

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

The minimal University requirements for the Ph.D. degree are determined by the Graduate College and can be found in the *University Catalog* (<https://registrar.okstate.edu/University-Catalog>). MAE has additional requirements in several areas. For Doctoral students, the UMAS Concentration requirements include a minimum of 12 credit hours in the UMAS core and Ph.D. research and defense in an area closely related to Unmanned Aerial Systems. Research hours include the Preliminary Exam and your advisor’s section of MAE 6000 (Dissertation Dissertation), see table below.

The 60 hours of Doctoral coursework in UMAS beyond the Master’s degree should satisfy the following (For a copy of the “MAE Graduate Course Offerings” sheet, please visit the Graduate Academic Advisor or our website at <http://www.mae.okstate.edu>):

MAE 5000- and 6000-level Courses (see “MAE Graduate Course Offerings”)	Graduate Level Technical Electives**	Research Hours***
21 hours	9 hours	
Select a minimum of 12 hours from the UMAS Core. UMAS Core: 12 hours* MAE Elective: 9 hours minimum	Select a minimum of 6 hours of courses approved for graduate credit (5000- and 6000- level courses).	MAE 6000 (24-30 hours) MAE 6010 (1 hour)

*Courses applied to a student’s plan of study for the UMAS concentration at the Masters level are not applicable to the Ph.D. UMAS concentration.

**5000- and 6000-level courses approved by the student’s advisory committee (see “MAE Graduate Course Offerings”).

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

UMAS Core:

- MAE 5083 Engineering Acoustics
- MAE 5233 Advanced Fluid Dynamics I
- MAE 5343 Advanced Aerospace Propulsion and Power
- MAE 5913 Advanced Aerodynamics
- MAE 5923 Guidance and Control of Aerospace Vehicles
- MAE 5943 Unsteady Aerodynamics and Aeroacoustics
- MAE 5963 Unmanned Aerial Systems Design and Analysis
- MAE 5973 Unmanned Aerial Systems Propulsion
- MAE 5983 Aircraft Certification and Test
- MAE 6313 Atmospheric Flight Control

MAE Electives:

Any MAE graduate level course supporting Unmanned Aerial Systems dissertation research will be allowed with permission of the student’s advisory committee.

Technical Electives:

Graduate level courses allowed with permission of the student’s advisory committee.