

TABLE OF CONTENTS

PROBABILITY THEORY

Lecture – 1	Basics
Lecture – 2	Independence and Bernoulli Trials
Lecture – 3	Random Variables
Lecture – 4	Binomial Random Variable Applications, Conditional Probability Density Function and Stirling's Formula.
Lecture – 5	Function of a Random Variable
Lecture – 6	Mean, Variance, Moments and Characteristic Functions
Lecture – 7	Two Random Variables
Lecture – 8	One Function of Two Random Variables
Lecture – 9	Two Functions of Two Random Variables
Lecture – 10	Joint Moments and Joint Characteristic Functions
Lecture – 11	Conditional Density Functions and Conditional Expected Values
Lecture – 12	Principles of Parameter Estimation
Lecture – 13	The Weak Law and the Strong Law of Large numbers

STOCHASTIC PROCESSES

- Lecture – 14 Stochastic Processes - Introduction
- ~~Lecture – 15 Poisson Processes~~
- Lecture – 16 Mean Square Estimation
- Lecture – 17 ~~Long Term Trends and Hurst Phenomena~~ [Kalman Filters](#)
- Lecture – 18 Power Spectrum [and its Estimation](#)
- ~~Lecture – 19 Series Representation of Stochastic Processes~~
- ~~Lecture – 20 Extinction Probability for Queues and Martingales~~



Participants

Arena Lorenzo

l.arena1989@gmail.com

Cardona Tommaso

tommaso.cardona@gmail.com

Durante Daniele

daniele.durante@uniroma1.it

Leccese Giuseppe

giuseppeleccese87@gmail.com

Malpica Galassi Riccardo

riccardo.malpica@gmail.com

Memmolo Antonio

antonio.memmolo@gmail.com

Palermo Gianluca

glcpal@yahoo.it

Riso Cristina

cristina.riso@uniroma1.it

Scirè Gioacchino

scire.gio@gmail.com

Spiller Dario

dario.spiller@uniroma1.it

Diprima Francesco

diprima.fra@gmail.com