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| Want to build an autonomous air vehicle?Want to implement computer vision algorithms?Want to compete against other universities for bragging rights? | |
| Autonomous SportsENGR E-399-36595/E-599-37257*Design, build, and test a lighter-than-air vehicle to face off with other universities in head-to-head competition*In-person and Virtual meetings  * Flexible meeting times * No TESTS! * Intensive hands-on learning | Learn and implement diverse set of capabilities:   * System Engineering * Mechanical Design * 3-D design and printing * Computer Vision   + Object Detection   + Tracking   + Color filtering * Finite state machines * Micro-controller programming * C++/Python3/Micropython * Remote piloting * Visual Odometry * Pulse-Width Modulation * Wireless networking techniques * Kalman Filtering * Inertial Measurement   + Accelerometer   + Magnetometer   + Gyroscope * Control Theory   + PID * Machine Learning   A picture containing indoor, ceiling  Description automatically generatedA picture containing indoor, ceiling, red, light  Description automatically generated |

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