

From the Social Sciences:

POL 340 Cyberpolitics : Zachary Griffith researched drones, (UAVs, unpiloted aerial vehicles), their evolution, and applications in the military. The written research project culminated in four drone flight tests analogous to military uses, using Zach's Swann Xtreme Quadcopter with onboard still photo and video capacity. All tests were conducted in accord with the FAA's rules for pilotless vehicles, on a farm in Berks County. In the first test, Zach used his UAV to reveal a hidden person presumed to be hostile. For this test, a friend in camo clothing armed with a model light machine gun played the part of the presumed combatant. In the second test Zach used his drone to locate a potential IED (played by an Army surplus satchel). For the third test, Zach flew his drone carrying cargo, in this case a USB flash drive with mock "sensitive" data on it, across a border (stone road on farm). In the last test, Zach conducted dynamic monitoring of a moving armed guard (part played by his brother William). The first three tests were unqualified successes. In the third case, pilot error, taking the drone to a higher than usual altitude to avoid detection, caused the drone to exit radar range and fly off in a straight line. The UAV was later recovered in a tree some distance away.

Dr. Feigenson, a biopsychologist offers a module that contributes to one of his laboratory projects involving personality and cognitive components of delusional behavior. In the first half of the semester, students meet once a week to discuss some papers and concepts relating to the project, and then during the second half of the semester they participate for short (less than 30 minute) sessions involving a couple tasks and questionnaires. Module student also become trained in ethics of research by completing NIH training.

Dr. Heberle, a developmental psychologist, has been offering research centered modules, where students engage in small pieces of a larger research project looking at the language input young children receive concerning mental state verbs, in particular, the verb "trust". We call this project looking for a needle in a haystack, since our primary finding is that books, TV shows, videos and parent speech are full of other mental state verbs such as "think", "believe", "know", but "trust" is hardly ever used. Students in these modules have coded children's books, TV, and advertisements, and often present the results at research conferences.

Psy320: Close Relationships. For this honors module, students authored a blog post, to appear on Psychology Today Magazine's website. Students conducted a comprehensive literature review on a topic relating to intimate relationships and then distilled the literature into a format that was brief, and accessible to the general public. The project involved multiple steps, including determining appropriate topics, submitting reference lists and outlines, and writing multiple drafts of the final product.

In PSY350 Animal Behavior & Cognition, Ashleigh Weidner '15 designed an experiment to test attention to pointing in dogs. As an extension of the normal paper in the course, which primarily involves literature review, she set up a method to test her hypothesis, used a therapy dog as the test subject, collected data over the course of a week, and then analyzed it and wrote the results into a longer version of the course paper.

In PSY100 General Psychology, Elizabeth Rohde '17 analyzed a book on sports psychology, particularly the phenomenon of self-monitoring and choking during athletic events, and described how the author had used principles covered in our introductory course. The normal paper for the course involves applying psychological principles to a particular question using course content and outside sources. Her extended paper included these things as well as a thorough discussion of the book and a specific plan to use these principles to improve her own performance in Track & Field.

**Health Psychology:** During this module, students participated in the conceptualization and preparation of a research study examining the use of exercise as an in-the-moment affect regulation strategy. This included completing literature searches to better understand previous research in this area, selecting measures for both main outcomes and potential moderators, preparation of an IRB submission, programming of tasks in Survey Monkey, and mock run-throughs to refine procedures. Each week, students spent approximately 30 minutes meeting with the faculty supervisor and an additional 60 to 90 minutes on project-related tasks.

From the Humanities:

Dr. Kalouche, a philosophy professor offers many modules connected to his courses each semester. For example, students recently involved completed additional readings which they presented to the class, and gave a written report.

Sarah Woodworth, a student in a Computer Graphics and Art Design class describes her module experience. "As an introductory level course we spent the time before fall break learning about and using Adobe Photoshop and the second half with Adobe Illustrator. Due to the class having two very distinct focuses and the challenge of combining both Photoshop and Illustrator in such a manner that demonstrates more than a basic proficiency in both, my professor wanted me to complete two projects, one for Photoshop and one for Illustrator. For the Photoshop portion of the module I used the program to edit pictures of my grandfather and great uncle. Their 85<sup>th</sup> birthday (they are twins) was rapidly approaching so my grandmother gave me old pictures from their childhood, I scanned them and edited them, making them look newer, sharper and cleaner. It was very tedious work but the end result was very rewarding. The touched up pictures were a big hit at their birthday party. For the Illustrator portion of the assignment I basically did the final project twice, except with the second one being significantly more elaborate. The assignment was to choose a line from your favorite song and create a poster on Illustrator which depicted that line. For the honors module version (so it wasn't exactly the same as the final project) I chose to use a poem that my friend had written. I made the poster 17 x 22 inches rather than 8.5 x 11 and included the whole poem rather than just one line, and designed it with much more complexity as well as a lot more detail work. It required a lot of effort but it came out well. I received permission to print it on poster paper and my friend will be receiving it for Christmas."

From the Natural Sciences:

Chemistry with Dr. Hamann: In this module, students ran a laboratory experiment that was an extension of a laboratory performed by all students enrolled in the course. During the fall semester students receive their first exposure to the foundational theory and practice of Fourier-transform nuclear magnetic resonance (FT-NMR) spectroscopy. A typical student would run this instrument 1-2 times during the fall semester and analyze spectra generated from simple samples. Module students investigated the thermodynamics of keto-enol equilibrium using FT-NMR spectroscopy. These students ran the instrument 6-8 more times on more complex samples that required more extensive data analysis, interpretation, and contextualization.