



Course guides

230632 - ARRAYS - Array Processing and Smart Antennas

Last modified: 29/04/2020

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 739 - TSC - Department of Signal Theory and Communications.

Degree: MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Optional subject).
MASTER'S DEGREE IN ADVANCED TELECOMMUNICATION TECHNOLOGIES (Syllabus 2019). (Optional subject).

Academic year: 2020 **ECTS Credits:** 5.0 **Languages:** English, Spanish

LECTURER

Coordinating lecturer: Perez Neira, Ana Isabel

Others: Lagunas Hernandez, Miguel Angel

PRIOR SKILLS

Signal Processing, Communications II.

TEACHING METHODOLOGY

master classes

LEARNING OBJECTIVES OF THE SUBJECT

Advanced front-end design for communication, location and navigation systems.

Basic contents of the course are: Networking and updating of reference codes in the space and time domains, multi-channel architectures, acquisition and monitoring, super-resolution.

STUDY LOAD

Type	Hours	Percentage
Self study	86,0	68.80
Hours large group	39,0	31.20

Total learning time: 125 h

CONTENTS

1. Introduction (6 hours)

2. Beamforming (14 hours)



3. Detection and estimation of arrival angle (8 hours)

4. Adaptive beamforming (7 hours)

5. Tx-Rx Array processing (10 hours)

GRADING SYSTEM

- Final Examen: 60%
- Participation and class assistance: 40%

RESOURCES

Other resources: