The Department of Aerospace Engineering offers graduate work and research programs in aeronautical/aerospace engineering, leading to the degrees of MEng, MS, and PhD. The department also offers courses and faculty supervision for students pursuing the Master of Science and Doctor of Engineering degrees. The department provides educational and research opportunities in four core discipline areas associated with aerospace engineering. These are (1) aerodynamics and propulsion, (2) dynamics and control, (3) materials and structures, and (4) Systems, Design, and Human Integration. Areas of interest include aerodynamics, fluid dynamics, hypersonics, autonomous air/ground/space systems, machine learning and artificial intelligence, lasers, optics, plasma, electromagnetics, robotics, computational fluid dynamics, fluid-structure interaction (aeroelasticity), flight mechanics, astrodynamics, aircraft/ spacecraft dynamics and control, rotorcraft, computational mechanics, solid mechanics, micromechanics, multifunctional materials, high temperature materials, nanomechanics, composite materials, bio-nano materials, aging aircraft and structures, and bioastronautics. A foreign language is not required for any of the aerospace degree programs.

The 28 well equipped laboratories in the department include the Advanced Vertical Flight Laboratory, Aero and Fluid Dynamics Laboratory, Aerospace Laboratory for Lasers, Electromagnetics, and Optics (ALLEMO), Aerospace Systems, Technology Research & Operations (ASTRO) Laboratory, Aerospace Vehicle Systems Institute (AVSI), AggieSat Small Satellite Program Laboratory, Center for Intelligent Multifunctional Materials and Structures, Computational Stability and Transition Laboratory, Estimation, Decision and Planning Laboratory, High Temperature Gasdynamics Laboratory, Immersive Mechanics Visualization Laboratory, Klebanoff–Saric Low-Speed Low Disturbance Wind Tunnel (KSWT), Laboratory for Uncertainty Quantification, Land, Air and Space Robotics (LASR) Laboratory, Laser Diagnostics and High-Speed Combustion Laboratory, Materials and Testing Laboratory, Multifunctional Materials and Aerospace Structures Optimization (M2AESTRO) Laboratory, Nanostructured Materials Laboratory, National Aerothermochemistry and Hypersonics Laboratory (NAL), Oran W. Nicks Low-Speed Wind Tunnel (LSWT), Plasma Dynamics Modeling Laboratory, Plasma Simulation Laboratory, Propulsion Laboratory, Systems Engineering, Architecture and Knowledge (SEAK), Tensegrity & Morphing Structures Laboratory, Turbulence and Advanced Computations Laboratory (TACL), Vehicle Systems & Control Laboratory (VSCL), and ZLab, as well as modern High Performance Computing Facilities.

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