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Creating a Research-Rich Curriculum at Miami University

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Miami University has attempted in recent years to build upon a collection of individual student research participation opportunities at the University, and develop a comprehensive “research-rich” undergraduate curriculum. A major step in this direction was the creation of the Undergraduate Summer Scholars (USS) program. This program provides 10-week summer research experiences with faculty mentors for 100 juniors or seniors each year. The USS Program is not limited to science and engineering areas, as approximately 30 academic departments participate annually. Development of the USS program at Miami was motivated by the University’s prior experience with student research appointments funded by the National Science Foundation, the Howard Hughes Medical Institute, and other sponsoring agencies. The University’s evaluation of these earlier student research experiences provided evidence that such experiences were at least as significant in a student’s education as formal course work. A second important step in Miami’s effort was obtaining a grant from the National Science Foundation’s Comprehensive Reform of Undergraduate Education program. This funding enabled the University to enhance the Undergraduate Summer Scholars (USS) Program and evaluate student intellectual growth within the program. Two outcomes of this NSF-funded project are noteworthy: first, the USS program now is firmly established within the University’s offerings; second, the evaluation indicated profound student intellectual growth as a result of mentored research experiences. We will describe the development of the Undergraduate Summer Scholars Program, our evaluation of the Program, and ongoing efforts to extend the benefits of research experience to more students by incorporating research components within traditional coursework.