

MECH - 4395 – UNMANNED AERIAL SYSTEMS (Spring 2018)

Instructor Dr. Mike McGee
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Office Hours: By appointment

Meeting Times & Location: Mondays/Wednesdays, 1500-1620 hrs, College of Business Admin 318

Description: This class will cover a wide range of engineering and operational aspects of Unmanned Aerial Systems. The first half of the course will cover aerodynamics, propulsion, sensor theory and use cases, datalinks and control, and real-world UAS applications. The second half of the course will cover the knowledge necessary to plan and execute basic UAS missions. Students will have the opportunity to gain their FAA Part 107 UAS license in the process (student cost is \$150 if you choose to take the Federal Aviation Administration exam necessary to obtain the license).

Required Reading:

As assigned, no textbook

Course Requirements:

1. Midterm Exam – 25%
2. Final Exam – 50% (you will be exempt from taking final exam if you obtaining Part 107 license before the Final Exam)
3. Class Participation – 25%

Grading: 100-90 (A), 89-80 (B), 79-70 (C), 69-60 (D), 59 & below (F)

Course Schedule:

Wednesday	17-Jan	Overview
Monday	22-Jan	UAS History
Wednesday	24-Jan	Current UAS Use Cases
Monday	29-Jan	Aerodynamics 1
Wednesday	31-Jan	Aerodynamics 2
Monday	5-Feb	Propulsion 1
Wednesday	7-Feb	Propulsion 2
Monday	12-Feb	Common Sensors
Wednesday	14-Feb	Specialized Sensors
Monday	19-Feb	Datalinks 1
Wednesday	21-Feb	No Class
Monday	26-Feb	Command and Control 1
Wednesday	28-Feb	Future UAS Use Cases and Mid-Term Review
Monday	5-Mar	No Class
Wednesday	7-Mar	Mid-Term Exam
Monday	12-Mar	Spring Break
Wednesday	14-Mar	Spring Break
Monday	19-Mar	UAS Regulations
Wednesday	21-Mar	Airspace

Monday	26-Mar	Aviation Weather
Wednesday	28-Mar	Effects of Weather on UAS
Monday	2-Apr	Dynamic Loading
Wednesday	4-Apr	Emergency Procedures
Monday	9-Apr	Crew Resource Management
Wednesday	11-Apr	Radio Communication Procedures
Monday	16-Apr	Performance of UAS
Wednesday	18-Apr	Physiological Factors
Monday	23-Apr	Aeronautical Decision-Making and Judgment
Wednesday	25-Apr	Airport Operations
Monday	30-Apr	Maintenance and Preflight Procedures
Wednesday	2-May	Exam Review
Monday	7-May	Final Exam

Plagiarism and Academic Dishonesty Statement: Cheating is unethical and not acceptable. Plagiarism is using information or original wording in a paper without giving credit to the source of that information or wording; it is also not acceptable. Do not submit work under your name that you did not do yourself. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy. Refer to <http://www.utep.edu/dos/acadintg.htm> for further information.

Disabilities Statement:

The course instructor will make any reasonable accommodations for students with limitations due to disabilities, including learning disabilities. Please see me personally before or after class in the first two weeks or make an appointment, to discuss any special needs you might have. If you have a documented disability and require specific accommodations, you will need to contact the Center for Accommodations and Support Services (CASS) in the East Union Bldg., Room 106 within the first two weeks of classes. The CASS Office can also be reached in the following ways:

Website: <http://sa.utep.edu/cass/>
 Phone: (915) 747-5148 voice or TTY
 Fax: (915) 747-8712
 E-Mail: cass@utep.edu