

Integrating student research projects into mathematical biology courses

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Interdisciplinary mathematical biology courses have particular challenges. Specific teaching methods are necessary in order to engage students with varying levels of competency in mathematics and biology. Integrating interdisciplinary student research projects into the course can accomplish this goal. Such projects provide an opportunity to put into practice new skills in model construction, data collection, and model parameterization, analysis, simulation, and interpretation. In addition, the theoretical and computational skills that the students implement in these projects expose them to different biological applications. Besides encouraging students of complementary backgrounds to work together, this active learning endeavor allows students to develop hands-on experience while highlighting unique individual strengths. This problem solving approach is intended to prepare students for the challenges of today's academic or non-academic careers.