## Curriculum 2019-2020 for the students coming from the UoP
(27.6.2019)

### Wireless Communications Engineering – Radio Access and Networks
**DD-WCE–RAN study option**

<table>
<thead>
<tr>
<th>Code of the course</th>
<th>Name of the course</th>
<th>Course credits</th>
<th>Suggested timing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fall</td>
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<tr>
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<td></td>
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<td>Fall</td>
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**Obligatory Studies, Total 24 UoP crs + 40 ECTS crs**

<table>
<thead>
<tr>
<th>Code of the course</th>
<th>Name of the course</th>
<th>Course credits</th>
<th>Suggested timing</th>
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<tbody>
<tr>
<td>EE 669</td>
<td>Optimization of Communication Systems</td>
<td>3</td>
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<tr>
<td>EE 664</td>
<td>Random Signal Analysis in Communications and Signal Processing</td>
<td>3</td>
<td>x</td>
</tr>
<tr>
<td>EE 663</td>
<td>Advanced Digital Communications</td>
<td>3</td>
<td>x</td>
</tr>
<tr>
<td>EE 665</td>
<td>Data Networks</td>
<td>3</td>
<td>x</td>
</tr>
<tr>
<td>EE 681</td>
<td>Microwave Communications</td>
<td>3</td>
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<td>EE 680</td>
<td>Wireless Communication Systems</td>
<td>3</td>
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<tr>
<td>EE 683</td>
<td>Advanced Technologies in Telecommunications</td>
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<tr>
<td>EE 685</td>
<td>Advanced Digital Signal Processing</td>
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<td>x</td>
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<tr>
<td>S21324S</td>
<td>Statistical signal processing II</td>
<td>5</td>
<td>x</td>
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<tr>
<td>S21349S</td>
<td>Wireless Communications II</td>
<td>5</td>
<td>x</td>
</tr>
<tr>
<td>S21898S</td>
<td>Master’s Thesis</td>
<td>5</td>
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**Elective Studies, Total ≥ 6 UoP crs + ≥ 20 ECTS crs**

<table>
<thead>
<tr>
<th>Code of the course</th>
<th>Name of the course</th>
<th>Course credits</th>
<th>Suggested timing</th>
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</thead>
<tbody>
<tr>
<td>EE 687</td>
<td>Internetworking</td>
<td>3</td>
<td>x</td>
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<tr>
<td>EEE85</td>
<td>Antenna Theory and Design * **</td>
<td>3</td>
<td>x</td>
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<tr>
<td>EE 684</td>
<td>Telecommunication Regulation, Policy and Management</td>
<td>3</td>
<td>TBD</td>
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<tr>
<td>EE 682</td>
<td>Optical Communication Systems</td>
<td>3</td>
<td>TBD</td>
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<tr>
<td>900017Y</td>
<td>Survival Finnish Course I (on both semester) *</td>
<td>2</td>
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<tr>
<td>900019Y</td>
<td>Beginner's Finnish Course I (on both semester)</td>
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<tr>
<td>900053Y</td>
<td>Beginner’s Finnish Course II</td>
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<td>x</td>
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<tr>
<td>S21396S</td>
<td>Radio channels *</td>
<td>5</td>
<td>x</td>
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<tr>
<td>S21369A</td>
<td>Simulations and tools for telecommunications *</td>
<td>5</td>
<td>x</td>
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<tr>
<td>S21327S</td>
<td>Radio engineering II</td>
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<td>S21377S</td>
<td>Communications networks II *</td>
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<tr>
<td>S21388S</td>
<td>Antennas * **</td>
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<td>S21279S</td>
<td>Signal processing systems</td>
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<td>x</td>
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<td>S21322S</td>
<td>Telecommunication engineering project OR</td>
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<td>S21300S</td>
<td>Electronics design and construction exercise</td>
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<tr>
<td>S21318S</td>
<td>Modern topics in telecommunications and radio engineering</td>
<td>3-7</td>
<td>x</td>
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<td>S21389S</td>
<td>Wireless body area networks *</td>
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<td>x</td>
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<td>S21097S</td>
<td>Wireless Measurements</td>
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<td>S21225S</td>
<td>RF Components and Measurements</td>
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<td>S21401S</td>
<td>Electronics Design II</td>
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<tr>
<td>S21435S</td>
<td>Electronics Design III</td>
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</tbody>
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**Notes:**
- Master’s Degree at UoP is 60 Uof
- Master’s Degree at UOulu is 116 crs. The second study year in the study program is 60 crs which
- the whole study load at the University of Oulu.
- The first study year in DD-WCE study is 30 crs which is 50% of the whole study load at the UoP.

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**Additional Information:**
- Obligatory Studies: Total 24 UoP crs + 40 ECTS crs
- Elective Studies: Total ≥ 6 UoP crs + ≥ 20 ECTS crs
- Suggested timing for courses is provided in the Summer and Fall semesters.
- Course codes and names are specified for each entry.
- Credits and suggested timings are indicated for each course.
- Some courses have specific timing requirements, indicated by "x" in the table.

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**Curriculum Summary:**
- The curriculum is designed for students coming from the University of Pitcairn (UoP) and the University of Oulu (UOulu).
- It includes both obligatory and elective studies, covering various aspects of wireless communications and networking.
- The curriculum is structured over two study years, with a focus on both theoretical and practical aspects of telecommunications.
- The study load is balanced between obligatory and elective courses, ensuring a comprehensive understanding of the field.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Required</th>
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<tbody>
<tr>
<td>521405S</td>
<td>Electronic System Design</td>
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<tr>
<td>521402S</td>
<td>Telecommunication Circuit Design</td>
<td>5</td>
<td>x</td>
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<tr>
<td>521273S</td>
<td>Biosignal processing</td>
<td>5</td>
<td>x</td>
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<tr>
<td>521145A</td>
<td>Human Computer Interaction</td>
<td>5</td>
<td>x</td>
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<tr>
<td>521279S</td>
<td>Signal Processing Systems</td>
<td>5</td>
<td>x</td>
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<tr>
<td>521148S</td>
<td>Ubiquitous Computing Fundamentals</td>
<td>5</td>
<td>x</td>
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<td>521281S</td>
<td>Application Specific Signal Processors</td>
<td>5</td>
<td>x</td>
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<tr>
<td>521140S</td>
<td>Computer Graphics</td>
<td>7</td>
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<td>521290S</td>
<td>Distributed Systems</td>
<td>5</td>
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<td>521466S</td>
<td>Machine Vision</td>
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<td>Mobile Computing</td>
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<td>521044A</td>
<td>Social Computing</td>
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<td>521260S</td>
<td>Programmable Web Project</td>
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<td>x</td>
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<tr>
<td>521479S</td>
<td>Software Project</td>
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</tbody>
</table>

* * recommended  ** alternative courses
Master's Degree at UoP is 60 UoP crs. The first study year in DD-WCE study program is 30 crs which is 50 % of the whole study load at the UoP.

Master's Degree at UOulu is 120 ECTS crs. The second study year in DD-WCE study program is 60 crs which is 50 % of the whole study load at UOulu.