Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: THEORY OF THE STOCASTIC PROCESSES			
ACADEMIC YEAR: 2018/19			
TYPE OF EDUCATIONAL ACTIVITY: Affine			
TEACHER: Antonio Pepe			
e-mail: pepe.a@irea.cnr.it		web: http://www.irea.cnr.it	
phone:		mobile (optional): 3245815484	
Language: italian/english			
ECTS: 6 CFU	n. of hours: 52 lessons 40 practice and experiments 12	Campus: Potenza School of Engineering Program: Laurea in Computer Science and TLC Engineering	Semester: 1

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

In this module the stocastic processes and the techniques for the analysis and filtering of random signals are presented. First, the axiomes of probability as well as the concept of random variable are introduced. Few examples concerning the principal random signals are shown. Expected outcome is the capability of the students to handle with random signal in the light of their successive use in the field of modern Comunication Systems.

PRE-REQUIREMENTS

Pre-requirements are represented by the fundamentals of Signal Theory, Calculus, Matematics and Physics.

SYLLABUS

The course is organized in three parts. 1. Fundamentals of the theory of probability and introduction to random variables. 2. Stocastic processes and filtering through LTI systems. 3. Complements of Random Signal Processes, showing some numerical examples of random signals.

TEACHING METHODS

Theoretical lessons, Laboratory tutorials, Project works.

EVALUATION METHODS

An intermediate evaluation consisting in the solution of some exercises, and the presentation/discussion of a team project related to the study and processing of random signals.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

A. Papoulis, Probability, Random Variables, and Stocastic Processes, Third Edition
Ernesto Conte, Lezioni di Teoria dei Segnali
On-line Educational Material

INTERACTION WITH STUDENTS

Students can meet the prof. just before and after each lesson. Futher meetings with the students will be scheduled during the first semester.

EXAMINATION SESSIONS (FORECAST)[1]

14/02/2019, 07/03/2019, 27/06/2019,25/07/2019,26/09/2019,24/10/2019,12/12/2019

SEMINARS BY EXTERNAL EXPERTS YES x NO □

FURTHER INFORMATION

[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.