

# ENGINEERING MECHANICS: AEROSPACE ENGINEERING

Engineering mechanics is the home of aerospace engineering at UW–Madison. Some of the most exciting innovations in air and space travel require understanding of the engineering mechanics principles at the heart of this major. Whether there are humans in the cockpit or remote-controlled drones, the interaction of an aircraft with its surroundings results in deformation, vibration, and dynamic motions that are all explained by engineering mechanics. Even without the atmosphere experienced by aircraft, spacecraft, and vehicles that explore distant planets must also withstand a variety of forces and be reliable in environments where repair may not be possible. In both cases, there is a premium on reducing weight and expanding capabilities. This makes aerospace engineering a natural extension of engineering mechanics. Following the same fundamental courses as our engineering mechanics major, students in the aerospace engineering option will apply their education in structural analysis, material science, advanced dynamics, and vibrations to specific courses on aerodynamics, flight dynamics, orbital mechanics, and propulsion. A highlight of this program is the aerodynamics laboratory where students conduct field experiments on the UW–Madison wind tunnel. Talk to your academic advisor about declaring this option.