Course Instructor: Dr Chiranjib Sur

Course Webpage: https://chiranjibsuruf.github.io/courses/da512h.html

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Objectives: Database Management Systems is the backbone of almost every application, learning it helps you store, organize, and retrieve data reliably, securely, and at scale. It builds the core skills behind real systems: data modeling, SQL, transactions, indexing, and performance tuning.

Prerequisites: Algorithms, Data Structure and Basic Programming.

Course Code: DA512H

Course Name: Databases

Credits: 3-0-0-3

Syllabus: Overview of data models with emphasis on the relational model. Database Design: Conceptual design using the Entity-Relationship (E-R) model; mapping E-R models to relational schemas. Relational Algebra and Calculus: Formal query languages for relational databases. SQL: SQL queries, constraints, and triggers. Application Development: Stored procedures and database programming concepts.

Textbooks:

- R. Ramakrishnan and J. Gehrke, *Database Management Systems*, 3rd Edition, McGraw Hill, 2003.

References:

- Instructor-provided lecture notes and database project guides.

Academic Honesty: We encourage students to form groups to discuss different topics. Students may discuss and work on programming assignments and quizzes in groups. However, each student must write down the solutions independently and without referring to written notes from the joint session. In other words, each student must understand the solution well enough in order to reconstruct it by him/herself. In addition, each student should submit his/her own code and mention anyone he/she collaborated with.

Refer this CODE OF CONDUCT PLEDGE for IIT Guwahati (http://chiranjibsuruf.github.io/courses/assets/Code%20of%20Conduct%20Pledge_2016.pdf)