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

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group:</th>
<th>39h</th>
<th>31.20%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Hours small group:</td>
<td>0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Guided activities:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>86h</td>
<td>68.80%</td>
</tr>
</tbody>
</table>
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: