



DAYANANDA SAGAR
UNIVERSITY



SCHOOL OF
ENGINEERING

Dayananda Sagar University

School of Engineering

Devarakagalahalli, Harohalli Kanakapura Road, Bangalore South District, Karnataka 562112

Department of Aerospace Engineering

The Ph.D. program in Aerospace Engineering is a rigorous, research-driven program designed to advance knowledge and innovation in cutting-edge areas such as aerodynamics, propulsion, space systems, and advanced materials. It offers scholars the opportunity to work on interdisciplinary projects with real-world aerospace applications, fostering both academic excellence and industry relevance.

Broad Areas of Research Department of Aerospace Engineering can offer the Ph. D courses on the following topics.

1. Aerodynamics

Focuses on the behavior of airflows over aircraft and spacecraft surfaces, enabling performance optimization, drag reduction, and enhanced manoeuvrability through experimental and computational fluid dynamics.

2. Aerospace Propulsion

Covers advanced studies of jet, rocket, and hybrid propulsion systems, aiming to improve thrust efficiency, fuel performance, and next-generation propulsion technologies for atmospheric and space missions.

3. Computational Methods in Aerospace Applications

Involves the development and application of numerical algorithms and simulations (e.g., CFD, FEM) to solve complex problems in fluid flow, structural analysis, and flight dynamics with high precision and efficiency.

4. Satellite Engineering

Explores the design, integration, and control of satellite subsystems including payloads, power systems, thermal control, and communication, with focus on miniaturization, mission-specific functionality, and orbital deployment.

5.Advanced Materials and Structures

Investigates high-performance composites, smart materials, and nano-engineered alloys for aerospace applications, with emphasis on lightweight design, impact resistance, and durability under extreme operating conditions.

6. Turbine Blade Cooling and Thermal Barrier Coatings

Centers on innovative cooling techniques and protective coatings for turbine components, enhancing thermal resistance and operational lifespan in high-temperature environments like jet engines and gas turbines.