GRADUATE CERTIFICATE IN AEROSPACE ENGINEERING

OVERVIEW

Dr. Steven Huebner, program director

The Graduate Certificate in Aerospace is designed for practicing mechanical engineers in the workforce and graduate students pursuing an M.S. in Mechanical Engineering who wish to demonstrate a focus in aerospace related curriculum. The certificate requires the completion of four courses (12 cr hr) from three of four aerospace related subject areas. Students can take these courses remotely. The certificate will develop the technical skills engineers need to conceptualize, design, develop, and test aerodynamic components and systems as well as communicate effectively with specialized engineering teams.

GRADUATE CERTIFICATE IN AEROSPACE ENGINEERING

The graduate certificate in aerospace engineering offers courses focused on fluid dynamics, heat transfer, aerothermodynamics, materials, design, and manufacturing. An understanding of these topics provides the basis for design and development of advanced aerospace systems.

PROGRAM CURRICULUM & REQUIREMENTS

The certificate is structured to require 12 credit hours of course work. A total of four (4) courses from at least three (3) of the subject areas listed under requirements must be successfully completed for the certificate.

Fluid Dynamics

Code	Title	Hours
MIME 5550	Aerodynamics	3
MIME 6440	Computational Fluid Dynamics I	3
MIME 6450	Experimental Fluid Mechanics	3
MIME 6460	Intermediate Fluid Mechanics and Heat Transfer	3

Heat Transfer

Code	Title	Hours
MIME 6460	Intermediate Fluid Mechanics and Heat Transfer	3
MIME 6580	Advanced Heat Transfer	3

Aerothermodynamics

Code	Title	Hours
MIME 5510	Turbomachinery	3
MIME 5540	Jet Propulsion	3
MIME 5560	Gas Dynamics	3

Materials, Design, and Manufacturing

Code	Title	Hours
MIME 5060	Manufacturing Engineering	3
MIME 5300	Advanced Mechanics Of Materials	3
MIME 6200	Advanced Dynamics	3
MIME 6720	Design of Experiments	3

- PLO (1) Demonstrate technical proficiency in aerospace topics
- PLO (2) Solve problems using mathematics and engineering principles in aerospace
- PLO (3) Discuss aerospace concepts clearly and concisely in both oral and written formats