## Electrical and Automation Engineering Degree Programme, full time studies, academic year 2022 - 2023

### Autumn 2022, 1. period

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEEAP19A7</td>
<td>Maintenance</td>
</tr>
<tr>
<td>BEEAP20A7</td>
<td>Modern Technology Applications</td>
</tr>
</tbody>
</table>

### Autumn 2022, 2. period

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEEAP21A7</td>
<td>Distributed Energy Solutions</td>
</tr>
</tbody>
</table>

### Spring 2023, 3. period

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEEAP22A7</td>
<td>Process Automation</td>
</tr>
</tbody>
</table>

### Spring 2023, 4. period

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEEAP22A7</td>
<td>Production Automation</td>
</tr>
</tbody>
</table>

### Summer 2023, 5. period

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEEAP22A7</td>
<td>Electrical and Automation – Development Project</td>
</tr>
</tbody>
</table>

---

**Core competence, compulsory modules**

- Programming Applications 1
  - E00DD05-3001 Data Networks and Data Security, 4 cr
  - E00DD51-3001 Mechanics, 3 cr
  - E00DD52-3001 PLC Programming and Human Machine Interface, 8 cr

- Software Engineering
  - E00DD53-3001 Fluids, Heat and Thermodynamics, 3 cr
  - E00DD54-3001 Mathematics of Computing, 3 cr
  - K00DE61-3001 Negotiation Skills, 2 cr
  - E00DD56-3001 Software Production and Testing, 7 cr

- Introduction to Automation
  - KM00CV11-3036 Algebra, 3 cr
  - KM00DE52-3003 Finnish, 1 cr
  - E00DD33-3002 Introduction to Automation Engineering, 5 cr
  - E00DD34-3002 Technical Project 1, 2 cr
  - E00DD35-3002 Theoretical Electrical Engineering – AC, 3 cr

- Automation Applications
  - KM00DE53-3002 Finnish, 2 cr
  - KM00CV13-3025 Geometry and Linear Algebra, 3 cr
  - E00DD38-3002 Introduction to Programming, 3 cr
  - KM00DE59-3004 Technical English 1, 2 cr
  - E00DD40-3002 Technical Project 2, 2 cr
  - E00DD41-3002 Theoretical Electrical Engineering – AC, 3 cr

- Introduction to Metrology
  - KM00CV61-3022 Differential Calculus, 2 cr
  - E00DD43-3002 Electrical Measurements, 8 cr
  - KM00DE54-3002 Finnish, 2 cr
  - E00DD45-3002 Laboratory Work in Automation Technology 1, 3 cr

- Metrology Systems
  - KM00DE55-3002 Finnish, 4 cr
  - KM00CV62-3021 Integral Calculus, 2 cr
  - E00DD48-3002 Laboratory Work in Automation Technology 2, 3 cr
  - E00DD49-3002 Measurement Systems, 7 cr

**Profiling competence, optional modules**

- 99991203 Thesis
- E00BX12-3001 Work Placement 1
- E00BX13-3001 Work Placement 2
- EA00CM34-3001 Profiling competence, optional modules