EE-706  
**Active noise control**  
Lissek Hervé

<table>
<thead>
<tr>
<th>Cursus</th>
<th>Sem.</th>
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<td>Génie électrique</td>
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<td>Obl.</td>
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**Language**  
English

**Credits**  
2

**Session**  
Multiple

**Exam**  
Multiple

**Workload**  
60h

**Hours**  
28

- **Lecture**  
14

- **Exercises**  
4

- **Practical work**  
10

**Number of positions**  
20

**Frequency**  
Every 2 years

**Remarque**  
Every 2 years. Next time: Spring 2021

**Summary**  
Acoustics, electroacoustics transducers, filters design, antennas, active noise control, sound field control.

**Content**

1. **Fundamental acoustics**  
   Sound propagation - sound sources - interferences - refraction of sound - Guided waves in 1D (transmission lines, lumped-elements model)

2. **Active noise control concepts**  
   Historics of active noise control - Feedforward active noise control - Feedback active noise control - From active noise cancellation to active sound absorption

3. **Electroacoustic transductions**  
   Transductions and models (actuators, sensors, arrays of transducers) - Sound sources optimization and control

4. **Transducer-based active concepts**  
   Shunt loudspeakers - Bridging the gap between shunt loudspeakers and active sound absorption

**Keywords**  
Acoustics, electroacoustics transducers, filters design, antennas, active noise control, sound field control.

**Learning Prerequisites**

**Recommended courses**  
Audio I and II, acoustic propagation.

**Assessment methods**  
Project report and oral presentation.