

Technology Based Modules to Improve Learning in a Physical Oceanography Lab
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Abstract: Physical oceanography is a mathematical and quantitative field of study. Students often have difficulty visualizing the physical processes, and how these processes affect the ocean, because they have difficulty applying the mathematical concepts to the actual environment. We are proposing to modify all the weekly Physical Oceanography labs to include a computer-based section that will aid the students in visualizing and understanding the physical processes, and enable the students to observe how the processes covered in that week's lab are applied to the real ocean and oceanic data. Additionally, we intend to make these lab modules interactive whenever possible in order to enhance student learning. Several years of pre-assessment data are available that include past students' weekly lab scores, overall course grades, and performance on the physical oceanography section of the marine science exit exam. This data will be compared to similar data from students who complete the new lab modules.