

1096-N5-1530 **Marilyn Brandt** (mbrandt@uvi.edu), 2 John Brewers Bay, University of the Virgin Islands, St. Thomas, VI 00802, and **Robert Stolz*** (rstolz@uvi.edu), 2 John Brewers Bay, University of the Virgin Islands, St. Thomas, VI 00802. *Locally-relevant biological projects as a foundation for teaching an upper level undergraduate math course.*

In the fall of 2012, the University of the Virgin Islands offered a project-based course on Numerical Analysis taught by a Professor of Mathematics and a Research Assistant Professor of Marine Biology. A significant component of students' grades included three group projects where they applied techniques programming skills that they had learned in class to problems that were territorially relevant and based on real data. These projects included: 1) Developing a system for lionfish control in Virgin Islands marine reserves, 2) Application of the classic Kermack-McKendrick SIR model of disease to dengue fever in the Virgin Islands, and 3) Modeling the dynamics of coral bleaching over a 9 year period using data from the US Virgin Islands Territorial Coral Reef Monitoring Program. Methods taught and then applied in the projects included the Bisection Method, Newton's method, and Runge-Kutta methods, among others. At the end of the course, students were asked to anonymously evaluate the role of the projects in the course. The majority of students (9 of 10) agreed that the biologically-based projects helped them to learn the numerical analysis techniques. (Received September 16, 2013)