

Virginia Commonwealth University VCU Scholars Compass

Biology and Medicine Through Mathematics Conference

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Quantitative Biology Education - resources to change your students from math-anxious to math-curious

Jeremy Wojdak Radford University, jmwojdak@radford.edu

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Many undergraduate students in biology are afraid of or disinterested in mathematics and statistics. However, succeeding in biological sciences or the health and medical fields requires a growing degree of quantitative sophistication. This divide presents a challenge to science and mathematics faculty, tasked with training the next generations of professionals. Luckily, there are a growing number of resources, both digital and social, for faculty to draw from as they improve their curricula and instruction in quantitative biology. The QUBES (Quantitative Undergraduate Biology Education and Synthesis) project provides a national online community of educators sharing educational resources, hosting browser based computational tools, and collaborating from material creation and adoption through implementation as they improve their instruction. The BIOMAAP (Biology undergraduate Mathematics Anxiety and Attitudes Program) program provides instructors with easily-adopted materials that help students overcome math anxiety and develop more positive towards math and their ability to learn. The AIMS (Analyzing Images to learn Mathematics and Statistics) project provides instructors with fascinating case studies of real research where students can ask their own questions and collect new data via image analysis, all to motivate student interest in the analysis of those data. These projects provide instructors with a host of ways to reinvigorate their teaching of quantitative biology.