### Study Profiles

<table>
<thead>
<tr>
<th>Study Profiles</th>
<th>I. Systems</th>
<th>II. Electronics</th>
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</thead>
</table>

#### A) Catalogue CORE
1. Estimation and Detection Theory (Ascheid)
2. Mobile Radio Networks 1 (Petrova)
3. Principles and Design of Communication Systems and Networks (Mähönen)
4. RF Systems (Negra)

#### B) Catalogue ELECTIVE
1. Ad Hoc Networks: Architectures and Protocols (Mähönen)
2. Advanced Coding and Modulation (Jax)
3. Advanced Topics in Signal Processing and Communication (Ohm)
4. Algorithm Design for Digital Receivers (Ascheid)
5. Antenna Design for Radar Systems (Knott)
6. Antenna Engineering (Knott)
7. Communications Protocols (Mähönen)
8. Computer Arithmetic – Fundamentals (Gemmeke)
9. Computer Arithmetic – Advanced Topics (Gemmeke)
10. Design of Software Defined Radio Transceivers (Petrova)
11. Digital Speech Transmission (Jax)
12. DSP Design Methodologies and Tools (Leupers)
13. HF System und Übertragungstechnik 2 (Heinen)
14. High Frequency Electronics (Negra)
15. High Frequency Electronics – Antennas and Wave Propagation (Heberling)
16. High Frequency Technology – Passive RF Components (Heberling)
17. Information Theory (Mathar)
18. Internet of Things and Sensor Networks (Mähönen)
19. Machine Learning for Speech and Audio Processing (Jax)
20. Microwave Electronics (Negra)
21. Mobile Radio Networks 2 (Mähönen)
22. Navigation for Safety-Critical Applications (Meurer)
23. Optical Telecommunications – Devices (Witzens)
24. Optical Telecommunications - Systems (Witzens)
25. Optimierung in den Ingenieurwissenschaften (Schmeink)
26. Pattern Recognition in Image Data (Stegmaier)
27. Power Management Integrated Circuits (Heinen)
28. Principles and Architectures of Cognitive Radios (Mähönen)
29. Radar System Design and Applications (Knott)
30. Radar Systeme (Negra)
31. Satellitennavigation (Meurer)
32. Signal Processing in Multi-Antenna (MIMO) Communication Systems (Ascheid)
33. VLSI Design for Digital Signal Processing: Architectures (Gemmeke)
34. VLSI Architecture Design for Digital Signal Processing – Fundamentals (Gemmeke)
35. Wireless communication systems (Negra)

#### C) Catalogue LABORATORY
1. Laboratory ADS
2. Laboratory: Advanced Network Programming – Switching and Routing
3. Laboratory: Analog and Mixed Signal Electronics
4. Laboratory: Digital Mobile Receiver Design: Synchronization and Detection
5. Laboratory: Internet of Things
7. Laboratory: Network Programming
8. Laboratory: Network Simulators (irregular)
9. Laboratory: Optimization Lab for Communication and Signal Processing using MATLAB
10. Laboratory: Satellite Navigation
11. Laboratory: SMEAGOL – Small Embedded Advanced and Generic Objects Laboratory
12. Laboratory: VLSI Design Technology
13. Laboratory: Wireless Communications: Software Radio Implementations
### D) Catalogue PROJECT

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<tr>
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<th>Project: Communications and Multimedia</th>
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<tr>
<td>2</td>
<td>Project: Electromagnetic Noise in Power Electronics</td>
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<tr>
<td>3</td>
<td>Projekt: Schaltungsentwurf und HF-Systemtechnik</td>
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<tr>
<td>4</td>
<td>Project SMEAGOL – Small Embedded Advanced and Generic Objects</td>
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<td>5</td>
<td>Projekt: Systemsoftware für echtzeitfähige Simulationen von technischen Prozessen</td>
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