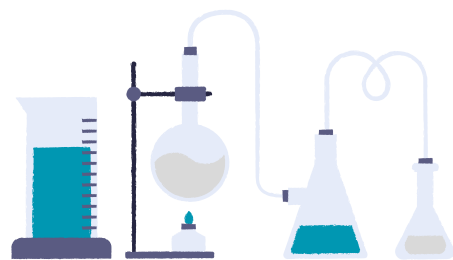

BLOCK 2 CHEMISTRY NEWSLETTER

*WELCOME TO THE
2023-24 NEWSLETTER*



Welcome to the Chemistry and Biochemistry department's newsletter! This is a space to announce any events taking place, highlight the amazing things that have happened within the department, and notify of any exciting opportunities going on.

PG 1

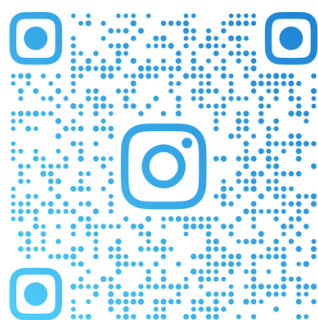
Welcome to the chemistry department newsletter



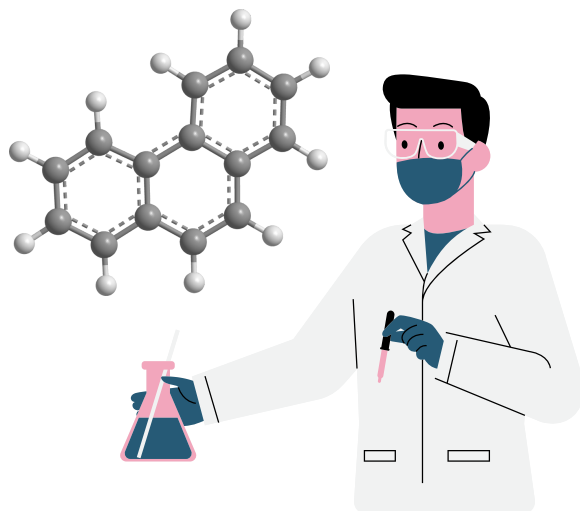
Go show some love to the chemistry department's Instagram account! This summer there were many students on campus doing research and you can go back and read what they did in case you are interested in doing research with any of our amazing professors!

PG 2

Events to look forward to this block



CC_CHEMISTRYBIOCHEMISTRY



PG 3-5

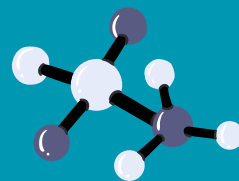
Recap of block 1 and the exciting classes that occurred

Events This Block

SCoRe Symposium

Edith Kinney Gaylord Cornerstone Arts Center

Thursday, October 12th, 3-5:30 PM

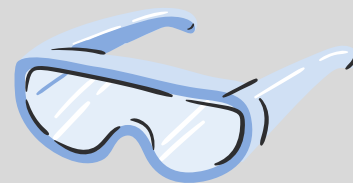


Come out to support your fellow chemistry students and the overall CC community at the Summer Collaborative and Research (SCoRe) and Internship Symposium.

Arts and Crafts w/ the Chemistry Department!

Worner Arts & Crafts Space

Tuesday, October 10th, 3-5 PM



Let's get this year started off with some arts and crafts! All students are welcome, it's an opportunity for students to hang out, relax, meet majors, and enjoy some snacks. If you've already declared show up to take your picture and decorate your frame for the major wall or help design a logo.

Help design a logo/design for the Chemistry Department!

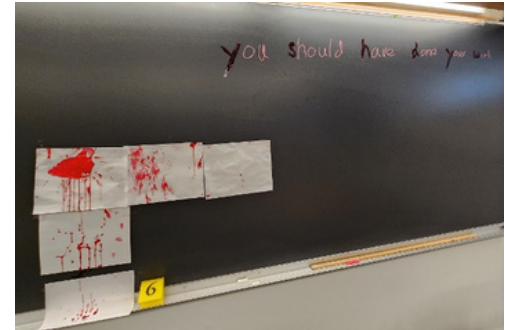
Submissions due October 29th at 5 PM

The chemistry department is in need of a new logo! With the hopes of utilizing it for department merch consider the size/complexity of your design. Once submissions are in, we will have a vote for the design. The winner will receive an official chemistry department mug! 🥳



