

Doctoral Degree in Mechanical and Aerospace Engineering Unmanned Aerial Systems (UAS)

The minimal University requirements for the Ph.D. degree are determined by the Graduate College and can be found in the *University Catalog* (<http://prodosu.okstate.edu>). We, in MAE, have additional requirements in several areas.

The 60 hours of Doctoral coursework in UAS should satisfy the following (For a copy of the “MAE Graduate Course Offerings” sheet and the “Mathematics Requirements” sheet, please visit the Graduate Academic Secretary or our Web site at <http://www.mae.okstate.edu/grad.html>):

Mathematics (see “Mathematics Requirements” sheet)	5000- and 6000-level Courses* (see “MAE Graduate Course Offerings” sheet)	Research Hours
6 hours	24 to 30 hours Select at least 24 hours from: UAS Core I: 9 hours UAS Core II: 3 hours UAS Electives: 12 hours	MAE 6000 (24 to 30 hours)**

* MAE Ph.D. Students are not permitted to count any 4000- level coursework on their plan of study outside of approved MATH courses. Also, courses applied to a student’s plan of study for the UAS option at the Masters level are not applicable to the Ph.D. option.

**The Ph.D. research and defense in an area closely related to UAS, as determined and approved by the student’s advisory committee and to be indicated on the official plan of study.

UAS Course Selections

UAS Core I:

- MAE 5483 Advanced Mechatronics Design
- MAE 5913 Advanced Aerodynamics
- MAE 5923 Guidance and Control of Aerospace Vehicles
- MAE 5953 Aerospace Systems Engineering
- MAE 5963 Unmanned Aerial Systems Design and Analysis
- MAE 5973 Unmanned Aerial Systems Propulsion

UAS Core II: Aviation Operations, Regulations, and Education

- AVED 5303 Aviation and Space Quality Issues
- AVED 6423 Certification of Airplanes
- (More courses to be added as they become available)*

UAS Electives:

- MAE 5083 Engineering Acoustics
- MAE 5233 Viscous Fluid Dynamics
- MAE 5433 Robotics, Kinematics, Dynamics and Control
- MAE 5473 Digital Control Systems
- MAE 5533 Analysis of Structural Systems
- MAE 5933 Aeroelasticity
- MAE 5943 Unsteady Aerodynamics and Aeroacoustics