**LM 3. Wireless Local Area Network (WLAN) Overview**

1. **LM3. Student Learning Outcomes**

After completing this module, a student will be able to:

* Describe the signaling technology for WLAN
* Identify the common 802.11 standards
* Describe how WLAN works
* Describe mobile ad hoc network (MANET)
* Explain what’s Bluetooth and how it different from Wi-Fi
* Discuss the essentials for WLAN design
* Discuss the basics of Wireless LAN site survey
* Discuss the emerging technology in WLAN
1. **LM3. Learning Material & Study Guide**

Note: this module covers the fundamentals of WLAN including how WLAN works, different 802.11 standards, WLAN topologies and design, and emerging wireless technologies.

* Describe the signaling technology for WLAN

<https://www.networkcomputing.com/networking/wireless-beginners-part-1-rf-and-waves/1640728721>

-what’s the signaling technology used in WLAN? What kind of frequency being used?

<http://searchnetworking.techtarget.com/answer/Whats-the-difference-between-licensed-and-unlicensed-wireless>

-why unlicensed band is used in WLAN? What is the pros and cons of using unlicensed band?

<https://quizlet.com/168619449/wireless-propagation-problems-flash-cards/>

* Common propagation problems

<http://student.ing-steen.se/wlan/Chapter_3.pdf>

-What’s is spread spectrum, FHSS, and DSSS? Why FHSS and DSSS is used in WLAN?

* Identify the common 802.11 standards

<https://en.wikipedia.org/wiki/IEEE_802.11>

-know the name of the standard, frequency it used and speed it supports.

* Describe how WLAN works

<https://en.wikipedia.org/wiki/Wireless_LAN>

-basic topology of WLAN, stations, basic/extended service set, and distribution system. Explain the two type of wireless LAN: infrastructure mode and peer-to-peer mode.

* Describe mobile ad hoc network (MANET)

<https://en.wikipedia.org/wiki/Mobile_ad_hoc_network>

-what is MANET and pros and cons of MANET.

* Explain what’s Bluetooth and how it different from Wi-Fi

<https://www.diffen.com/difference/Bluetooth_vs_Wifi>

* Discuss the essentials for WLAN design

<https://www.securedgenetworks.com/blog/3-wlan-design-best-practices-essential-to-deliver-a-better-user-experience>

* Discuss the basics of Wireless LAN site survey

<https://www.networkcomputing.com/wireless/wireless-site-surveys-basics/861543211>

* Discuss the emerging technology in WLAN

<https://arxiv.org/pdf/1611.00861.pdf>

* Understand the basics of new wireless technology such Internet of things, Zigbee, Bluetooth Low Energy, etc.