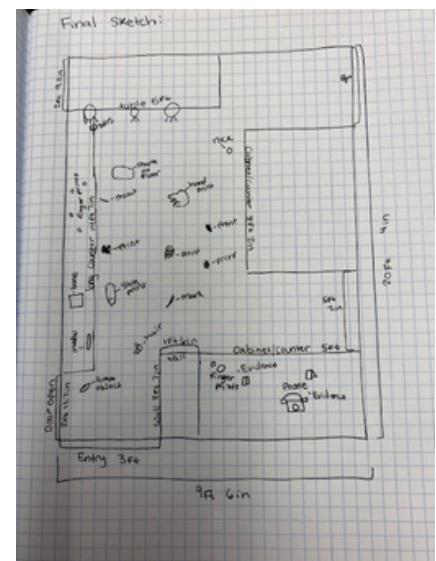
FEATURING CC105: Criminalistics: An Introduction to Forensic Science

CC105: Criminalistics: An Introduction to Forensic Science was offered as part of the Crime and Social Problems cluster of 2023 fall-start first-year courses. Courses in this cluster were grouped to examine the complex interplay between crime, justice, and social issues. CC105 was designed to teach some basic chemistry concepts and have them applied directly to the forensic science found useful in the investigation of crime. A mix of historical and fictional case studies, collecting evidence from crime scenes, and methodologies employed in the forensic sciences were used as a framework to learn about the application of these basic chemical principles. Library research coupled with written and oral presentations were used to develop forensic reporting skills. We briefly explored the intersection of science and criminal justice and how scientific principles can be twisted/misused/misrepresented resulting in inequities in the justice system.



"I enjoyed teaching this course and I enjoy teaching courses like it as I believe a tangible, direct application of scientific principles opens the door for students to think critically using chemical principles. These courses can be especially impactful for introducing students who are intimidated by STEM to STEM in a fun and engaging way. A wonderful highlight of this course was President L. Song Richardson spending a morning with our class and talking about the intersection of criminal justice and forensic science from the perspective of having been a defense attorney. Watch Season 18, Episode 37 of 48 hours (first aired August 6, 2005) if you want to see a documentary on the case that President Richardson indicated to our class was one of the most interesting cases she has been involved with!"

- Professor Murphy Brasuel



FEATURING CC105: Dyeing to Learn Chemistry

"Dyeing to Learn Chemistry was born in the summer of 2020, when I was teaching at a prior institution. One of the courses I was hired to teach was a non-majors chemistry course, and I decided to teach a course on the chemistry of fibers and dyes, since I have loved the fiber arts my whole life. During graduate school and my postdoc, I quilted and was super active in local quilt guilds, while after the pandemic I got more into knitting because we had a great shop and it was easier to knit socially-distanced outside. My journey began as a child when one grandmother taught me to knit, and the other (a professional draper) taught me how to sew. I'm a biophysical protein chemist by training, so most of what I know about dye and fiber chemistry (beyond college-level OChem and physics) I taught myself. I learned the basics of dyeing through classes at my local yarn shop, Hearts on Fiber, used chemistry in an art course framework shared by a generous retired colleague, and eventually settled on a course trajectory of working with students to understand the chemistry of how fibers and dyes connect by the end of the class.

My dream was to have students design research projects that tested the effectiveness of different natural dyes. Due to the expense, environmental, and social costs associated with cultivating natural dyes (which often require metal mordants as pre-treatment), natural dyes fell out of use with the advent of synthetic dyes at the turn of the 20th century. As we begin to understand the complicated chemistry and biology of synthetic dyes, interest in natural dyes has been growing again. Plus, natural dyes are complex as they contain multiple dye molecules that can vary in amount and ratio from plant to plant. So what better place would there be to explore dye results than in a chemistry class?



In this course, the first two weeks were devoted to understanding color theory, how different dye molecules are colored, and the chemistry behind fiber-dye interactions. The second two weeks were devoted to designing and testing a natural dye experiment based on the resources and needs of our community partner organizations, Flying Pig Farm and Sustainable Educational Experience (SEE) and then making the resulting protocols publicly available. A lot of time was spent learning how to interpret colorimetry data and reflectance spectra, which was followed by the challenge of taking technical protocols and data and translating them into something useful for a general audience. We closed the course by sharing our results with the community and eating a pancake breakfast at Flying Pig Farm.



This won't be the end of Dyeing to Learn Chemistry—I am applying to co-host a symposium and workshop on the chemistry of art and archaeology with two colleagues at the Biennial Conference on Chemical Education this year. I'll be working with another colleague to show other chemistry educators how to dye with cochineal in lab and then give a presentation on this course and my students' results. I



And.. if you ever want to experiment with natural dyes, for science or for fun, let me know! My students' protocols are available to use!"

-Professor Annelise Gorenssek-Benitez

