Department of Computer Science and Engineering

National Institute of Technology Calicut

Kozhikode - 673 601, Kerala, India

CS4037D-CLOUD COMPUTING

Tentative Course Details – Winter Semester 2021

Lecture:

Lecture Slot: D

Lecture Hours: Monday 10.15am - 11.15pm, Wednesday 11.15 am - 12.15pm,
Thursday 08.00am - 09.00am, Friday 05.00pm - 06.00pm

Lecture Hall: Online Mode

Instructor:

Name: Dr. T. Veni

Email: veni@nitc.ac.in

Course Outcomes:

CO1: Ability to articulate the virtualization concepts

CO2: Ability to identify the architecture, service models and deployment of Cloud

CO3: Ability to master the programming aspects of Cloud

Syllabus

Module 1

New Computing Paradigms & Services: Cloud computing , Edgecomputing , Grid computing , Utility computing , Cloud Computing Architectural Framework, Cloud Deployment Models, Virtualization in Cloud Computing, Parallelization in Cloud Computing, Security for Cloud Computing, Cloud Economics , Metering of services.

Module 2

Cloud Service Models: Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Service Oriented Architecture (SoA), Elastic Computing, On Demand Computing, Cloud Architecture, Introduction to virtualization.

Module 3

Types of Virtualization, Grid technology , Browser as a platform, Web 2.0, Autonomic Systems, Cloud Computing Operating System, Deployment of applications on the cloud, Case studies-Xen, VMware,Eucalyptus, Amazon EC2.

Module 4

Introduction to Map Reduce, Information retrieval through Map Reduce, Hadoop File System, GFS, Page Ranking using Map Reduce, Security threats and solutions in clouds, mobile cloud computing, Case studies-Ajax, Hadoop.

References:

1. Tom White, Hadoop: The Definitive Guide, O'Reilly Media, 20092.
2. Jason Venner, Pro Hadoop, Apress, 20093.
3. Timothy Chou , Introduction to cloud computing & Business, Active Book Press, 20104.
4. Current literature-Journal & conference papers

Grading & Evaluation policy

Weightage for different evaluations:

1. Mid Term 1: 25%
2. Mid Term 2: 25%
3. Mini Project: 20%
4. Final Exam: 30% (All Modules)

Grading Policies:

- **Grading will be Relative**. Even though the grading will be relative, the probable mapping of marks to grades is as follows: 90-100: S, 80-89 A, 70-79: B, 60-69: C, 50-59: D, 40-49: E and 0-39: F
- Absence for Exams without prior written permission from the respective Instructor/Faculty would be equivalent to zero marks in the corresponding exam/Quiz/Assignment/Surprise test/Programming test.
- There will be no makeup exams except in case of genuine reasons. In the event of such exceptional cases, the student must discuss the matter with the instructor and must get written permission from FA and HOD at least one day before the date of the exam.
- All issues regarding the valuation of exams must be resolved within the stipulated schedule.

Standard of Conduct:

- Each student is expected to adhere to high standards of ethical conduct, especially those related to cheating and plagiarism.
- Any work submitted MUST BE on individual effort.
- Any academic dishonesty will result in zero marks in the corresponding exam or quiz and will be reported to the department council for record keeping and permission to assign an F grade in the course.
- 80% attendance is mandatory for each student for the course, and there will be no compromise on it.

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