AUTOMOTIVE MATERIALS AND DESIGN

The automotive system of the twenty-first century is poised to advance at a rapid pace with greater emphasis on lightweight structures, high efficiency powertrains, intelligent control systems, lower emissions, robust design and manufacturing, as well as improved comfort and safety. This certificate program gives an opportunity for automotive engineers to learn to about lightweight materials, advancements in ergonomic and structural design, vehicle dynamics and control, and advanced manufacturing techniques (12 credit hours).

Certificate offered on Campus and via Distance Learning.

Coursework Requirements

Code	Title	Credit Hours
Please choose four courses to complete the required 12 credit hours.		
AENG 545	Vehicle Ergonomics I	3
or IMSE 545	Vehicle Ergonomics I	
AENG 550	Design of Automotive Chassis	3
AENG 553	Structural Design and CAE Analysis for Electric Vehicle Batteries	3
AENG 555	Vehicle Stability & Control	3
AENG 5561	Vehicle Structure Design with CAE	3
or ME 5561	Vehicle Structure Design with CAE	
AENG 584	Lightweight Automotive Alloys	3
AENG 586	Design & Mfg: Ltwt Auto Mat	3
AENG 650	Analysis and Design for Vehicle Crashworthiness	3
IMSE 593	Vehicle Package Engineering	3
ME 543	Vehicle Dynamics	3
ME 545	Acoustics and Noise Control	3
ME 559	Battery Materials, Manufacturing and Recycling	3
ME 583	Mechanical Behavior of Materials	3
ME 589	Composite Materials	3