



Cloud Computing

Prof. Soumya Kanti Ghosh

Department of Computer Science and Engineering
IIT Kharagpur

INTENDED AUDIENCE : CSE,ECE,EE

PREREQUISITES : Basics of Computer Architecture and Organization, Networking

INDUSTRY SUPPORT : 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 THE 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
- Week 9:** VM Resource Allocation, Management and Monitoring
- Week 10:** Cloud-Fog-Edge enabled Analytics
- Week 11:** Serverless Computing and FaaS Model
- Week 12:** Case Studies and Recent Advancements

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1/2020 ANANDHAM NAGAR
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TAMILNADU - 642123
PH. NO :6383774116



Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:2

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



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Cloud Computing

with a consolidated score of **40** %

Online Assignments	10.00/25	Proctored Exam	30/75
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Total number of candidates certified in this course: 2209


Prof. G P Raja Sekhar
Dean, Continuing Education
IIT Kharagpur

Sep-Nov 2020
(8 week course)


Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur



Indian Institute of Technology Kharagpur



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