PRINTED CIRCUIT BOARD DESIGN (BRIDGE GRADUATE CERTIFICATE)

Printed circuit board (PCB) design is a fundamental skill in the electronics industry, enabling the development of computing, sensing, and communications systems for applications in automotive, robotics, manufacturing, consumer electronics, and medicine. As PCBs grow increasingly complex, so does the demand for engineers with specialized expertise in PCB design to meet the industry's requirement for high-reliability and high-performance systems.

The Bridge Graduate Certificate in Printed Circuit Board (PCB) Design equips students and working professionals with technical knowledge and hands-on skills needed to design, analyze, and manufacture PCBs. Students in the program will be able to

- Design functional PCB layouts using industry-standard software
- Apply industry standards and best practices in the PCB design, including component placement, routing, and design rules
- Describe the fundamental processes and techniques used in PCB fabrication and assembly
- Earn an industry certification in PCB design.
- Develop PCBs and electronics for specific functions such as sensing, data processing, or wireless communication.

To earn the certificate, students must complete a total of 12 credit hours, consisting of one core course, and three elective courses. 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 (Select one of the following)		**3**
ECE 5550	Solid State Electronics	
ECE 5995	Special Topics in Electrical and Computer Engineering I (Fundamentals of PCB Design (Winter))	
ECE 5620	Embedded System Design	
Elective Courses (Select three of the following)		**9**
ECE 5995	Special Topics in Electrical and Computer Engineering I (PCB Projects (Fall))	
ECE 5675	Sensors and Sensor Instrumentation	
ECE 5280	Introduction to Cyber-Physical Systems	
ECE 5880	Introduction to Microwave Engineering	
Total Credits		**12**