of various aircraft engine systems.

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	C213 - Air Instrument	C213.4	Acquire and interpret data from various aircraft instruments.
		C213.5	Identify the various cockpit controls.
31	C214 - Mechanics of Machines (AT6302)	C214.1	Understand the principles in the formation of mechanisms and their kinematics.
		C214.2	Understand the construction features of Gears and Gear Trains.
		C214.3	Understand the effect of friction in different machine elements.
		C214.4	Understand the importance of balancing
		C214.5	Understand the importance of vibration.
32	C215 - Aircraft Structures - I (AE6403)	C215.1	Ability to perform linear static analysis of determinate and indeterminate aircraft structural components
		C215.2	Calculate the reactions of structures using strain energy concept.
		C215.3	Create a structure to carry the given load.
		C215.4	Ability to design the component using different theories of failure
		C215.5	calculate the response of structures by analysing stress acting on the structure
33	C216 - Propulsion - I (AE6404)	C216.1	To be able to apply control volume and momentum equation to estimate the forces produced by aircraft propulsion systems
		C216.2	To be able to describe the principal figures of merit for aircraft engine
		C216.3	To be able to describe the principal design parameters and constraints that set the performance of gas turbine engines.
		C216.4	To apply ideal and actual cycle analysis to a gas turbine engine to relate thrust and fuel burn to component performance parameters.
		C216.5	Understanding the workings of multistage compressor or turbine, and to be able to use velocity triangles and the Euler Turbine Equation to estimate the performance of a compressor or turbine stage.
34	C217 - Aircraft Structures Laboratory - I (AE6411)	C217.1	Ability to perform deflection test on beams
		C217.2	Ability to perform non-destructive testing to predict the properties of metallic materials used in aircraft application
35	Aerodynamics Laboratory (AE6412)	C218.1	Describe the fundamental aerodynamic and geometrical properties related to external flows over airfoils, wings, and bluff bodies.
		C218.2	Calculate the aerodynamic forces and moments experienced by airfoils, wings and bluff bodies.
		C218.3	Use thin aerofoil theory to evaluate the performance of thin airfoils and the effects of angle of attack and camber

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	C218 - Aerody	C218.4	Use wind tunnel instrumentation to measure flow velocity and lift and drag.
		C218.5	Visualize the flow and pressure distribution over 2D and 3D bodies by water flow and smoke methods
36	C219 - CAD and Aircraft Component Drawing (AE6413)	C219.1	Ability to design different joints and components using manual drafting method.
		C219.2	Ability to draw different joints and components using manual drafting method.
37	C301- Flight Dynamics (AE6501)	C301.1	Know about the forces and moments that are acting on an aircraft, the different types of drag, drag polar, ISA, variation of thrust, power, SFC with velocity and altitude.
		C301.2	Have understanding about performance in level flight, minimum drag and power required, climbing, gliding and turning flight, v-n diagram and load factor.
		C301.3	Knowledge about degrees of stability, stick fixed and stick free stability, stability criteria, effect of fuselage and CG location, stick forces, aerodynamic balancing.
		C301.4	Understanding about lateral control, rolling and yawing moments, static directional stability, rudder and aileron control requirements and rudder lock.
		C301.5	Understanding about dynamic longitudinal stability, stability derivatives, modes and stability criterion, lateral and directional dynamic stability.
38	C302- Aircraft Structures - II (AE6502)	C302.1	Ability to understand loads acting an aircraft.
		C302.2	Ability to identify& resolve the structural design& its limitations .
		C302.3	Ability to improvise distribution their loads on aircraft member with safer limits.
		C302.4	Ability to understand the design of low weight to high strength panel member.
		C302.5	Ability to analyze the aircraft real structural components such as wings and fuselage.
39	C303 - Aerodynamics - II (AE6503)	C303.1	Calculate the compressible flow through a duct of varying cross section.
		C303.2	Use quasi one-dimensional theory to analyze compressible flow problems.
		C303.3	Estimate fluid properties in Rayleigh and Fanno type flows.
		C303.4	Estimate the properties across normal and oblique shock waves.
		C303.5	Predict the properties of hypersonic flows.
40	ulsion - II (AE6504)	C304.1	Understanding ramjet and hypersonic air breathing propulsion systems.
		C304.2	To get familiarity in rocket propulsion systems.
		C304.3	Knowing the applications and principles of solid propulsion systems.

