Course Title: Cloud Computing
Course No: CSC-458
Credit Hours: 3

Nature of the course: Theory (3Hrs.) + Lab (3Hrs.)

Course synopsis: This course gives an introduction to cloud computing and its techniques. The topics covered include; introduction to cloud computing, cloud architecture, cloud service models, Service Oriented Architectures, security in cloud computing, disaster management in clouds.

Goal: Cloud computing has become a great solution for providing a flexible, on-demand, and dynamically scalable computing infrastructure for many applications. Cloud computing also presents a significant technology trends, and it is already obvious that it is reshaping information technology processes and the IT marketplace. Thus objective of this course is to introduce the aspects of cloud computing issues.

Course Contents:

Unit1: Introduction


Unit2: Cloud Service Models


Unit 3: Building Cloud Networks

Evolution from Managed service providers (MSP) to Cloud Computing, Single Purpose architectures to multi-purpose architectures, Data center virtualization, Cloud data center, Service Oriented Architectures (SOA), Combining and SOA, Characterizing SOA, Open Source Software in data centers
Unit 5: Security in Cloud Computing


Laboratory work: As a part of lab work, the students are highly encouraged

- To simulate the concept of virtualization using virtualization programs/systems.
- To understand and practice examples of cloud services and applications.
- To understand and implement distributed storage and security issues in cloud computing.

Reference Books:

1. *Cloud Computing: Implementation Management and Security*, John W. Rittinghouse and James F. Ransome (Recommended for Unit 1, 2, 3, 4)

2. *Cloud Application architecture*, George Reese (Recommended for Unit 4)

3. *Cloud Computing for Dummies*, Judith Hurwitz, Robin Bloor, Marcia Kaufman, Fern Halper (Recommended for Unit 3)

4. *Handbook of cloud computing*, Borko Furht, Armando Escalante (Recommended for Unit 1)

5. *Cloud Computing and SOA Convergence in your Enterprise*, a step by step guide, David S. Linthicum (Recommended for Unit 1, 2, 3)