

Department of Aeronautical Engineering

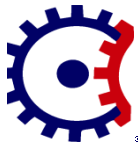
M. Tech. Aerospace Engineering (2nd Semester)

Course Name: **MAE21201: Flight Dynamics and Control**

MAE21201	Course Outcomes
CO1	Describes the fundamentals of aircraft design and aerodynamic characteristics.
CO2	Estimate the drag and thrust of the flightvehicle under given operating condition.
CO3	Enumerate steady level flight performanceof an aircraft.
CO4	Examine accelerated flight performance ofan aircraft under given loading condition.
CO5	Examine the static and lateral stability of anaircraft.

Course Name: **MAE21202: Rocket Propulsion**

MAE21202	Course Outcomes
CO1	Understand various concepts of advanced propulsion techniques.
CO2	Identify and describe various configurations of nozzles, problems associated with real nozzle and need of idealization.
CO3	Comprehend the problems on solid, liquid and hybrid rocket motors and their composition.
CO4	Solve the problems on thermodynamic thrust equation and specific impulse.
CO5	Explicate the fundamentals of rocket propulsion and working of individual rocket propulsion components.



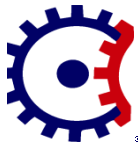
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Course Name: **MAE21203: Aircraft Design**

MAE21203	Course Outcomes
CO1	Investigate the preliminary design of an aircraft starting from data collection to satisfy mission specifications
CO2	Perform the weight estimation and power plant selection for a specific aircraft
CO3	Estimate the geometric and design parameters of an airplane
CO4	Design a system, component or process to meet requirements for aircraft systems
CO5	Demonstrate complete design of an aircraft to a level of sufficient detail to satisfy given mission specifications

Course Name: **MAE21204: Aeronautical Engineering Lab-2**

MAE21104	Course Outcomes
CO1	Estimate the performance of premixed flames and jet engine combustion chamber and ignition delay of solid rocket propellant.
CO2	Evaluate the performance of a aviation fuel/ propellant and hybrid rocket propellant.
CO3	Evaluate the performance of propeller at different speeds
CO4	Analysis the different Structural configurations of fuselage and wings on 3-D Design Software.
CO5	Understand the simulation 3-D Components subjected to various structural loadings.
CO6	Estimate weight and load of aircraft components such as wings and fuselage.



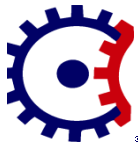
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Course Name: **MAE21205- Research Methodology**

MAE21105	Course Outcomes
CO1	Learn philosophy of research.
CO2	Describe conceptual and methodological issues that will conduct successful research
CO3	Describe process of planning and proposing, testing of hypothesis.
CO4	Describe different statistical analysis methods.
CO5	Develop research and article writing skills.

Course Name: **Program Elective-III (MAE21206- Aircraft System)**

MAE21206	Course Outcomes
CO1	Understand the need of flight control systems and its various parts Operation of flight control system.
CO2	Apply the concept the operation of fire protection system, operation of air conditioning and cabin pressurization system.
CO3	Describe the concept of hydraulic and pneumatic systems and eliminate the Problems of these systems
CO4	Understand deicing system, its effects in flying and oxygen system layout and utility.
CO5	Apply knowledge of electrical system to operate electronic and other Mechanical parts in the aircraft.



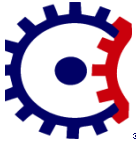
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Course Name: **Program Elective-III (MAE21207- Fundamentals of Combustion)**

MAE21207	Course Outcomes
CO1	Identify the type of combustion instability in different types of rocket motors.
CO2	Analyze experimental data on combustion instability.
CO3	Identify measures to be taken for stabilizing unstable combustion.
CO4	Carry out linear instability analysis.
CO5	Design rocket motors with consideration to the effects of instabilities.

Course Name: **Program Elective-I (MAE21208- Helicopter Engineering)**

MAE21108	Course Outcomes
CO1	Explain the different configurations of helicopter.
CO2	Solve the problems on the concepts of rotor dynamics and related theories.
CO3	Compute the Performance of Helicopter.
CO4	Examine the stability and control of forward moving helicopter.
CO5	Study the Standards, and Specifications



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Course Name: **Program Elective-III (MAE21209- Aviation Management)**

MAE21209	Course Outcomes
CO1	Understand the history of air traffic managements and its roles in airlines.
CO2	Study about concept of airspace structures and air traffic controller.
CO3	Apply the concept of phases of flight in ATM
CO4	Understand flight scheduling methods and related practices
CO5	Identify the problems solving between ATC and ATM.