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	C304 - Propulsion	C304.4	Knowing the applications and principles of liquid and solid-liquid propulsion systems.
		C304.5	Application of nuclear propulsion in rocketery
41	C305- Control Engineering (AE6505)	C305.1	Ability to apply mathematical knowledge to model the systems and analyse the frequency domain
		C305.2	Ability to check the stability of the both time and frequency domain
		C305.3	Ability to solve simple pneumatic, hydraulic and thermal systems, Mechanical and electrical component analogies based problems.
		C305.4	Ability to solve the Block diagram representation of control systems, Reduction of block diagrams, Signal flow graph and problems based on it.
		C305.5	Ability to understand the digital control system, Digital Controllers and Digital PID Controllers.
42	C306 - Environmental Science and Engineering (GE6351)	C306.1	Environmental Pollution or problems cannot be solved by mere laws.
		C306.2	Public participation is an important aspect which serves the environmental Protection.
		C306.3	Public awareness of environmental is at infant stage.
		C306.4	Ignorance and incomplete knowledge has lead to misconceptions
		C306.5	Development and improvement in std. of living has lead to serious environmental disasters
43	C307 - Aircraft Structures Laboratory - II (AE6511)	C307.1	Ability to perform Bending, Torsion, Shear on composite specimen
		C307.2	Ability to perform Vibration test on metallic, composite specimen
44	C308 - Propulsion Laboratory (AE6512)	C308.1	Capable to identify components and information of piston and gas turbine engine.
		C308.2	Able to analyze behavior of flow through ducts and jet engine components.
		C308.3	Ability to visualize flow phenomenon in supersonic flow.
		C308.4	Recognizes performance parameters of rocket propellants.
		C308.5	To be able to distinguish subsonic and supersonic flow characteristics
45	Communication Skills - Laboratory (GE6563)	C309.1	Capable to train and fabricating design models with the implementation of their knowledge, identification of problems associated to the components and development of solution to the problems identified.
		C309.2	Solve the skills gained during the course resulting solution to the complex problems and experiment it to provide conclusions.
		C309.3	Capable to provide design solutions from the problems identified pertaining to engineering sciences.

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	C309 - Commur Ba	C309.4	Inspire knowledge and ability to work as a team in presenting, designing and documenting their innovations.
		C309.5	Design and search knowledge, ethical principles and responsibilities with the fabrication required by the changes in technology.
46	C310 - Principles of Management (MG6851)	C310.1	students will be able to have clear understanding of managerial functions
		C310.2	students will be able to have clear understanding of managerial functions like organizing have same basic knowledge on international aspect of management
		C310.3	students will be able to have clear understanding of managerial functions like staffing, leading and have same basic knowledge on international aspect of management
		C310.4	students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading have same basic knowledge on international aspect of management
		C310.5	students will be able to have clear understanding of controlling and have same basic knowledge on international aspect of management
47	C311 - Finite Element Methods (AE6601)	C311.1	Write flow chart of finite element steps and understand the convergence of the problem
		C311.2	Solve stiffness matrix for bar, beam and frame problems using suitable boundary condition.
		C311.3	Plane stress and plane strain condition are used to understand 2d structures.
		C311.4	Modelling of 2d and 3d structures using isoparametric elements
		C311.5	Modelling of 2d and 3d structures using isoparametric elements
48	C312 - Vibrations and Elements of Aeroelasticity (AE6602)	C312.1	Gaining understanding of single vibrating systems
		C312.2	Gaining understanding of multi degree vibrating systems
		C312.3	Ability to use numerical techniques for vibration problems
		C312.4	Ability to use numerical approximation techniques for vibration problems
		C312.5	Knowledge acquired in aero elasticity and fluttering
49	C313 - Composite Materials and Structures (AE6603)	C313.1	Understanding the mechanics of composite materials
		C313.2	Ability to analyse the laminated composites for various loading cases
		C313.3	Knowledge gained in manufacture of composites.
		C313.4	Should analyze sandwich and laminated plates
		C313.5	Should be able to construct and analysis different composite technique
	Materials and Structures (AE6604)	C314.1	understand about materials used in aircraft
		C314.2	Knowledge about the behaviour of materials in aircraft

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50	C314 - Aircraft Materials Processes (AE66604)	C314.3	Role of corrosion and heat treatment processes of aircraft materials
		C314.4	Knowledge in usage of composite materials in aircraft component design.
		C314.5	Exposure to high temperature materials for space applications
51	C315 - Heat Transfer (AE6004)	C315.1	Understand the difference between various modes of Heat Transfer and the Resistance Concept used in Heat Conduction.
		C315.2	Learn to use the basic methods in Conduction. Understand the concept of Lump Parameter analysis and when it is applicable and learn the concepts of boundary layer.
		C315.3	Learn to apply various correlation used in Convective Heat Transfer and Understand the concepts of Black Body, Grey Body, View factor, Radiation shielding.
		C315.4	Design/size Heat Exchanger and understand the concept of Mass transfer, its types & laws associated with it.
		C315.5	Learn to apply various technique used for high speed flow heat transfer.
52	C316 - Aero Engine and Airframe Laboratory (AE6611)	C316.1	Ability to maintain and repair the aero engines
		C316.2	Ability to repair the aero engines
53	C317 - Aircraft Design Project - I (AE6612)	C317.1	students will be in a position to design aircraft
		C317.2	students will be in a position to demonstrate the performance of the design.
54	C318 - Computer Aided Simulation Laboratory (AE6613)	C318.1	Ability to Mesh various geometries and to do grid independence study.
		C318.2	Simulate and analyze fluid flow for internal and external flow problems.
		C318.3	Analyze the basic mechanism of different structural elements behavior.
		C318.4	Analyze the variation of mechanical properties over a composite beam
		C318.5	Analyze the apparent stress distribution over structural component
55	C401 - Total Quality Management (GE6757)	C401.1	The student would be able to understand about total quality management.
		C401.2	The student would be able to understand about the principles of total quality management.
		C401.3	The student would be able to apply the tools and techniques of quality management to manufacturing and services processes.
		C401.4	The student would be able to apply the tools and techniques of quality management to manufacturing and services processes.
		C401.5	The student would be able to apply the tools and techniques of quality management to manufacturing and services processes.
	(AE6701)	C402.1	Ability to built Digital avionics architecture
		C402.2	Ability to Design Navigation system

