### Core courses (min. 12 credits)

<table>
<thead>
<tr>
<th>Core courses in, Prerequisites</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convex optimization</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td>D</td>
<td>F</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Low power electronics</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td></td>
<td></td>
<td>4</td>
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<tr>
<td>Semiconductor devices</td>
<td></td>
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<td>4</td>
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<tr>
<td>Smart grids technologies</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Statistical inference and machine learning</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>4</td>
</tr>
<tr>
<td>Wireless receivers; algorithms and architectures</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>4</td>
</tr>
</tbody>
</table>

### Specialization

**2-year program - 120 ECTS**

1. **Master’s thesis**
2. **Core courses and options**
3. **Project in social and human sciences**
   - 6 ECTS
4. **Lab, 4 ECTS**
5. **Semester project**
   - 10 ECTS

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Students may choose a 30 ECTS specialization in:

- A Microelectronic circuits and systems
- B Electronic technologies and device-circuit interactions
- C Bioelectronics
- D Internet of Things (IoT)
- E Data science and systems
- F Signal, image and communication
- G Wireless and photonic circuits and systems

**Or / and a 30 ECTS minor included in the 120 ECTS.**

**Recommended minors with this Master:**

- Biomedical technologies
- Computational science and engineering
- Energy
- Management, technology and entrepreneurship
- Science, technology and area studies
- Spatial technologies

**Or / and a 30 ECTS internship (4-6 months)**

**Industrial internship**

The program includes a compulsory industrial internship with a minimal duration of 6 weeks.

School of Engineering

go.epfl.ch/master-electrical-electronic-engin

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