

Advanced Networks

- **Course number and name:**
CC 531 – Advanced Networks
- **Credits and contact hours**
Credits Hours: 3Hrs
Contact Hours: In Lecture 2Hrs, and In Tutorial 2Hrs
- **Instructor’s or course coordinator’s name**
Coordinator Name: Dr. Rowayda Sadek
- **Text book, title, author, and year**
 - Lecture Notes and hand outs.
 - **other supplemental materials**
 - Kurose and Ross, "Computer Networking a Top-Down approach", Prentice Hall, latest edition.
 - Yi-lin Bing, Imrich Chlamtac " Wireless and Mobile Network Architectures", Wiely, latest edition.
 - William Stallings, “Local and Metropolitan Area Networks”, Prentice Hall, latest edition.
- **Specific course information**
 - a. Catalog description**
Technology and architecture of networks - Networks protocols and standards - Wireless, mobile and adhoc networks - Internetworking and interoperability. Networks performance.
 - b. prerequisites or co-requisites**
Prerequisites: CC431
 - c. Types of Course (required, elective, or selected elective course) in the program**
Required Course
- **Specific goals for the course**
 - a. Specific outcomes of instruction**
After the completion of this course the students will be able to:

	Course Learning Outcomes	SO
1	Emphasize topics of fundamental importance concerning the technology and architecture of networks.	J
2	Discuss LANs, wireless LAN and mobile internetworking & interoperability.	D
3	Analyze mobile and wireless networks and Multimedia networking.	J
4	Measure network performance.	D

Topics to be covered

- Introduction to wireless and Mobile networks
- Wifi 802.11 Wireless LAN
- Beyond 802.11: Bluetooth, WiMAX and Cellular Internet Access
- Mobility management and Mobile IP
- Multimedia Networking applications
- Streaming stored audio and video
- Protocols for Real-Time Interactive applications
- Mobile adhoc networks MANET
- Simulation and modelling of wireless Mobile and adhoc networks
- Security in Computer networks
- Networks management
- Network administration