COMMUNICATIONS AND NETWORKING GRADUATE CERTIFICATE

Banner Code: VS-CERG-CONE

Academic Advising
MSN 1G5
4400 University Drive
Fairfax, VA 22030
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Email: ece@gmu.edu
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This graduate certificate provides graduate students with the opportunity to reach a demonstrated level of competence in communications and networking. Coursework toward the graduate certificate may be used for credit toward the MS in electrical engineering or computer engineering; however, the certificate's primary purpose is to provide a well-defined body of knowledge for students who want to advance their understanding of modern communications but do not necessarily want to complete requirements for the MS degree. The certificate may be pursued concurrently with any of the graduate degree programs in the Volgenau School.

The graduate certificate may only be pursued on a part-time basis.

Admissions & Policies

Admissions
The certificate program in communications and networking is open to all students who hold BS degrees in scientific and engineering disciplines from accredited universities.

Policies
The certificate is awarded on completion of five graduate courses (15 credits) in communications and networking. A cumulative GPA of 3.00 is required and one course with a grade of C at most may be applied toward the certificate. The certificate courses comprise two required foundation courses and three electives.

Requirements

Certificate Requirements
Total credits: 15

Foundation Courses
ECE 528 Introduction to Random Processes in Electrical and Computer Engineering 3
ECE 542 Computer Network Architectures and Protocols 3
Total Credits 6

Electives
After completing the foundation courses, students choose electives by taking three courses from the following:

Select three courses from the following: 9

- ECE 535 Digital Signal Processing
- ECE 565 Introduction to Optical Electronics
- ECE 567 Optical Fiber Communications
- ECE 630 Statistical Communication Theory
- ECE 633 Coding Theory
- ECE 635 Adaptive Signal Processing
- ECE 642 Design and Analysis of Computer Communication Networks
- ECE 643 Network Switching and Routing
- ECE 646 Cryptography and Computer Network Security
- ECE 731 Digital Communications
- ECE 732 Mobile Communication Systems
- ECE 734 Detection and Estimation Theory
- ECE 738 Advanced Digital Signal Processing
- ECE 741 Wireless Networks
- ECE 742 High-Speed Networks
- OR 635 Discrete System Simulation
- OR 643 Network Modeling
- OR 647 Queuing Theory

Total Credits 9