

MEASURING PH AND SPECTROPHOTOMETRY IN COLLEGE-LEVEL LABS

Immaculate High School, Danbury

2023-2024
PROJECT UPDATE



Grant Amount: \$5,551
Project Cost: \$5,255



60+ Students Impacted
Grades 10-12

PURPOSE: To enhance laboratory equipment so we can offer the UConn ECE Chemistry (Early College Education, dual enrollment with AP). The pH probes and spectrophotometers connect directly to students' laptops to allow them to individually analyze and process the raw data. The buret clamps, pipets, pipet bulbs, and burets were all necessary to teach the proper techniques to make accurate concentrations of solutions, then carry out the experiments involving pH, kinetics, dilutions, and spectrophotometry.

IMPACT: Students were able to learn concepts directly through experimentation, rather than through lecture or reading a textbook. pH probes allowed the students to explore a variety of acid/base related situations, including buffers. The students made connections during lab that are not easily made during lecture or notes. The spectrophotometers helped the students differentiate between absorbance and transmittance. Also, they were able to determine experimentally the wavelength that should be used for the experiment. These are higher-level learning processes that would not have been possible without the materials provided by this grant."

FUTURE PLANS: The program will continue and the school may expand the use of the equipment to biology.

