



Applied Microscopy Degree Students Gain Sought-After Skills While Earning Degree

At a Glance

Concordia University Chicago and Hooke College collaborate to offer an Applied Microscopy major, minor, or science electives, where students earn the hands-on experience they need to be successful in the workplace.

It is the classic Catch-22 for new college graduates looking for a job: employers want experience, but gaining experience is challenging if no one is willing to hire you.

While many college degrees are structured by their historical mission of providing graduates with a broad education, we now frequently see employers wanting more than just the degree, they want hands-on experience and training often lacking in a traditional college curriculum. The Applied Microscopy major, a collaborative effort between Concordia University Chicago (CUC) and Hooke College of Applied Sciences (HCAS), is designed to help students learn the skills they need to be successful in the workplace, and to gain the hands-on experience that is so valuable to employers.



Victoria Zalizna (center) attends Modern Polarized Light Microscopy class.

Victoria Zalizna learned about this program from her advisor, and decided to attend the Raman microspectroscopy course at HCAS to see what it would be like.

"After I took my first class, I immediately wanted to come back and learn more. I did some research to learn more about microscopy, and this opportunity definitely piqued my interest, so I changed my major," said Victoria.

Victoria completed all of the prerequisite general education and science courses during her first three years at CUC. She spent a year at HCAS taking classes that use a hands-on approach to learning along with teaching the theory and principles of sample preparation, digital imaging, polarized light microscopy, electron microscopy, and spectroscopy. Following each of the thirteen hands-on courses, she completed a week-long practicum project characterizing unknown samples and applying newly-learned techniques.

"I've seen that particle identification has a lot more depth to it than simply running things through machines and expecting answers. There's a critical thinking process that goes into each sample and analysis."

Victoria Zalizna, Graduate, Concordia University Chicago

Victoria said, "I've certainly been able to pull myself away from the CSI effect. I've seen that particle identification has a lot more depth to it than simply running things through machines and expecting answers. There's a critical thinking process that goes into each sample and analysis."

The need to dig deeper and integrate multiple techniques worked for Victoria. She appreciated the balance of support and learning to take responsibility for her education and experience.

Victoria said, "To get the most out of this program, being driven to succeed is key. While a lot of people offer their help and support, no one will hold your hand."

Realizing that self-directed study was a key element, Victoria began to draw on vast knowledge pools available at HCAS.

"The biggest surprise from the program came when I noticed how much everyone really wanted to teach you something. Not just instructors, but everyone on staff. People in the building all have deep wells of knowledge and they genuinely want to share," Victoria said.

Victoria advises anyone who participates in the program to "take advantage of the people and materials that are there. Students need to reach out, ask questions, and do more work than is required to gain the most out of their time at Hooke College of Applied Sciences."



Victoria (second from right) takes notes while Dr. Graham Rankin lectures during the Analysis of Low Explosives course.

Looking to the future, Victoria is hoping to incorporate her knowledge and experience at the workplace. During the year Victoria spent at HCAS, she not only completed the technical training required from the program, she worked alongside industrial students taking professional development courses, honed her presentation skills, and collaborated with others. Having acquired over 1,000 hours of microscopy experience, Victoria offers the work force a self-directed mindset

with a unique set of hands-on experiences. This combination means that future employers can be confident that they are hiring someone who has the real-world skills they need.

Victoria further said, "I've already told people that it's one of the best experiences of my college life. The program led me to learn things that don't make it to the college curriculum, and gave me the skills to use that knowledge in a workplace."



3+1 students Victoria (left), Brent Platt (center), a Concordia University Chicago graduate, and Marissa Bartz (right), a North Central College graduate.

"I've already told people that it's one of the best experiences of my college life. The program led me to learn things that don't make it to the college curriculum, and gave me the skills to use that knowledge in a workplace."

Victoria Zalizna, Graduate,
Concordia University Chicago