

KUOCW 참여 강의 개요

※ 실제로 진행된 강의에 대한 개요입니다.

1. 교과목 개요

교과목명 (국문)	확률 및 랜덤프로세스
[선택] 교과목명 (영문)	Probability and Random Process
교수자명	석준희
교과목 학습목표	<ul style="list-style-type: none"> - Understand the basic idea of probability and random process for electrical and computer engineering. - Learn problem solving skills and mathematical modeling - Practice programming with numerical computational tools
교과목 소개	This course introduces the basic concept of probability and random process, which is the base background for the wide range of applications and theories in electrical engineering.
교과목 키워드	Probability, Random Variable, Random Process

2. 주차 별 강의 내용 및 연관 파일명

주차	주제	내용 요약	해당 주차의 강의자료 파일명
1	Probability	Introduction to probability theory	Lecture Note 01 – Probability

2	Discrete Random Variable	Concept of random variables, probability mass function, cumulative distribution function	Lecture Note 02 – Discrete Random Variable
3	Discrete Random Variable	Various discrete random variables, binomial distribution, Poisson distribution ...	Lecture Note 02 – Discrete Random Variable
4	Continuous Random Variable	Concept of continuous random variables, probability density function,	Lecture Note 03 – Continuous Random Variable
5	Continuous Random Variable	Various continuous variables, exponential distribution, normal distribution...	Lecture Note 03 – Continuous Random Variable
6	Pairs of Random Variables	Joint probability distribution and marginal distribution, conditional distribution	Lecture Note 04 – Two Random Variables
7	Pairs of Random Variables	Bayes' theorem, Covariance.	Lecture Note 04 – Two Random Variables
8	Midterm		
9	Random Vectors	Concept of random vectors, multidimensional probability distribution, conditional distribution	Lecture Note 05 – Random Vectors
10	Random Vectors	Covariance matrix, Multivariate normal distribution	Lecture Note 05 – Random Vectors
11	Sum of Random Variables	Properties of sum of random variables, probability distribution of sum of two	Lecture Note 06 – Sum of Random Variables

		random variables	
12	Sum of Random Variables	Law of large numbers, central limit theorem	Lecture Note 06 – Sum of Random Variables
13	Random Process	Concept of random process. Various view of random process	Lecture Note 07 – Random Process
14	Random Process	Expectation of random process, stationary process,	Lecture Note 07 – Random Process
15	Random Process	Random walk, Poisson process, Gaussian process	Lecture Note 07 – Random Process
16	Final Exam		No Material