

## **A New Model for Teaching Clinical Mass Spectrometry**

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The utilization of mass spectrometry is growing in multiple disciplines within the clinical laboratory. The demand for Medical Laboratory Scientists with knowledge and expertise to perform analyses with mass spectrometry based analytical systems is rapidly increasing. We have developed a comprehensive and collaborative approach to educating CLS/MLS students at the undergraduate level, to better prepare them for this career opportunity. Through a partnership between the CLS Dept., the Clinical Chemistry Lab, and the Laboratory of Pharmacometabolomics and Companion Diagnostics at VCU, and the Sciex Corp., we have introduced instruction and hands-on experience with a mass spectrometry based assay in an undergraduate Clinical Chemistry & Instrumentation course. Our innovative approach includes practical experience with sample preparation, liquid chromatography, and mass spectrometry data analysis. Software from the instrument vendor, operating in the simulation mode, and real data generated from samples prepared by students, analyzed and visualized in real time via remote monitoring software is utilized. This novel approach teaches how a CLS/MLS interacts with a LC-MS/MS system to generate clinically reportable data. Screen recording software is also utilized to provide a record of their work in a format that the student can take with them when they graduate. This approach can be adopted by any CLS/MLS program that can partner with a lab that has a mass spectrometer. We will demonstrate the use of the software as an instructional tool. Learning outcome data is being collected, and will be presented at the demonstration.