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56	C402 - Avionics	C402.3	Integrate avionics systems using data buses.
		C402.4	Analyze the performance of various cockpit display technologies.
		C402.5	Design autopilot for small aircrafts using MATLAB
57	C403 - Computational Fluid Dynamics (ME6014)	C403.1	Derive the governing equations and boundary conditions for Fluid dynamics
		C403.2	Analyze Finite difference and Finite volume method for Diffusion
		C403.3	Analyze Finite volume method for Convective diffusion
		C403.4	Analyze Flow field problems
		C403.5	Explain the Turbulence models and Mesh generation techniques
58	C404 - Experimental Stress Analysis (AE6702)	C404.1	understand the concept of strain and working principles for strain gauges
		C404.2	Acquiring information's the usage of strain gauges in strain measurement
		C404.3	Acquiring information's the usage of strain gauges and photo elastic techniques of measurement .
		C404.4	Knowledge in brittle coating techniques and moire techniques
		C404.5	Knowledge in NDT in stress analysis
59	C405 - UAV Systems (AE6008)	C405.1	knowledge about basic uav systems and types of UAV
		C405.2	Ability to design UAV system
		C405.3	Ability to identify different hardware for UAV
		C405.4	Integrate various systems of unmanned aerial vehicle.
		C405.5	Design micro aerial vehicle systems by considering practical limitations
60	C406 - Airframe Maintenance and Repair (AE6010)	C406.1	Identify and apply the principles of function and safe operation to aircraft as per FAA
		C406.2	Understand the nature of airframe structural component inspection, corrosion repair
		C406.3	Understand aircraft component disassembly, reassembly and troubleshooting
		C406.4	Know about aircraft adhesives, sealants, bonding techniques, repair procedures and the types and detection of defects in aircraft composite materials
		C406.5	Identify, install, inspect, fabricate and repair aircraft sheet metal and synthetic, material structures.
61	08 - craft sign :ct - II 6711)	C407.1	the students will be in a position to design aircraft wings, fuselage, landing gears

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	C4 Air Des Proj (AE)	C407.2	able to angle the design in terms of structural point of view.
62	C 408 - Aircraft System Laboratory (AE6712)	C408.1	Ability to understand to procedure involved in jacking, rigging and leveling
		C408.2	Ability to understand to procedure involved in maintenance of various air frame systems
63	C409 - Flight Integration Systems and Control Laboratory (AE6713)	C409.1	Ability to understand digital electronics circuits
		C409.2	Ability to use microprocessor in Flight control
		C409.3	Ability to perform stability analysis
64	C410 - Wind Tunnel Techniques (AE6801)	C410.1	Understand the working principle of Blow down,
		C410.2	In draft tunnels and their specifications
		C410.3	Knowledge about horizontal buoyancy, flow angularities while carrying out calibratio
		C410.4	Understand the working principle of component axis balance and internal balances
		C410.5	Ability to carry out the smoke and tuft flow visualisation procedures in WT testing
65	C411 - Rockets and Missiles (AE6015)	C411.1	To be able to know about the current scenario of rockets and missiles.
		C411.2	To gain knowledge about the trajectory motion of rockets and missiles.
		C411.3	Gaining information on aerodynamic characteristics of rockets and missiles.
		C411.4	To expand the ability to design the staging and control of own rockets.
		C411.5	Basic knowledge about the propulsion systems and materials used in rockets and missiles.
66	C412 - Project Work (AE6811)	C412.1	Apply the knowledge of Engineering fundamentals, mathematics and an engineering specialization, thereby formulating research work and analyse complex engineering problems.
		C412.2	Familiarize with designing solutions for complex engineering problems and design system components, thereby formulating research based knowledge for the design of project work.
		C412.3	Impart appropriate techniques, resource and modern engineering and modeling to engineering design problems with an understanding of the limitations.
		C412.4	Applying Engineering ethics principles and to commit the responsibilities and norms of engineering practice, at the same time functioning effectively as a individual and holding good team work.
		C412.5	Recognize the need for the preparation and the ability to engage in independent and life-long learning process, thereby also promoting to communicate effectively on complexengineering activities and being able to design and write effective documentation.