



## NETWORK SYSTEMS IV: CONNECTING NETWORKS — ISTC 2016

### A. Course Description

- **Credits:** 3.00
- **Lecture Hours/Week:** 2.00
- **Lab Hours/Week:** 1.00
- **OJT Hours/Week:** 0
- **Prerequisites:**
  - ISTC 2011: Network Systems III: Scaling Networks
- **Corequisites:** None
- **MnTC Goals:** None

This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. This is the fourth (and final) course preparing the student to take the Cisco Certified Network Associate (CCNA) Routing and Switching examination. Prerequisites: ISTC2011

### B. Course Effective Dates: 5/22/14 – Present

### C. Outline of Major Content Areas

As noted on course syllabus

### D. Learning Outcomes

1. Configure and troubleshoot IPsec tunneling operations
2. Configure and troubleshoot broadband connections
3. Configure and troubleshoot serial connections
4. Design network architectures: ? Borderless networks ? Data centers and virtualization ? Collaboration technology and solutions
5. Monitor and troubleshoot network operations using syslog, SNMP, and NetFlow
6. Understand and describe different WAN technologies and their benefits
7. Understand and describe the operations and benefits of virtual private networks (VPNs) and tunneling

**E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

**F. Learner Outcomes Assessment**

As noted on course syllabus

**G. Special Information**

None noted