HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE TITLE & NUMBER: Router Theory and Router Technologies: CNT 1020
CREDITS: 3 (Lec 2/ Lab 1)
PREREQUISITE: CNT 1010: Networking Fundamentals

CATALOG DESCRIPTION:
Router Theory and Router Technologies covers the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality.

OUTLINE OF MAJOR CONTENT AREAS:
1. Routing Concepts
2. Static Routing
3. Dynamic Routing
4. Switched Networks
5. Switch Configuration
6. VLANs
7. Access Control Lists
8. DHCP
9. NAT for IPv4
10. Device Discovery, Management, and Maintenance

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will determine how a router will forward traffic based on the contents of a routing table.
2. Students will explain how switching operates in a small to medium-sized business network.
3. Students will configure and secure Ethernet switch ports.
4. Students will implement VLANs and inter-vlan routing.
5. Students will implement static routing.
6. Students will implement DHCP for IPv4 and IPv6 on a router.
7. Students will implement and troubleshoot network address translation (NAT).
8. Students will implement and troubleshoot access control lists (ACLs) to filter traffic.

HCC COMPETENCIES MET:
Working Productively and Cooperatively
Communicating Clearly and Effectively

STUDENT CONTRIBUTIONS:
The student is expected to attend class regularly, participate in class discussion, complete assignments, and laboratory or design projects. The student must spend sufficient time to complete assignments.