

230632 - ARRAYS - Array Processing and Smart Antennas

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
 Teaching unit: 739 - TSC - Department of Signal Theory and Communications
 Academic year: 2019
 Degree: MASTER'S DEGREE IN ADVANCED TELECOMMUNICATION TECHNOLOGIES (Syllabus 2019).
 (Teaching unit Optional)
 MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Teaching unit
 Optional)
 ECTS credits: 5 Teaching languages: Spanish, English

Teaching staff

Coordinator: 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

Total learning time: 125h	Hours large group:	39h	31.20%
	Hours medium group:	0h	0.00%
	Hours small group:	0h	0.00%
	Guided activities:	0h	0.00%
	Self study:	86h	68.80%

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Content

1. Introduction (6 hours)

Degree competences to which the content contributes:

2. Beamforming (14 hours)

Degree competences to which the content contributes:

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

Degree competences to which the content contributes:

4. Adaptive beamforming (7 hours)

Degree competences to which the content contributes:

5. Tx-Rx Array processing (10 hours)

Degree competences to which the content contributes:

Qualification system

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

Bibliography

Others resources: