

Integrating EMC Measurement, Power Consumption, and Sustainability into Electronics Engineering Education

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Abstract

The course on Electromagnetic Compatibility (EMC), worth 15 ECTS, aims to equip students with a comprehensive understanding of EMC principles, measurement techniques, and their critical role in modern electronics engineering. This abstract explores the integration of EMC measurement, power consumption, and sustainability into the curriculum, emphasizing the importance of these elements in fostering a holistic educational experience.

Incorporating EMC measurement into the course allows students to gain hands-on experience with state-of-the-art testing equipment and methodologies. This practical approach not only enhances their technical skills but also prepares them for real-world challenges in ensuring electronic devices meet regulatory standards. By understanding the intricacies of EMC testing, students can design more robust and reliable systems.

Power consumption is another crucial aspect addressed in the course. Students learn to analyze and optimize power usage in electronic circuits, promoting energy-efficient designs. This knowledge is vital in the context of growing environmental concerns and the need for sustainable engineering practices. By integrating power consumption analysis, the course encourages students to consider the environmental impact of their designs.

Sustainability is woven throughout the curriculum, highlighting the importance of eco-friendly engineering solutions. Students are encouraged to adopt sustainable practices in their projects, from material selection to end-of-life considerations. This approach not only aligns with global sustainability goals but also instills a sense of responsibility in future engineers.

Overall, the integration of EMC measurement, power consumption, and sustainability into the Electromagnetic Compatibility course provides students with a well-rounded education, preparing them to tackle the challenges of modern electronics engineering with a focus on innovation and environmental stewardship.

Keywords

Electronics education, sustainable development, EMC, sustainability