Program Structure

Bachelor of Technology in Defence Technology (Aerospace Technology)

Duration: 4 Years | Level: Undergraduate

Eligibility: 10+2 with Physics, Chemistry, and Mathematics with required entrance qualification.

Program Overview

This program builds a strong foundation in aerospace engineering with defence-oriented applications, preparing students for careers in UAVs, missiles, space systems, avionics, and strategic aerospace platforms.

Semester-wise Structure

Semester I

Course Code	Course Title	Credits
XXXX	Engineering Mathematics I	4
XXXX	Engineering Physics	4
XXXX	Basics of Aerospace and Defence Systems	3
XXXX	Programming for Engineers	3
XXXX	Engineering Graphics and CAD	2
XXXX	Workshop Practice	2

Semester II

Course Code	Course Title	Credits
XXXX	Engineering Mathematics II	4
XXXX	Engineering Chemistry	4
XXXX	Aerodynamics I	4
XXXX	Materials and Manufacturing Processes	3
XXXX	Engineering Mechanics	3
XXXX	Communication Skills and Technical Writing	2

Semester III

Course Code	Course Title	Credits
XXXX	Fluid Mechanics	4
XXXX	Aircraft Structures I	4
XXXX	Thermodynamics and Propulsion	4
XXXX	Aerospace Instrumentation and Sensors	3
XXXX	Electrical Systems and Electronics	3
XXXX	Open Elective I	3

Semester IV

Course Code	Course Title	Credits
XXXX	Flight Mechanics	4
XXXX	Computational Methods in Aerospace Engineering	4
XXXX	Aerospace Vehicle Design I	4
XXXX	Avionics and Control Systems	3
XXXX	Defence Technology Fundamentals	3
XXXX	Open Elective II	3

Semester V

Course Code	Course Title	Credits
XXXX	Aerodynamics II	4
XXXX	Space Technology and Satellite Systems	4
XXXX	Aerospace Materials and Composite Structures	4
XXXX	UAV Systems and Applications	3
XXXX	Radar and Electronic Warfare Basics	3
XXXX	Mini Project I	2

Semester VI

Course Code	Course Title	Credits
XXXX	Aircraft Structures II	4
XXXX	Aerospace Vehicle Design II	4
XXXX	Guidance, Navigation and Control	4
XXXX	Computational Fluid Dynamics	4
XXXX	Defence Systems Integration	3
XXXX	Internship / Industrial Training	2

Semester VII

Course Code	Course Title	Credits
XXXX	Rocket and Missile Technology	4
XXXX	Launch Vehicle Systems	4
XXXX	Systems Engineering for Defence Platforms	4
XXXX	Reliability and Maintenance Engineering	3
XXXX	Elective III	3
XXXX	Project Phase I	4

Semester VIII

Course Code	Course Title	Credits
XXXX	Aerospace and Defence Innovation Management	3
XXXX	Elective IV	3
XXXX	Project Phase II	8
XXXX	Seminar and Comprehensive Viva	2

Elective Basket

1. UAV Design and Operations
2. Space Systems Engineering
3. Advanced Composite Materials
4. Military Communication Systems
5. Radar Signal Processing
6. Additive Manufacturing in Aerospace
7. AI in Aerospace Decision Systems
8. Cyber-Physical Systems for Defence

Total Credits

Suggested total: 172 credits including laboratories, internship, minor project, and capstone project.