

Course Code	Course Title	L	T	P	C
1156EC421	HOME NETWORKING BASICS	0	0	0	2

a) Course Category

Independent Learning – Self Learning Course

b) Preamble

This course will provide the understanding on how the computer network works and how to access the network. It also describes connectivity over the internet and common types of network security and attacks and covers weak ties on the social network

c) Prerequisite

Nil

d) Related Courses

Data Communication Networks

e) Course Outcomes

On successful completion of this course the student will be able to

CO Nos.	Course Outcomes	Knowledge Level (Based on Revised Bloom's Taxonomy)
CO1	Explain Wifi functions and the home network manages all of those wireless conversations over the network	K2
CO2	Setup a wireless home network and connect various wireless devices	K2
CO3	Understand the various attacks of the system	K2
CO4	Explain the various security tools and operating system features are mitigate attacks	K2
CO5	Understand privacy and security issues on online social media/network.	K2

f) Course Content

UNIT I Building a Home Network

Connecting Home Devices - Components of a Home Network - Typical Home Network Routers -The Electromagnetic Spectrum - LAN Wireless frequencies - Wired Network Technologies- Wi-Fi - Wireless Settings - Wireless Channels -Managing Multiple Conversations

UNIT II Connecting to the Internet

My Network - ISP -Connect to the Internet -Cable and DSL Connections-Additional Connectivity Options-Mobile Devices and Wi-Fi-Manually Configuring Wi-Fi Settings-Configuring Data Settings-Bluetooth Pairing

UNIT III Local security analysis

Hackers Target on Wireless LANs-Securing User Authentication-Encryption Techniques for Wireless-Virus- Worm or Trojan Horse-Spyware -Adware and Popups-Botnets and Zombies-Computer Threats

UNIT IV Securing the Network and User Devices

Security Practices and Procedures-Security Tools and Applications -Patches and Updates-Detecting Infections-Antivirus and antispamSoftware-Antispyware Software-Firewall-Port Forwarding-Port Triggering.

UNIT V Social Network

Social Networks- data collection from social networks- challenges- Online social media and policing-handling real world network datasets- strength of weak Ties.

g) Learning Resources

Reference Books

1. <https://www.youtube.com/watch?v=WwwLhENQjec>
2. <https://www.youtube.com/watch?v=jw16DEHjK-k>
3. <http://www.steves-internet-guide.com/networking-components/>
4. <https://www.coursera.org/learn/home-networking-basics>