

AC 2007-2284: A NEW INITIATIVE FOR RESEARCH CO-OP AT THE UNIVERSITY OF CINCINNATI

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A New Initiative for Research Co-op at the University of Cincinnati

The College of Engineering (CoE) and the Division of Professional Practice (PP) at the University of Cincinnati (UC) are collaborating to establish a Cooperative Undergraduate Research Experience program with the primary goal of increasing the number of underrepresented and U.S. citizen engineering students who pursue advanced degrees and research careers. It is expected this program will demonstrate a new and more beneficial mechanism for incorporating research into undergraduate education by tailoring the strengths of the cooperative education model (co-op), which is traditionally industry-focused, to the fields of fundamental research. Fundamental objectives of this program will be to increase undergraduate student awareness, interest, and participation in basic research being conducted in academic, governmental, and private research laboratories both nationally and internationally. From the University perspective, this program will foster increased retention of baccalaureate students with interest in basic research and produce students who possess a greater level of research competencies upon graduation, ultimately resulting in an increase in the competency and numbers of engineering students, both underrepresented and US citizens, who continue on to achieve advanced degrees and focus their professional efforts in areas of fundamental research.

A steering committee made up of both PP and CoE faculty have been formed to develop and pilot this program, beginning as a certificate option within the already existing and nationally recognized mandatory co-op component of all UC undergraduate engineering degrees. An NSF grant has been awarded to pilot the program beginning Winter Quarter of the 2006-2007 academic year. Details of the program will be discussed including methods and materials covered in preparing students for the basic research environment and definitions and certification processes for determining what qualifies as a fundamental research experience. Documentation requirements beyond those typically used in co-op will be discussed including, tracking of authorship and presentation opportunities during co-op as well as written and oral presentation requirements of the students following co-op experiences. Finally, methods of marketing this program to attract talented HS students into engineering majors and ultimately research careers, will be discussed.