

Background, Acknowledgements and Mission

Our department received a grant from the National Science Foundation (NSF) for Innovations in Power Engineering Education in 1997. Through this grant, our courses in the fields of Power Electronics and Electric Drives are totally restructured and innovative techniques for analysis have been devised. This information was disseminated at two faculty workshops, one in 1997 and the other in 1998.

Subsequently, we received grants from NSF (CCLI-EMD, Award No. 9952704) and NASA in 2000 to develop software-reconfigurable laboratories to nationally revitalize these fields. As a result, two hardware laboratories have been commercialized and the course information was disseminated at the faculty workshops in 2002, Jan 2003, July 2003 and Feb 2004. Several universities have successfully obtained funds from NSF under the CCLI-A&I program to adapt and implement these laboratories.

In 2003, we, along with Dr. Ben Oni from Tuskegee University and Dr. Raja Ayyanar from Arizona State University, received a grant from NSF (CCLI-ND, Award No. 0231119) to disseminate information regarding our educational developments. Supported by this grant, a faculty workshop was organized in July 2003 at the University of Minnesota and another one during Feb 20-21, 2004 in Las Vegas.

These innovative approaches and education materials are also ideal for practicing engineers. However, the main mission of these grants remains to continue the improvement and revitalization of academic courses, and dissemination of this information to faculty nationwide. To serve this mission to its fullest, it is important that professional engineers have an input to what and how the material is covered in these courses. A short course in Power Electronics aimed at practicing engineers was designed to solicit this information by first presenting this material to practicing engineers that was highly successful.

Based on the success of this endeavor, this short course on Electric Drives Principles is being offered during Spring 2004, and repetition of these two short-course offerings in years after that.

In doing so, the generous support by NSF and NASA of our educational endeavors is gratefully acknowledged. Your constructive comments in making our educational methods and material will greatly help us as we strive to improve academic courses and subsequent offerings of these short courses.

Thank you very much.