

RF AND ANTENNA ENGINEERING CERTIFICATE

Introduction

Society has become more and more dependent upon wireless technologies over the last two decades, introducing a plethora of new engineering opportunities in wireless communications and networking, satellite and deep space communications, radar systems, imaging and sensing. The graduate certificate in RF and Antenna Engineering at CU Denver will provide critical technical skills and knowledge to engineers working in (or seeking to work in) industries developing products and technologies in these fields. Topics covered in this program include antenna operation, parameters and limitations including arrays; RF circuits (components and basic design); waveguide theory; familiarity with EM simulation approaches and their limitations; and experience with RF measurement equipment (what can and can't be measured in the lab).

Students may take these courses as a non-degree student or by being enrolled at the University of Colorado Denver. Courses can also be used to partially fulfill requirements for a master's degree in electrical engineering or other eligible graduate programs.

The program is intended for students and engineers with a BS degree in electrical engineering or the equivalent.

Certificate Requirements

1. The certificate requires successful completion of three courses, outlined below and the RF lab, with a grade of B- or better.
2. Some courses have remote options.
3. Three of the following courses (9 credit hours) and the 1 credit RF lab.

Code	Title	Hours
Select 9 credits of the following:		9
ELEC 5133	Electromagnetic Radiation and Antenna	
ELEC 5333	Introduction to Computational Electromagnetics	
ELEC 5134	Introduction to Microwave Circuit Design	
ELEC 5334	Advanced Computational Electromagnetics	
ELEC 5433	Fundamentals and Applications of Plasmas	
Required Course		
ELEC 5423	Radio Frequency Laboratory	1
Total Hours		10