

# Wireless and Media

## Course Outcome Summary

### Course Information

<b>Organization</b>	Madison Area Technical College
<b>Developers</b>	Nina Milbauer
<b>Development Date</b>	3/13/2006
<b>Course Number</b>	10-150-190
<b>Instructional Level</b>	Associate Degree
<b>Potential Hours of Instruction</b>	72
<b>Total Credits</b>	4

### Description

Wireless LANs will be introduced. Students will install and configure access points, configure devices to connect to the access points, and secure access points using current wireless technologies. The course will focus on the design, planning, implementation, operation and troubleshooting of wireless LANs. Students will also learn the fundamentals of data cabling with copper and will develop skills in cable termination, as well as installing jacks and cable testing. This hands-on class stresses documentation, design, and installation issues, and working effectively in group environments. CrLf

### Target Population

Information Technology students seeking an Associate Degree in Network Specialist.

### Types of Instruction

<b>Instruction Type</b>	<b>Contact Hours</b>	<b>Credits</b>
Classroom Presentation	36	2
On Campus Lab	36	2

### Textbooks

Jeff Duntemann. *Jeff Duntemann's Wi-Fi Guide 2nd edition*. Paraglyph Press. 2004. **Edition:** 2nd. **ISBN:** 1-932111-88-3.

### Learner Supplies

External USB harddrive.

### Prerequisites

10-150-170 (Networking and Communications 1)

### Competencies

- A. Summarize the role of telecommunications in media**  
**You will demonstrate your competence:**  
A.1. by participating in the class

- A.2. by completing lab manual assignment
- A.3. using a business scenario
- A.4. by examination

**Your performance will be successful when:**

- A.1. you complete your lab manual assignment correctly
- A.2. you enter into class discussions about the history of telecommunications
- A.3. you enter into class discussions about outside premise
- A.4. you enter into class discussions about inside premise
- A.5. you attend class regularly
- A.6. you arrive for class on time
- A.7. you listen attentively during class

**B. Explain network cable types**

**You will demonstrate your competence:**

- B.1. by participating in the class
- B.2. by completing lab manual assignment
- B.3. using a business scenario
- B.4. by examination

**Your performance will be successful when:**

- B.1. you complete your lab manual assignment correctly
- B.2. you enter into class discussions about the uses for each cable type
- B.3. you enter into class discussions about making different cables
- B.4. you enter into class discussions about punching down cables on patch panels and jacks
- B.5. you arrive for class on time
- B.6. you attend class regularly
- B.7. you listen attentively during class

**C. Construct a visio diagram**

**You will demonstrate your competence:**

- C.1. by participating in the class
- C.2. by completing lab manual assignment
- C.3. using a business scenario
- C.4. by examination

**Your performance will be successful when:**

- C.1. you complete your lab manual assignment correctly
- C.2. you enter into class discussions about documentation of a network
- C.3. you enter into class discussions about using software to assist with documentation
- C.4. you document a classroom using documentation software
- C.5. you attend class regularly
- C.6. you arrive for class on time
- C.7. you listen attentively during class

**D. Summarize the difference between standards and codes**

**You will demonstrate your competence:**

- D.1. by participating in the class
- D.2. by completing lab manual assignment

D.3. using a business scenario

D.4. by examination

**Your performance will be successful when:**

D.1. you complete your lab manual assignment correctly

D.2. you enter into class discussions about standards related to network media

D.3. you enter into class discussions about codes related to network media

D.4. you enter into class discussions about comparisons between standards and codes

D.5. you arrive for class on time

D.6. you attend class regularly

D.7. you listen attentively during class

**E. Test cables**

**You will demonstrate your competence:**

E.1. by participating in the class

E.2. by completing lab manual assignment

E.3. using a business scenario

E.4. by examination

**Your performance will be successful when:**

E.1. you complete your lab manual assignment correctly

E.2. you enter into class discussions about cable testers

E.3. you test different cables for functionality

E.4. you attend class regularly

E.5. you arrive for class on time

E.6. you listen attentively during class

**F. Explain wireless network types**

**You will demonstrate your competence:**

F.1. by participating in the class

F.2. by completing lab manual assignment

F.3. using a business scenario

F.4. by examination

**Your performance will be successful when:**

F.1. you complete your lab manual assignment correctly

F.2. you enter into class discussions about wireless terminology

F.3. you enter into class discussions about access points

F.4. you enter into class discussions about infrastructure wireless networks

F.5. you enter into class discussions about ad-hoc wireless networks

F.6. you attend class regularly

F.7. you arrive for class on time

F.8. you listen attentively during class

**G. Summarize antenna types**

**You will demonstrate your competence:**

G.1. by participating in the class

G.2. by completing lab manual assignment

G.3. using a business scenario

G.4. by examination

**Your performance will be successful when:**

G.1. you complete your lab manual assignment correctly

G.2. you enter into class discussions about where you use different antenna types

G.3. you enter into class discussions about how different antennas work

G.4. you arrive for class on time

G.5. you attend class regularly

G.6. you listen attentively during class

**H. Configure access point**

**You will demonstrate your competence:**

H.1. by participating in the class

H.2. by completing lab manual assignment

H.3. using a business scenario

H.4. by examination

**Your performance will be successful when:**

H.1. you complete your lab manual assignment correctly

H.2. you enter into class discussions about using access points for different scenarios

H.3. you configure an access point to allow clients to associate

H.4. you configure a client to associate with an access point

H.5. you configure access points for roaming

H.6. you configure access points for hot standby

H.7. you configure access points for repeaters

H.8. you attend class regularly

H.9. you arrive for class on time

H.10. you listen attentively during class

**I. Defend wireless networks with encryption**

**You will demonstrate your competence:**

I.1. by participating in the class

I.2. by completing lab manual assignment

I.3. using a business scenario

I.4. by examination

**Your performance will be successful when:**

I.1. you complete your lab manual assignment correctly

I.2. you enter into class discussions about wireless security options

I.3. you enter into class discussions about WEP (Wired Equivalent Privacy)

I.4. you enter into class discussions about WPA (Wi-Fi Protected Access)

I.5. you enter into class discussions about (in)securities with wireless networks

I.6. you configure clients and access points for wireless security

I.7. you attend class regularly

I.8. you arrive for class on time

I.9. you listen attentively during class

**J. Explain the use of bridges in wireless topologies**

**You will demonstrate your competence:**

J.1. by participating in the class

- J.2. by completing lab manual assignment
- J.3. using a business scenario
- J.4. by examination

**Your performance will be successful when:**

- J.1. you complete your lab manual assignment correctly
- J.2. you enter into class discussions about bridging two networks together with wireless
- J.3. you enter into class discussions about situations where bridging is appropriate
- J.4. you attend class regularly
- J.5. you arrive for class on time
- J.6. you listen attentively during class