Course Name	Cloud Computing	Course Code	COMP 452		
Credit Hours	3	Contact Hours	Theory	Lab	Total
			2	2	4
Offered as	☐ University Requirement ☐ College Requirement ☒ Program Requirement		☒ Required ☐ Elective		
Offered in	☒ BS - Computer Science ☒ BS – Information Technology ☐ BS - Computer & Network Engineering				
Level	11th Level	Prerequisite	NIL		

Course Description:

This course aims to examine the critical technology trends of cloud computing, in particular, the architecture and design of existing deployments, the services and applications that cloud computing can offer, and the challenges that need to be addressed to help cloud computing reach its full potential. This course covers the following topics: Complex system design and analysis: Virtualization resource management, storage systems, networking and Cloud Application Development. In addition to understanding the core technologies in cloud computing, students are expected to apply this knowledge in a critical evaluation of emerging cloud computing platforms and services and to acquire an appreciation of cloud management tools through hands on laboratory exercises.

Course objectives:

- Define Cloud, Models and Services.
- Identify the architecture, infrastructure and delivery models of cloud computing.
- Describe types of network virtualization and its applications in cloud computing.
- Classify and describe the type of Clouds (Public clouds, Private clouds, Hybrid or heterogeneous clouds, Community clouds).
- Compare, contrast and evaluate the key trade-off between approaches to cloud system design.
- Detailing the development architecture of cloud-based applications ranging from scientific to engineering, gaming, and social networking domains.
- Broadly educate the impact of engineering on legal and social issues involved.

Grading	☒ Mid Exam	15%	☒ Quiz	5%	☒ Assignment(s)	20%
	☒ Final	40%	☒ Lab	20%	☐ Mini Project	

Text Book:

- Cloud Computing Concepts, Technology & Architecture, Thomas Erl, Zaigham Mahmood and Ricardo Puttini, Prentice Hall, ISBN-13: 978-0-13-338752-0.

Reference Book:

- Cloud Computing: Theory and Practice, Dan C. Marinescu, 2013, 1st Edition, Elsevier Science, ISBN-13: 978-0124046276.
- Cloud Computing Explained: Implementation Handbook for Enterprises by John Rhoton (2009)