

Usman Habib, PhD

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Assistant Professor

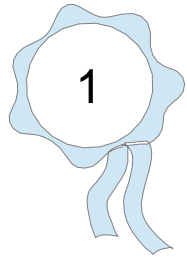
Department of Computer Science



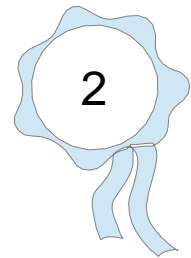
**National University of Computer & Emerging Sciences
Peshawar, Pakistan**

- PhD (2016)
from TU Wien(Technical University of Vienna), Austria.
- PhD Dissertation
Automatic Fault Detection and Diagnosis in buildings energy systems.
- MS in Telematics: Communication Networks and Networked Services (2010)
From NTNU (Norwegian University of Science and Technology), Norway.
- Ongoing Research/Activities:
 - 1) Continuing Above Work
 - 2) Machine Learning/ Data Analytics
 - 3) Courses

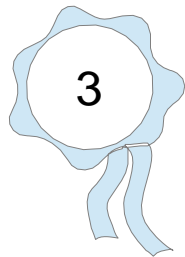
- Course Title: **Computer Networks**
- Credits that can be earned from this course: 3+1
 - Sessionals : [30] % Weightage
 - Final Exam: [50] % Weightage
 - Assignments: [10] % Weightage
 - Quizzes: [10] % Weightage



Behroze Forouzan, Data Communication and Networks 5th Edition



Andrew S. Tanenbaum & David J. Wetherall, Computer Networks, 5th Edition, Pearson Books



William Stallings, Data and Computer Communications, Latest Edition, Pearson Books

- Introductory Concepts
- Physical Layer: Data rates, Transmission Media, Wireless transmissions, Modulation/Multiplexing, Mobile Phone systems
- Data Link Layer: Error detection/correction, Medium-Access controls, Localization, time synchronization, multiple-access, Ethernet, Framing
- Network Layer: forwarding strategies, Principle routing algorithms, congestion control, Quality control
- Transport Layer: TCP/UDP
- Application Layer
- Network (socket) programming using C, Ns-2/Omnet++ Simulators, packet capturing and analysis