Course Type	Course Code	Name of Course		Т	Р	Credit
DE	NCSD525	Mobile and Wireless Network Security	3	0	0	3

## CourseObjective

The students should understand and know the existing security mechanisms/techniques and new Developments as well used for securing wireless communications along with wireless networking. **LearningOutcomes** 

Thestudents would get well exposurein securingwireless applications.

Unit No.	TopicstobeCovered	Lecture Hours	LearningOutcome
1	Mobile and Wireless Communications: Overview,1G-4G Cellular Systems, Cellular Communication Fundamentals.	4	Understanding the basics of Mobile and Wireless Communications
2	Multiple Access Techniques-FDD,TDD, FDMA, TDMA, DS-CDMA, Spread SpectrumandCDMA,CSMA/CA,	5	Understanding the basics of Multiple Access Techniques
3	MobileAdHocRoutingProtocols-DSDV, AODV,DSR,CGSR,	5	Understanding the basics of Mobile Ad Hoc Routing Protocols
4	Cellular Communication standards-GSM, IS-95 CDMA, WiMAX.	4	Understanding the basics of Cellular Communication standards
5	Wireless Security: Security and Privacy needs of Wireless System, Challenges of BroadcastCommunicationandSecurity Requirements	4	Understanding the basics of Wireless Security
6	TESLABroadcastAuthentication,Instant Key Disclosure, Time Synchronization, Denial-of-Service Protection,	4	Understanding the basics of TESLA Broadcast Authentication and others
7	BiBaSignature Algorithm and Broadcast Authentication, Merkle HashTreesfor Ball Authentication, Efficient Multicast Stream Signature (EMSS), MESS,	5	Understanding the basics of BiBaSignature Algorithm and Broadcast Authentication and Merkle tree
8	WLAN Standards, 802.11 Security, WEP Protocols, WAP Security Architecture, Comparison of TCP/IP, OSI and WAP models,	5	Understanding the basics of WLAN Standards, 802.11security, and models

9	Bluetooth networking Security protocols.	and	4	Understanding Networking and	the d Security	Bluetooth protocols.
	Total		42			

TextBooks:

- 1. William Stallings,' Wireless Communications and Networks', Pearson Education, and Different security based Journal research articles.
- 2. Jochen Sciller, 'Mobile Communications' Addison Wesley.
- 3. T.S. Rappaport, 'Wireless Communication-Principles and Practice' Prentice Hall