



Project Title: ChemTube: Instructional videos to improve student learning in the CHEM3XX analytical laboratory

Project Summary (150 words maximum)

I propose creation of ten YouTube-style instructional videos to support learning in the third-year analytical chemistry laboratory. The videos will demonstrate instrument principles on a component-by-component basis, focused on clarifying their interrelations and how they work together to allow the chemical analyst (the student!) to arrive at a result after receiving a chemical sample for analysis. Videos will highlight internal components that are not viewable during scheduled lab periods, increasing the tangibility of how the instruments work. Students currently make use of the lab manual and an instrumental analysis textbook as primary learning resources. The videos will fill a content gap that exists between these two resources. Current students polled informally indicated strong support for the creation of such videos. One hundred sixty students of the CHEM 315/325/335/345 ('CHEM 3XX') laboratory courses will directly benefit from the videos each year. Videos are expected to be used for many years.