

# Minnesota State College Southeast

## NWAT 2675: Network Design & Analysis

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course provides a survey of techniques and procedures followed in the development of business computer information systems. Topics include structured approaches to needs assessment, specification, design, system development, documentation development and implementation of new systems. Students will be introduced to various CASE tools and their uses in system analysis and design. The student will use these tools to plan and create systems based on different network scenarios. (Prerequisites: NWAT1642, NWAT1650) (2 credits: 1 lecture/1 lab)

**B. COURSE EFFECTIVE DATES:** 10/07/2003 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

#### **D. LEARNING OUTCOMES (General)**

1. Explain how major wireless technologies are used
2. Describe applications used in wireless technology
3. Explain advantages/disadvantages of wireless
4. Explain how network data is represented using binary notation
5. Configure a wireless access point
6. Explain types of wireless transmission
7. Configure a wireless adaptor
8. List components of a radio system
9. Explain radio frequency spectrum
10. Describe features of IrDA
11. Explain Bluetooth technology
12. Describe different ways data can be transmitted by radio wave
13. Describe applications used on digital cellular technology
14. Explain satellite transmission
15. Explain steps in designing wireless infrastructure
16. Explain steps in designing wired infrastructure
17. Design and document a network design project
18. List components of a wired network
19. Compare low/high speed WLANs
20. Describe IEEE 802.11b
21. Describe IEEE 802.11g
22. Describe IEEE 802.11a
23. Explain remote wireless bridges
24. Explain issues surrounding 3G implementation
25. Describe cost/benefit analysis documentation
26. Describe business analysis documentation
27. Describe resource placement
28. Design LAN topology
29. Design WAN topology
30. Design WAN/LAN topology
31. Design Frame Relay implementation
32. Design ISDN implementation
33. Display professionalism
34. Display teamwork attitude
35. Display interpersonal communication

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

None

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted