



Baylor University

Graduate Certificate in Microwave/RF Engineering

Department of Electrical and Computer Engineering

Overview:

This comprehensive four-course certificate program, amounting to 12 credits, is tailored to empower engineering professionals by advancing their expertise in the theoretical and practical dimensions of RF and Microwave development and applications. Delivered through **online lectures and hands-on labs conducted at the Baylor Dallas campus or venues near the major RF/MW industry**, this hybrid program is especially advantageous for individuals in technical and scientific fields who need a background in RF and Microwave areas. Upon completion of this certificate, engineers will acquire valuable knowledge, equipping them to adeptly apply RF/Microwave and Wireless technologies in the design of resilient and mission-critical microwave, antenna, and radar systems.

The applicants for this certificate program should have an undergraduate degree in electrical engineering or related disciplines. Undergraduate level knowledge on electromagnetics is a must. Upon completion of the certificate, the student can apply to the Baylor University Master of Science or Master of Engineering (MS/ME) in Electrical and Computer Engineering program. The qualified course credits from this graduate certificate can be applied to the MS/ME degree.

Target Students:

The potential students for this certificate program come from the defense and telecommunication corporations.

Curriculum Requirements:

Each course is allocated 3 credit hours, including both the lecture and lab components.

ELC 5396 Antennas and Wireless Propagations

ELC 5338 High Frequency Electronics Design

ELC 5339 High Frequency Electronics II

ELC 5340 Radar Engineering

Delivery Format:

The lectures will be taught in person on Baylor Waco Campus in a regular 75-minute, twice-a-week fashion. The lectures can be live-streamed and recorded for remote students' asynchronous access. The lab will be organized and hosted by a dedicated adjunct faculty or by a TA.



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Benefits to the Students:

Upon completion of this certificate program, students will acquire the following valuable skills and knowledge:

- Design, fabricate, simulate, and measure helix antennas operating in the GPS frequency band.
- Design resonators, couplers, filters, diodes, and mixers.
- Design, simulate, construct, and test amplifiers using Microwave CAD tools and measurements.
- Develop FMCW radar systems to measure the position and velocity of targets, such as humans and vehicles.

Certificate Admissions Requirements:

Documentation demonstrating the attainment of a bachelor's degree in electrical engineering or a closely related field, accompanied by a minimum GPA of 3.0 or higher.

Certificate Completion Requirements:

To earn the certificate, all required courses must be finished within a five-year timeframe, and a minimum GPA of 3.0 must be maintained.

Cost of the Certificate Program:

Baylor University will assess a fee of \$800 per credit hour, resulting in a total program cost of \$9,600.