



Applied Microscopy Program Gain Skills and Experience While You Earn A Degree

At a Glance

Hooke College and Concordia University-Chicago collaborate to offer an Applied Microscopy major and minor, where students complete course-work alongside industry professionals.

To answer employers' increasing frustrations in finding skilled workers, Concordia University-Chicago (CUC) and Hooke College of Applied Sciences (HCAS) have collaborated to develop a program to provide students with the critical thinking and problem solving skills that are in demand in today's job market. Graduates of the Applied Microscopy program leave college with competencies and experience unavailable anywhere else.

With an interest in a career in the pharmaceutical industry, Brent Platt decided to enhance his chemistry degree with a minor in Applied Microscopy. Inspired by ongoing advances in medication for patients and the need to find solutions to healthcare challenges, Brent hopes to apply what he has learned at HCAS to pharmaceutical research and contribute to a better quality of life for those suffering from illness.

"I learned so much in such a short amount of time. In my chemistry classes I learned a lot, but now I really know how to apply it. Working with the microscopes and advanced instrumentation brings it all together, and now it makes sense."

Brent Platt, Student, Applied Microscopy Program



During a crystallography course, Scientist Emeritus for the U.S. Geological Survey and HCAS Instructor Dan Kile (center) explains the proper use of specialized equipment to students including Brent Platt (right).

"I learned about the Applied Microscopy program while going through the Concordia University catalog, and arranged for a tour of HCAS. I was really impressed after seeing the facility and all of the high-tech instruments, and decided I wanted to work toward learning how to operate and understand them," Brent said.

Brent finalized his prerequisites at Concordia University-Chicago, then spent a semester at HCAS and

earned his minor in Applied Microscopy after completing the following courses: Polarized Light Microscopy (PLM), Optical Crystallography, Particle Handling, Scanning Electron Microscopy, Infrared Microscopy, and Raman Microspectroscopy.

He is grateful for the solid understanding of theory and the hands-on experience he gained working on state-of-the-art instruments at HCAS. Brent said, "It is a great program—very hands-on. At the end of each class, Hooke instructors give you an unknown sample to characterize and identify, like a vial full of liquid with foreign material, and you have figure out what the contaminant is. Even the course work is challenging, but it is very rewarding to be able to identify the contaminant at the end of it."

"Meeting all of the industry professionals working in the fields I am interested in has been great. I really understand how what I am learning applies to future opportunities."

Brent Platt, Student, Applied Microscopy Program

Brent suggests that anyone interested in the 3+1 Applied Microscopy program takes PLM first. "PLM really is the foundation for all of the courses, because even if you don't use PLM in a specific course, the technique is still great for confirmation of other analyses, like scanning electron microscopy and infrared spectroscopy. Incorporating PLM into your analysis helps you feel confident that you understand what you are looking at."

During courses, college students work alongside industry professionals; these mentorship and networking opportunities are additional tangible benefits of the 3+1 program. "Meeting all of the industry professionals working in the fields I am interested in has been great. I really understand how what I am learning applies to future opportunities."

Students learn more about industries of interest by interacting with professional development students and instructors to help connect learning to work-related

problems. "To be successful in the program you have to participate in the classes, review your notes, and not be afraid to ask questions. The instructors are willing to help everyone, and they want to make sure you understand what they are teaching," said Brent.

Hands-on learning is the primary focus during HCAS classes. Even though Brent knew this, he could not help but be surprised when he was given the controls to state-of-the-art instruments. "My favorite part has been the direct application of hands-on learning. It was an honor and very gratifying to be able to use JEOL's newest scanning electron microscope, the IT300LV (the Ninja)."

After graduation, Brent will be actively looking for a job. While he has a soft spot for pharmaceutical science, he admits that between the Introduction to Forensics course he took at Concordia University, the professionals he met at HCAS, and his newly developed analysis skills, he is intrigued with the

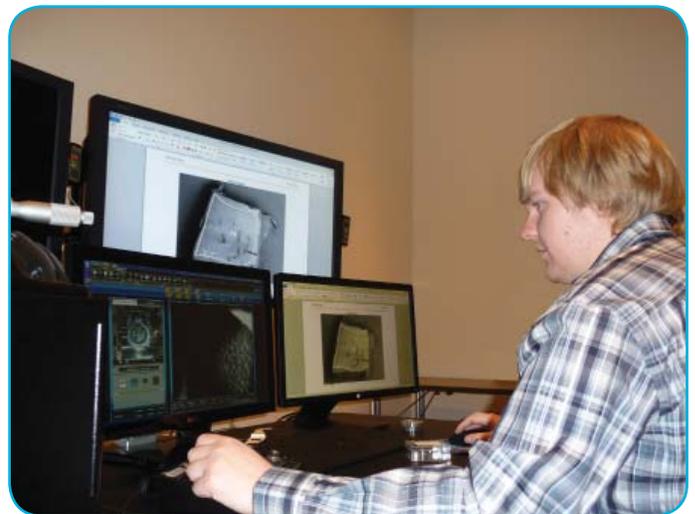
idea of working as a trace analyst in a crime laboratory. "I learned so much in such a short amount of time. In my chemistry classes I learned a lot, but now I really know how to apply it. Working with the microscopes and advanced instrumentation brings it all together, and now it makes sense." Whether he pursues forensics or pharmaceutical research, Brent's specialized skills and thoughtful approach to problem solving will be an advantage to any future employer.

"My favorite part has been the direct application of hands-on learning. It was an honor and very gratifying to be able to use JEOL's newest scanning electron microscope, the IT300LV."

**Brent Platt, Student,
Applied Microscopy Program**



Brent uses a polarized light microscope to complete coursework.



Brent analyzes his practicum samples on the JSM-IT300LV, JEOL's newest SEM.