Mathematical Foundations for Data Science (Probability)

Course Code: CS6660

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भारतीय प्रौद्योगिकी संस्थान हैदराबाद
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What to Expect?

- Rigorous mathematical exposition of the axiomatic theory of probability
- In-depth understanding of random variables and probability distributions
- Formal mathematical proofs (without letting them obfuscate the main ideas)

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Schema for Grading (Probability)

- Weekly homework
- Two quiz question (5 points each) based on the homework
- Quiz duration: 30 minutes
- 3 quizzes; 2 best scores will be considered

Quizzes (Probability)	10%
Mid-Term 1 (Probability)	20%
Final Exam (Probability + Linear Algebra)	20%

Timeline

Probability (Dr. Karthik P. N.)

Day	Time
10 Aug	Afternoon
17 Aug	Forenoon
24 Aug	Afternoon
31 Aug	Forenoon
07 Sep	No lecture (Ganesh Chaturthi)
14 Sep	Forenoon
21 Sep	Afternoon
28 Sep	Forenoon

Linear Algebra (Dr. Saketha Nath)

Day	Time
05 Oct	TBD
12 Oct	TBD
19 Oct	TBD
26 Oct	TBD
02 Nov	TBD
09 Nov	TBD
16 Nov	TBD
23 Nov	TBD

Mid-term 1: 28 Sep (14:30-16:00)

Mid-term 2: TBD

Final exam: 30 Nov (14:30-17:30)

quiz mid-term

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References

- G. Grimmett & D. Stirzaker. *Probability and Random Processes*.
- Sheldon M. Ross. *A First Course in Probability*
- Jean Jacod & Philip Protter. *Probability Essentials*
- *Probability Foundations for Electrical Engineers*.
  NPTEL lectures by Prof. Krishna Jagannathan, IIT Madras