MITOPENCOURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Probabilistic Systems Analysis and Applied Probability

Curated by

Prof. V. Ramasubramanian, v.ramasubramanian@iiitb.ac.in

IIIT-Bangalore

https://www.iiitb.ac.in/newsite/faculty/v-ramasubramanian

For Prep-Term, 10 – 28 Aug, 2020

Contents

❑ Unit I: Probability Models And Discrete Random Variables
- 5 Lectures – You-tube viewing

❑ Unit II: General Random Variables
- 1 Lecture – You-tube viewing

Schedule / Assessment

❑ Weekly Online Session (1 hour / week) for 3 weeks

❑ Assignments + End-term Quiz/Exam

OCW Scholar

Instructor(s)
Prof. John Tsitsiklis

Level
Undergraduate

CITE THIS COURSE

https://www.mit.edu/~jnt/prob.html

Prescribed Reference / Textbook / Class Notes

"Introduction to Probability" by *Dimitri P. Bertsekas and John N. Tsitsiklis*, Professors of Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts LECTURE NOTES, Course 6.041-6.431, M.I.T., FALL 2000
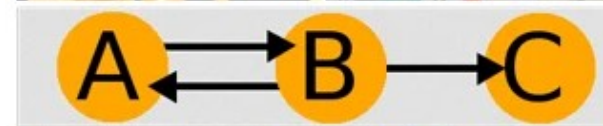
Google Drive Shared Folder

https://drive.google.com/drive/folders/1fswfe_i7D JTySv5AgQ2cfhgB3oPok4UW?usp=sharing

Probabilistic Systems Analysis and Applied Probability

Home-Page of Course

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/index.htm?utm_source=OCWDept&utm_medium=CarouselSm&utm_campaign=FeaturedCourse

Syllabus - Page

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/syllabus/

Unit I: Probability Models And Discrete Random Variables

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/

Unit II: General Random Variables

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-ii/

Resources Link @ MIT OCW

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/resource-index/

Unit I: Probability Models And Discrete Random Variables

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/

Lecture # / Title	Web-page	You-tube link
Lecture 1: Probability Models and Axioms	https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/lecture-1/	https://www.youtube.com/watch?v=j9WZyLZCBzs&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe&index=2&t=0s
Lecture 2: Conditioning and Bayes' Rule	https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/lecture-2/	https://www.youtube.com/watch?v=TluTv5V0RmE&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe&index=5
Lecture 3: Independence	https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/lecture-3/	https://www.youtube.com/watch?v=19QI_Q3I0GA&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe&index=9
Lecture 4: Counting	https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/lecture-4/	https://www.youtube.com/watch?v=6oV3pKLgW2I&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe&index=14
Lecture 5: Discrete Random Variables; Probability Mass Functions; Expectations	https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-i/lecture-5/	https://www.youtube.com/watch?v=3MOahpLxj6A&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe&index=17

Unit II: General Random Variables

https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-ii/

Lecture # / Title	Web-page	You-tube link
Lecture 8: Continuous Random Variables	https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-041sc-probabilistic-systems-analysis-and-applied-probability-fall-2013/unit-ii/lecture-8/	https://www.youtube.com/watch?v=mHfn_7ym6to&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe&index=26