

Lesson plan

Name of the Instructor : Nirman Ganguly

Paper Name : Probability and Numerical Methods

Paper Code : MATH 2202

Stream : CSE

Portions in the Syllabus : Module II and III

Lecture	Topics to be covered	Resources
1	<ul style="list-style-type: none">• Definition of Probability• Sample space, Events and respective classifications	<ul style="list-style-type: none">• <i>A First course in Probability/ Sheldon Ross</i>
2	<ul style="list-style-type: none">• Definition due to Kolmogorov• Addition and Multiplication Law• Conditional Probability	<ul style="list-style-type: none">• <i>A First course in Probability/ Sheldon Ross</i>
3	<ul style="list-style-type: none">• Bayes' Theorem• Problems on the fundamentals of probability	<ul style="list-style-type: none">• <i>A First course in Probability/ Sheldon Ross</i>
4	<ul style="list-style-type: none">• Problems on the fundamentals of probability	<ul style="list-style-type: none">• <i>A First course in Probability/ Sheldon Ross</i>
5	<ul style="list-style-type: none">• Random variables• Discrete and Continuous random variables• Discussion on general probability distributions	<ul style="list-style-type: none">• <i>A First course in Probability/ Sheldon Ross</i>• <i>Introduction to Probability Models / Sheldon Ross</i>
6	<ul style="list-style-type: none">• Discussion on general probability distributions• Discrete and Continuous distributions	<ul style="list-style-type: none">• <i>Introduction to Probability Models / Sheldon Ross</i>• <i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>

Lesson plan

Name of the Instructor : Nirman Ganguly

Paper Name : Probability and Numerical Methods

Paper Code : MATH 2202

Stream : CSE

Portions in the Syllabus : Module II and III

7	<ul style="list-style-type: none">• Expectation and Variance	<ul style="list-style-type: none">• <i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>
8	<ul style="list-style-type: none">• Problems	<ul style="list-style-type: none">• <i>Introduction to Probability Models / Sheldon Ross</i>
9	<ul style="list-style-type: none">• Discussion on discrete distributions	<ul style="list-style-type: none">• <i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>
10	<ul style="list-style-type: none">• Binomial distribution	<ul style="list-style-type: none">• <i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>
11	<ul style="list-style-type: none">• Poisson distribution	<ul style="list-style-type: none">• <i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>• <i>Introduction to Probability Models / Sheldon Ross</i>
12	<ul style="list-style-type: none">• Continuous distributions• Uniform distribution	<ul style="list-style-type: none">• <i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>

Lesson plan

Name of the Instructor : Nirman Ganguly

Paper Name : Probability and Numerical Methods

Paper Code : MATH 2202

Stream : CSE

Portions in the Syllabus : Module II and III

13	<ul style="list-style-type: none">Exponential distribution	<ul style="list-style-type: none"><i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>
14	<ul style="list-style-type: none">Normal distributionStandard Normal distribution	<ul style="list-style-type: none"><i>Miller & Freund's Probability and Statistics for Engineers / R.A.Johnson</i>
15	<ul style="list-style-type: none">Problems	<ul style="list-style-type: none"><i>Introduction to Probability Models / Sheldon Ross</i>
16	<ul style="list-style-type: none">Problems	<ul style="list-style-type: none"><i>Introduction to Probability Models / Sheldon Ross</i>
17	<ul style="list-style-type: none">Introduction to statistical measuresMeasures of central tendency: Mean , Median , Mode	<ul style="list-style-type: none"><i>Fundamentals of Mathematical Statistics S.C. Gupta and V.K. Kapoor</i>
18	<ul style="list-style-type: none">Measures of dispersion : Standard Deviation and Variance	<ul style="list-style-type: none"><i>Fundamentals of Mathematical Statistics S.C. Gupta and V.K. Kapoor</i>
19	<ul style="list-style-type: none">Correlation and Regression	<ul style="list-style-type: none"><i>Fundamentals of Mathematical Statistics S.C. Gupta and V.K. Kapoor</i>

Lesson plan

Name of the Instructor : Nirman Ganguly

Paper Name : Probability and Numerical Methods

Paper Code : MATH 2202

Stream : CSE

Portions in the Syllabus : Module II and III

20	<ul style="list-style-type: none">• Correlation and Regression	<ul style="list-style-type: none">• <i>Fundamentals of Mathematical Statistics S.C. Gupta and V.K. Kapoor</i>
----	--	---

In addition to the resources mentioned above, I will provide some study materials, assignments. I will also share some video lectures. Students are advised to consult video lectures provided by NPTEL (<https://nptel.ac.in/>) , MIT OpenCourseware (<https://ocw.mit.edu/index.htm>) and relevant online resources.