Post-Baccalaureate Certificate in Field-Programmable Gate Array and System on Chip Design

About This Program

The Department of Computer Science and Engineering offers Graduate Certificate options to current UTA graduate students and candidates not currently enrolled at UTA who hold at least a BS degree or equivalent. Most completed certificate coursework can be applied toward a UTA CSE master's or PhD degree.

The Graduate Certificate in Field-Programmable Gate Array (FPGA) and System on Chip (SoC) Design is a credit-bearing, degree-leading program designed to equip students with advanced skills in digital hardware design and embedded system integration. The curriculum emphasizes practical experience with industry-standard tools and techniques for building and deploying FPGA- and SoC-based solutions.

The core competencies described here show what a student should know or have upon completion of the certificate requirements.

Competencies

1. Upon completion, students will demonstrate an ability to design and test advanced digital logic systems.
2. Upon completion, students will demonstrate the knowledge and skills required to use industry-standard HDL tools.
3. Upon completion, students will demonstrate an ability to use bridges to interconnect FPGA fabric and processor subsystems.
4. Upon completion, students will demonstrate an ability to write Linux device drivers.
5. Upon completion, students will be able to implement soft RISC processors in FPGA devices.

Admissions Criteria

CSE certificate students are expected and required to have sufficient background knowledge for the program by way of undergraduate preparation equivalent to a baccalaureate degree in Computer Science, Computer Engineering, Electrical Engineering, or in a technical field relevant to the CSE curriculum. Sufficient background can include, but is not limited to, holding a degree in computer science, computer engineering, or information systems or having gained the requisite background knowledge through active employment in computer science or information technology related fields. Students without a proper academic background, as determined by the graduate advisor at the time of the admission review, will be required to complete a foundations course of CSE 5400 Fundamentals of Computer Engineering, CSE 5342 Embedded Systems II, or EE 5314 Embedded Microcontroller Systems and earn a passing grade in addition to the other required graduate courses.

Should a certificate student wish to continue on to an MS or PhD degree program in the CSE department, most certificate courses may be used toward that advanced degree. Note that for admission to the MS degree program, all UTA and CSE graduate degree admission requirements would need to be met.

Current UTA students should contact CSEGradAdvising@uta.edu to request admission to the certificate program. Individuals not currently enrolled at UTA can apply for the certificate via ApplyTexas (https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.applytexas.org%2Fadappc%2Fgen%2Fc_start.WBX&data=05%7C02%7Cdickens%40uta.edu%7C2baae0d3a6a9470ee8e308dd90434c51%7C5cdc5b43d7be4caa8173729e3b0a62d9%7C0%7C0%7C638825340889558519%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=TYpVJ5INFycjd8eztYS9pQ3ICJ%2Fn40%2FSewZkrb%2F3bOE%3D&reserved=0).

Curriculum

CSE 5356	SYSTEM ON CHIP (SoC) DESIGN	3
CSE 5357	ADVANCED DIGITAL LOGIC DESIGN	3
CSE 5372	RISC PROCESSOR DESIGN	3
An Advanced Topics in Computer Engineering course (CSE 6351) co-listed with any of the above courses is also acceptable, provided there is not duplicaton in course content		
Total Hours		**9**

Program Completion

A grade of C or better and an overall GPA of 3.0 or higher is required in all courses counted towards the completion of the certificate. Students enrolled in the certificate program will take courses with students studying for master’s and/or PhD programs in the CSE Department.

Advising Resources

Graduate students should consult a graduate advisor as needed

Location:

Engineering Research Building 6th Floor

Email:

csegradadvising@uta.edu

Phone:

N/A

Web:

Graduate Advising (https://www.uta.edu/academics/schools-colleges/engineering/academics/departments/cse/students/graduate-advising/)