SILABUS PILIHAN TEKNIK KOMPUTER

Mata Kuliah	:	Wireless Teknologi
Kode	:	E113916
Silabus	:	1. PENGENALAN WIRELESS LAN & JARINGAN SELULER: Perkembangan Wireless LAN, Aplikasi pada Wireless LAN, GPRS, 3G, 4G, LTE 2. ANTENA & PENYEBARAN SPEKTRUM: Karakteristik Frekuensi Radio, Konsep Dasar Antena, Tipe Antena, Pengenalan Penyebaran Spektrum, Frequency Hopping Spread Spectrum (FHSS), Direct Sequence Spread Spectrum (DSSS), Membandingkan FHSS dan DSSS 3. INFRASTRUKTUR PERANGKAT WIRELESS LAN: Access Point, Wireless Bridge, Wireless Workgroup Bridge, Perangkat Klien Wireless LAN, Wireless Residential Gateway,Enterprise Wireless Gateway 4. STANDAR WIRELESS LAN: IEEE 802.11, IEEE 802.16, HomeRF, Bluetooth, IrDA, WLIF 5. ARSITEKTUR JARINGAN 802.11: Menemukan Wireless LAN, Autentikasi dan Asosiasi, Service Sets, Fitur Manajemen Daya 6. MAC & LAPISAN FISIK: Komunikasi dalam Wireless LAN, Interframe Spacing, CSMA/CA, Request to Send/Clear to Send (RTS/CTS), Modulasi 7. ARSITEKTUR TROUBLESHOOTING WIRELESS LAN: Multipath, Hidden Node, Near/Far, System Throughput, Interference, Range 8. KEAMANAN WIRELESS LAN: Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA), Serangan pada WIRELESS LAN, Solusi Pengamanan, Aturan Pengamanan, Rekomendasi Pengamanan 9. OVERVIEW MANET, WIRELESS SENSOR NETWORK, Standar UMTS 10. JARINGAN AD-HOC & ROUTING: Wireless TCP/IP, Konsep Dasar Jaringan Ad-Hoc, AdHoc Routing (Dynamic Source Routing-DSR, Ad hoc On-Demand Distance Vector-AODV) 11. MOBILE IP: Konsep Mobile IP, Hirarki Mobile IP, Fast Handovers pada Mobile IP 12. MOBILE TRANSPORT LAYER: Permasalahan dengan TCP pada Jaringan Nirkabel, Perbaikan: Indirect TCP, Snoop TCP, Mobile TCP, TCP over 3G
Luaran	:	Mahasiswa mampu menerapkan konsep pada beragam arsitektur jaringan nirkabel untuk meningkatkan performa dan memberikan penyelesaian pada permasalahan jaringan nirkabel.
Syarat/ PraSyarat MK Lain	:	Jaringan Komputer
Alokasi	:	16 kali pertemuan
Sumber Pustaka	:	1. Coleman, D., Westcott, D., "CWNA: Certified Wireless Network Administrator Official Study Guide", Wiley Publishing Inc., 2009.

		2. Schiller, J.H., "Mobile Communications 2nd Edition", Addison-Wesley, 2004. 3. Stallings, W., "Wireless Communications and Networking 2nd Edition", Prentice Hall, 2004. 4. Pahlavan, K., Krishnamurthy, P., "Principles of Wireless Networks: A Unified Approach", Prentice Hall, 2002. 5. Garg, V. K., "Wireless Communications and Networking", Elsevier, 2007. 6. Ozcan, A., Zizka, J., Nagamalai, D., "Recent Trends in Wireless and Mobile Networks", Third International Conferences WiMo 2011 and CoNeCo 2011 Proceedings, Ankara, Turkey:Springer, 2011.