



# CLOUD COMPUTING

**PROF. SOUMYA KANTI GHOSH**

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IIT Kharagpur

**TYPE OF COURSE** : Rerun | Elective | UG

**COURSE DURATION** : 8 weeks (23 Aug' 21 - 15 Oct' 21)

**EXAM DATE** : 23 Oct 2021

**PRE-REQUISITES** : Basics of Computer Architecture and Organization, Networking

**INTENDED AUDIENCE** : CSE, ECE, EE

**INDUSTRIES APPLICABLE TO** : IT industries

**COURSE OUTLINE :**

Cloud computing is a scalable services consumption and delivery platform that provides on-demand computing service for shared pool of resources, namely servers, storage, networking, software, database, applications etc., over the Internet. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources, which can be rapidly provisioned and released with minimal management effort. This course will introduce various aspects of cloud computing, including fundamentals, management issues, security challenges and future research trends. This will help students (both UG and PG levels) and researchers to use and explore the cloud computing platforms.

**ABOUT INSTRUCTOR :**

Prof. Soumya K. Ghosh received the Ph.D. and M.Tech. degrees from Department of Computer Science and Engineering, Indian Institute of Technology (IIT), Kharagpur, India. Presently, he is a Professor with Department of Computer Science and Engineering, IIT Kharagpur. Before joining IIT Kharagpur, he worked for the Indian Space Research Organization in the area of satellite remote sensing and geographic information systems. He has more than 200 research papers in reputed journals and conference proceedings. His research interests include spatial data science, spatial web services and cloud computing.

**COURSE PLAN :**

**Week 1:** Introduction to Cloud Computing

**Week 2:** Cloud Computing Architecture

**Week 3:** Service Management in Cloud Computing

**Week 4:** Data Management in Cloud Computing

**Week 5:** Resource Management in Cloud

**Week 6:** Cloud Security

**Week 7:** Open Source and Commercial Clouds, Cloud Simulator

**Week 8:** Research trend in Cloud Computing, Fog Computing