

HIGH-SPEED CIRCUITS AND SYSTEMS GRADUATE ACADEMIC CERTIFICATE

Students who obtain this certificate will learn the principles of signal/power integrity (SPI) and electromagnetic compatibility (EMC) engineering, and apply them to the analysis, design, and optimization of high-speed circuits and systems.

All required coursework must be completed with a grade of B or better (O-10-b (<https://catalog.uidaho.edu/general-requirements-academic-procedures/o-miscellaneous/>)).

Code	Title	Hours
ECE 5300	Advanced Electromagnetic Theory I	3
ECE 5330	Antenna Theory	3
Select two from the following:		6
ECE 5390	Advanced Topics in Electromagnetics	
ECE 5150	Analog Integrated Circuit Design	
ECE 5180	Introduction to Electronic Packaging	
ECE 5240	Transients in Power Systems	
ECE 5280	Understanding Power Quality	
ECE 5290	Utility Applications of Power Electronics	
ECE 5880	Advanced Frequency-Domain Control	
Total Hours		12

Courses total 12 credits for this certificate

1. The capability to recognize, articulate, and resolve problems related to high-speed circuits and systems by leveraging principles from engineering, science, and mathematics.
2. Proficiency in communicating about HSCS concepts and technologies to diverse audiences effectively.
3. Expertise in designing and executing relevant high-speed circuits and systems experiments, analyzing the data, and employing engineering discernment to derive conclusions concerning high-speed circuits and systems.

These learning outcomes underscore that students completing the high-speed circuits and systems certificate have gained the requisite knowledge, competencies, and aptitudes essential for success in various sectors of the high-speed circuits and systems industry. Such students are aptly prepared to advance in further educational pursuits or to embark on careers in the high-speed circuits and systems domain.