

Electrical Power Engineering (EPEN) - Recommendations

	<i>Electrical Appliances</i>	<i>Electrical Drive Trains</i>	<i>Electricity Grids</i>	<i>Electro Mobility</i>	<i>Power Systems Engineering and Economics</i>	<i>Renewable Energies</i>
A) Catalogue CORE	I	II	III	IV	V	VI
1. Advanced Electrical Drives	X	X		X		
2. Automation of Complex Power Systems		X	X		X	X
3. Battery Storage Systems	X	X	X	X	X	X
4. Dynamic of Electrical Machines		X		X		
5. Energy Storage Systems			X		X	X
6. Design, Computation and Technology of Electrical Machines	X	X		X		
7. Faults and Stability in Power Systems			X		X	X
8. High Voltage Engineering – Insulation Systems	X		X		X	
9. High Voltage Engineering – Testing Systems and Diagnostics			X		X	X
10. Power Electronics- Control, Synthesis and Applications	X	X		X		X
11. Power System Dynamics	X		X		X	
12. Power Generation and Energy Trading			X		X	X
B) Catalogue ELECTIVE	I	II	III	IV	V	VI
1. Advanced Monitoring for Power Systems			X		X	X
2. Design and Grid Operation of Wind Energy Systems			X		X	X
3. Disruptive Battery Technologies and Innovation		X		X		
4. Electrical Railway Drives		X		X		
5. Electric Rail, Linear Drives, and Magnetic Levitation		X		X		
6. Electrical On-board Supply Systems for Motor Vehicles				X		
7. Electric Local Transport Systems	X	X		X		
8. Energy Trading and Risk Management			X		X	X
9. Overhead lines			X		X	X
10. Future Energy System Part 1 Power Generation from Renewable Energies			X	X	X	X
11. Industrial Product Development Process Exemplified by Battery Systems for Hybrid and Electric Vehicles			X	X		
12. Magnetic Materials and Applications	X	X		X		
13. Measurement Techniques and Distributed Intelligence for Power Systems			X		X	
14. Modeling and Simulation of Complex Power Systems			X		X	X
15. Modern Control Systems						X

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	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
16. Operation of Interconnected Power Systems			X		X	X
17. Power Cable Engineering			X		X	X
18. Power Economics in Liberalized Energy Markets					X	
19. Power Semiconductor Devices	X	X		X		X
20. Protective Measures and Equipment in Power Supply Systems and Electrical Installations	X		X		X	
21. Remaining modules of catalogue CORE	X	X	X	X	X	X
22. Future Energy System – Part 2: Sector Coupling			X	X	X	X
C) Catalogue LABORATORY	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
1. High Voltage Lab Course			X		X	X
2. Implementation of Automation Functions for Monitoring and Control	X	X	X	X	X	X
3. Battery Storage Systems	X	X	X	X	X	X
4. Laboratory Exercise on Power Engineering 2			X		X	X
5. Power Electronic Devices	X	X	X	X		X
D) Catalogue PROJECT	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
1. Future Power Grids			X		X	X
2. Network Control System	X	X	X		X	X
3. Monitoring and Distributed Control for Power Systems	X	X	X		X	X
4. Approaching the Long Term Optimal High Voltage Grid			X		X	X
5. Design and Simulation of Electromechanical Energy Converters	X	X	X	X		X
6. Operation of Hydropower Plants in the Electricity Market			X		X	X
7. Power Electronic	X	X	X	X	X	X
8. Sustainable Transmission Systems			X		X	X
9. Sustainable Distribution Grids			X		X	X
10. Planning of Long-term Optimal Medium Voltage Networks			X		X	X
11. Measurement and Control of Electrical Machines	X	X		X		X
12. Battery Storage Systems	X	X	X	X	X	X

Please note that some information may have changed. You can find up-to-date information on [RWTHonline](https://www.rwth-aachen.de).