



CNDG Case Study: Chemistry



PROPOSAL

In 2013, at the request of Florida State University's Chemistry Department and Dr Stephanie Dillon, the Director of Freshman Chemistry Laboratories, we embarked on a project to move the introductory course in chemistry for Liberal Studies to a VLE.

Working with Dr Dillon, we designed a series of lectures, labs and assignments (including reading and examination materials), all presented through the VLE "Liberal Studies Chemistry: A Forensic Academy" Program. Students purchase an access code for the course directly from Pearson Education, or through the University bookstore.



One of the most amazing things about the CNDG virtual learning environment is that there's always somebody around to help you. You push a button and say, "Help!" and a real live person says, "What do you need?"... even at some of the very oddest hours of the night, and even on the weekends, they have somebody out there working.

Dr Stephanie Dillon
Director of Freshman Chemistry Laboratories, Florida State University

PROJECT

The course asks students to take on the role of a junior forensic scientist in order to solve a case based on a real Tallahassee murder.

Lectures are brought to life in the lab assignments, in which students collect evidence samples from a crime scene, analyse them in a virtual lab, and draft a coroner's report based on their findings.

Students apply what they have learned using equipment and techniques which would not be available to them in real life, in a context that is both exciting and engaging.



MODULES

The course breaks down as follows:

1. Intro to the Forensic Academy including lab safety
2. Gathering evidence
3. Chemical basics
4. Chemical structure
5. Chemical evidence: solutions
6. Chemical evidence: drugs
7. Arson and the Chemistry of Fire
8. Time of death
9. Weapons and Chemistry
10. The Biochemistry of Poisons
11. Identifying the suspect: part 1
12. Identifying the suspect: part 2



The virtual world is very cool to work in. (The students) run around in their avatars and they can be anybody they'd like to be: in my class, they get to be a CSI. They get to have a really great time and we sneak a little bit of chemistry in with everything else. We're still looking at scientific method, and we hold them to a really high standard, but they have such fun doing it, they don't even know that they're being taught.

Dr Stephanie Dillon
Director of Freshman Chemistry Laboratories, Florida State University

OUTCOME

Dr Dillon hoped that this course would be attractive to a new cohort of Liberal Studies students and the project has proven to be a great success.

In 2012, approximately 20 students per semester were enrolled on CHM1020C — today, there are almost 750 students taking the course annually and it continues to grow. What's more, early indications show that their understanding and retention of the material has also increased.

