The Scots Science Scholars (S3) Program, funded by the NSF, seeks to increase the number of students graduating with STEM degrees at Maryville College (MC). Concordant with national trends, approximately 40% of freshman students enrolled at MC indicate an interest in a STEM field before the first year; however, by the spring of that year, when most first-year students declare majors, only about 30% declare majors in STEM programs. Moreover, only 20% of the bachelor’s degrees granted by MC are in STEM fields. The S3 program includes 3 vital components designed to retain students in STEM majors to graduation: a summer-bridge program, a specialized first-year curriculum, and a research/leadership experience that is integrated with the MC core curriculum. The summer experience focuses on preparing students for college level work through lab and mathematics experiences that are delivered via discovery and collaborative learning. The S3 program enrolls 15-20 students per year and utilizes 4 peer mentors for each annual cohort. The program is now in its second year. We discuss the successes and pitfalls of the program as well as modifications that will be implemented. (Received September 15, 2014)