University of Arkansas-Fort Smith
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General Syllabus

CS 4233 Advanced Routing

Credit Hours: 3   Lecture Hours: 3   Laboratory hours: 0

Prerequisite: CS 3223 Routing and Switching

Effective: 2018-2019

I.   Course Information

   A.   Catalog Description
   Provides the necessary knowledge and skills to plan, implement, and
   troubleshoot scalable routed networks. Routing of IPv4 an IPv6 using
   interior gateway protocols, EIGRP and OSPF, within enterprise networks
   will be addressed. The routing between autonomous systems with BGP
   will also be examined.

II.   Student Learning Outcomes

   A.   Subject Matter
   Upon successful completion of this course, the student will be able to:

   1. Explain basic routing concepts as related to interior and exterior
      gateway protocols.
   2. Create scalable IP networks using EIGRP and OSPF.
   3. Explain how BGP works and demonstrate BGP configuration for
      routing between autonomous systems.
   4. Create and establish Internet and WAN connectivity.
   5. Evaluate and assess best practices related to network design and
      implementation.

   B.   University Learning Outcomes
   This course enhances student abilities in the following area:

   Analytical Skills
   Critical Thinking Skills: Students will identify routing and switching
   problems, break the problems down into component parts, develop,
   implement, and troubleshoot a solution.

III. Major Course Topics

    A. Interior and Exterior Gateway Protocols
    B. EIGRP Protocol
    C. OSPF Protocol
    D. BGP Protocols
    E. Internet/WAN Connectivity
    F. Network Design and Troubleshooting