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Faun C. C. Doherty* (fdoherty@washjeff.edu). *An undergraduate original research experience: Mathematical modeling with graph theory.*

Entering the research arena in graduate school can be an intimidating idea to undergraduate math majors who have little to no experience doing original research. With a grant from the Howard Hughes Medical Institute, I was able to conduct an internship in mathematical modeling with three math majors at Washington and Jefferson College during the summer of 2009. This experience proved to be outstanding both for me as a mentor, and for the students involved. The subject was to explore some mathematical models used in DNA sequencing. Not only were the students required to learn the biology, and work within an interdisciplinary setting, but they were able to develop and prove their own result. I will describe our journey into original research, the students reactions to it, and the benefits that such a program has for students who are considering what it really is like to do independent math research. (Received August 27, 2009)