CS315: Principles of Database Systems
Course Metadata

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Computer Science and Engineering,
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http://web.cse.iitk.ac.in/~cs315/

2nd semester, 2020-21

Wed 12:00-13:15

Rules

- Email `arnabb@cse.iitk.ac.in` for discussions/doubts/queries
- Put “CS315” in the subject for automatic mail filters
- Participate
  - Listen to videos
  - Attend discussion sections
  - Clear doubts
- Do assignments and quizzes *individually*
- *No* extension of deadlines unless notified well in advance for a valid and convincing reason
- If you are sick, follow IITK procedure
  - Produce a sick certificate, etc.

Grading Policy

- Exams: 50-55%
  - End-semester: 30-35%
  - Mid-semester: 15-20%
- Assignments + Quiz: 30-35%
- Project: 15%
  - Groups of up to 5

Course Material

- Course URL: `web.cse.iitk.ac.in/users/cs315/`
  - Requires to be inside the IITK network
  - `www.cse.iitk.ac.in/users/cs315/` is available from anywhere
- Video lectures and slides at NPTEL
  - `https://nptel.ac.in/courses/106/104/106104135/`
- Changes/updates will be notified
- Books
  1. "Database System Concepts" by Silberschatz, Korth & Sudarshan. *McGraw-Hill*.
  2. "Fundamentals of Database Systems" by Elmasri & Navathe. *Pearson Education*.
  3. "Database Management Systems" by Ramakrishnan & Gerhke. *McGraw-Hill*.
  4. "Database Systems: The Complete Book" by Garcia-Molina, Ullman & Widom. *Prentice Hall*.
  5. "Principles of Database Management" by Lemahieu, Broucke & Baesens. *Cambridge University Press*.

Course Contents

1. Motivation
2. Relational model
3. Relational algebra
4. SQL
5. Normalization theory
6. Physical design
7. Indexing
8. Query processing
9. Query optimization
10. Transactions
11. Recovery systems
12. Schedules
13. Concurrency control
14. NoSQL systems