AE 5335 : Autonomous Aerial Vehicles

This course discusses the foundations of autonomy of aerial vehicles including fixed-wing aircraft and quadrotor aircraft. Topics covered include: localization using inertial sensors, GPS, and computer vision; extended Kalman filtering for localization; trajectory planning; feedback guidance for trajectory tracking; and low-level autopilot control design. Whereas this course will review aircraft dynamics, familiarity with this topic at an undergraduate level isbeneficial. Students cannot receive credit for this course if they have taken AE 5224 "Air Vehicle Dynamics and Control".

Department

Aerospace Engineering

Credits 2.0

Recommended Background

dynamics and control of linear systems (AE 5331 or similar); fluency with MATLAB or Python programming