Learning objectives of the subject

Background in electromagnetics applied to wireless communications, from an engineering point of view. Understanding of electromagnetic radiation and diffraction, and ability to analytically compute radiated and diffracted fields. Understanding of modern numerical methods for computer simulation of antenna radiation and field diffraction. Ability to write simple computer programs for numerical simulation.
# 29400 - EEMG - Engineering Electromagnetics

<table>
<thead>
<tr>
<th>Content</th>
<th>Learning time:</th>
<th>Theory classes:</th>
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<tbody>
<tr>
<td>(ENG) 1 Fundamentals</td>
<td>3h</td>
<td>3h</td>
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<tr>
<td>(ENG) 2 Properties of matter, wave propagation, reflection and transmission</td>
<td>3h</td>
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<tr>
<td>(ENG) 3 Electromagnetic radiation equations</td>
<td>6h</td>
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<td>(ENG) 4 Electromagnetic theorems and principles</td>
<td>4h 30m</td>
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<td>(ENG) 5 Guided propagation</td>
<td>4h 30m</td>
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<td>(ENG) 6 RCS, scattering and high-frequency techniques</td>
<td>1h 30m</td>
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<td>(ENG) 7 Integral equations, Green's functions and the Method of Moments</td>
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<tr>
<td>(ENG) 8 The Method of Moments</td>
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</table>
Evaluation is based on making exercises after each lesson (60%) and a final examination (40%). Exercises are assigned as homework. The final examination is a multiple-choice quiz and only fundamental concepts are addressed.

**Qualification system**

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**Regulations for carrying out activities**

All exercises and the final examination are mandatory.

**Bibliography**

**Basic:**


**Complementary:**


**Others resources:**

- Computer material
  - Numerical simulation of a transmission line