POWER ELECTRONICS FOR MOBILITY AND SUSTAINABLE ENERGY (BRIDGE GRADUATE CERTIFICATE)

The Bridge Graduate Certificate in Power Electronics for Mobility and Sustainable Energy is designed to train students and professionals with the advanced knowledge in power electronics and practical skills needed to excel in the rapidly evolving fields of electrified mobility, sustainable energy, and energy-intensive applications such as data centers and artificial intelligence (AI). The curriculum covers fundamental knowledge of power semiconductor devices, various power conversion topologies/circuits, design, control, and optimization of power converters for electric vehicles and sustainable energy systems, and introduction to state-of-the-art simulation and design tools.

To earn the certificate, students must complete a total of 12 credit hours, consisting of one core and three elective courses. Each course is 3 credits. A minimum grade of B- is required in each course, and an overall GPA of 3.0 must be maintained. All courses in the certificate program must be completed within three years of first enrollment. Courses applied to the master's degree must be completed within six years of first enrollment.

Code	Title	Credits
Required Courses		**3**
ECE 5410	Power Electronics and Control	
Elective Courses (Select three of the following)		**9**
ECE 5550	Solid State Electronics	
ECE 5430	Electric Energy Systems Engineering	
ECE 5620	Embedded System Design	
ECE 5995	Special Topics in Electrical and Computer Engineering I (Fundamentals of PCB Design (Winter))	
ECE 5995	Special Topics in Electrical and Computer Engineering I (PCB Projects (Fall))	
ECE 5995	Special Topics in Electrical and Computer Engineering I (Characterization of Semiconductors (Winter))	
ECE 7860	Operation and Control of Modern Power Systems	
Total Credits		**12**