General Syllabus

CS 3223 Routing and Switching

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

Prerequisite: CS 1043 Foundations of Networking, CS 1053 Computer Hardware

Effective: Summer I 2014

I. Course Information

A. Catalog Description
   Network routing and switching concepts and their methods of implementation, including routed and routing protocols, router and switch configuration, router and switch security, access control lists (ACLs), and virtual local area networks (VLANs).

B. Additional Information – None

II. Student Learning Outcomes

A. Subject Matter

   1. Explain and demonstrate routing concepts as implemented in a network.
   2. Explain and demonstrate switching concepts as implemented in a network.
   3. Explain and demonstrate basic security concepts as implemented in routers and switches.

B. University Learning Outcomes

   Analytical Skills
   Students will use analytical skills to identify routing and switching problems, break the problems down into component parts and develop a solution.

   Technological Skills
   Students will use computerized tools (text editors, router and switch operating systems, and runtime engines) to create, analyze and process electronic information.
III. Major Course Topics

A. Routing and packet forwarding
B. Static routing
C. Dynamic routing protocols
D. IP addressing
E. Local Area Network design
F. Basic switch concepts and configuration
G. VLANs
H. Spanning Tree Protocol (STP)
I. Inter-VLAN routing
J. Access Control Lists and introduction to network security