

**SABBATICAL LEAVE PROPOSAL
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CHEMISTRY
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STATEMENT OF PURPOSE

This is a request for a one semester sabbatical leave for the spring 2010 semester. This is the second sabbatical leave I have applied for. The intent of this leave is to develop two online chemistry courses for Oxnard College: Chemistry R100, Chemistry and Environment (lecture only) and Chemistry R110 (lecture and laboratory). Chemistry R100 is a one semester lecture course that is transferrable to University of California and California State University institutions. Chemistry R110 is a lecture and laboratory course that also is transferrable to the University of California and California State University institutions. I hope to accomplish several goals while on this sabbatical. They are:

1. To investigate what other community colleges in California and other states are doing with online courses in chemistry and gather information about what works best.
2. To investigate text options for use with an online chemistry course.
3. To investigate how the laboratory component of an online chemistry course is taught, and to incorporate this into the online Chemistry R110 course.
4. To incorporate what is learned in 1, 2, and 3 in order to design and then implement the two online chemistry courses at Oxnard College.
5. To investigate the online tutorial courses offered through the University of California and the California State University systems and incorporate these tutorial courses into the online chemistry courses offered at Oxnard College.

BACKGROUND

I have been teaching chemistry for 29 years at the community college level in California; 19 of those years have been at Oxnard College. In those 19 years I have seen many changes that have improved the quality of instruction in chemistry at Oxnard College. About 10 years ago we went from having one laboratory (LA-1) in which to teach chemistry to two new laboratories. The wall

between the old geology and biology labs was eliminated and the second chemistry lab was built (LA-2). The original chemistry lab, LA-1, was remodeled to give two state of the art laboratories. Our program has expanded into these laboratories. As our chemistry lectures continue to grow, Oxnard College continues to be deficient in large lecture rooms. This is hampering our ability to offer larger lectures. The productivity of chemistry cannot improve if we are unable to offer large lecture classes. Offering online chemistry courses is certainly an answer to the problem of the lack of large lecture rooms. Online courses have become increasingly popular across the curriculum. Distance learning is the wave of the future for education. I believe we have two chemistry courses that lend themselves to an online setting.

Chemistry R110, Elementary Chemistry is a course designed to prepare students for Chemistry R120 and R122, the year-long chemistry course for science majors. This course is also a requirement for some health science majors such as nursing and physical therapy. It is also a prerequisite course for the Dental Hygiene program at Oxnard College. Chemistry R110 is a course having 4 hours of lecture per week along with one 3 hour laboratory session per week.

Chemistry R100, Chemistry and Environment, is a stand alone lecture course. It involves 4 hours of lecture per week. A 3 hour per week laboratory course, Chemistry R100L, was designed to complement Chemistry R100, however, students do not need to take the laboratory course at the same time and many students only need a physical science lecture course and not the laboratory component. Chemistry R100 is transferrable to the University of California and California State University institutions. Chemistry R100 and R110 have always been offered traditionally at Oxnard College where students come on campus for the lecture, usually two days a week. The laboratory component of Chemistry R110 requires that students be on campus for one three hour laboratory session per week.

The current trend in higher education is distance learning. Many college courses are currently being offered with great success throughout the state and a few are being offered at Oxnard College. The Science Department at Oxnard College offers two online courses both developed by Christaine Mainzer, Geography professor at Oxnard College. They are Geography R101 and Geography R102. These are both lecture courses and these courses have been quite successful. Enrollment in these classes has been high (50 student maximum in each course). Thanks to these courses the overall enrollment in Geography has increased. Students from all over the country have signed up for these online courses. As more students look towards earning degrees less traditionally, namely, enrolling in online courses at several different institutions at a time, it is time for the Science Department at Oxnard College to increase the number of online course offerings.

The difficulty in offering chemistry online is the laboratory component. During my sabbatical I will investigate how to incorporate the laboratory into an online chemistry course. There are two approaches:

1. Students come on campus once a week for the laboratory session.
2. Students participate in an online laboratory session.

Both Ventura College and Moorpark College have offered chemistry courses online. David Oliver at Ventura College has offered online chemistry but is currently not offering an online chemistry course. Dennis Anderson at Moorpark College is currently offering a hybrid course (Chemistry M12 – Introduction to Chemistry I). With Oxnard College offering chemistry courses online students in the Ventura County Community College district will have even more options for distance learning in chemistry.

During this sabbatical, I will contact several of the community colleges that offer online Chemistry courses, including Ventura College, Moorpark College, College of the Canyons, Shasta College and Cuesta College. I plan to contact these community colleges and learn about how their online courses work. I am hoping to learn from their experiences the best way to develop and run the online courses. I will also be consulting with Christaine Mainzer about her online Geography courses. I have spoken to a representative of a company on the East Coast that deals with online laboratory experiments. This option should be further investigated as a means of offering the laboratory portion of Chemistry R110 as well as Chemistry R100L, the laboratory course that complements Chemistry R100.

DEVELOPMENT PROCESS

My plan is as follows:

1. I propose to communicate with the following colleges and speak with professors at these colleges about the online chemistry courses they currently offer:
 - a) College of the Canyons – Contact: Dr. Kathy Flynn
 - b) Cuesta College – Contact: Kathy Jimison
 - c) Ventura College – Contact: David Oliver
 - d) Moorpark College – Contact: Dennis Anderson
 - e) Shasta College - Contact: Clif Gotlieb

A concern that needs to be addressed is how the instructors know who is really doing the work online.

2. Identifying a textbook to use for an online course is another goal for this sabbatical. I plan to contact publishing companies who provide textbooks designed for online courses and review what packages they have. Consulting with instructors who are already offering online chemistry courses about the texts will provide me with a place to start with this.
3. I will consult with Professor Christaine Mainzer regarding her online courses in Geography to gain valuable information about what has worked for her and what has not in offering online science courses at Oxnard College.
4. Investigation into the online chemistry tutorial courses offered through the University of California and the California State University systems will be carried out.
5. The two chemistry online chemistry courses, Chemistry R100 and Chemistry R110 will be developed.

BENEFITS

This sabbatical proposal is beneficial to:

1. Myself
 2. The students taking chemistry at Oxnard College.
 3. Oxnard College as a whole.
 4. The Ventura Community College District.
1. I will most definitely benefit from this sabbatical. I will grow professionally from it since I know very little about how online courses work. This sabbatical will offer me the time needed to research online chemistry courses, determine what works and what does not work, and will offer me the time needed to produce the two online chemistry courses.
 2. Students at Oxnard College will benefit from this sabbatical. This sabbatical will provide a non-traditional way for students to take either Chemistry R100 or Chemistry R110, namely, distance learning. Chemistry R110 is the course that enrolls the most students in chemistry at Oxnard College. Offering an online Chemistry R100 course will increase the enrollment in this course, not only because it will give students enrolling at Oxnard College a non-traditional way of taking chemistry but will open the enrollment to students throughout the county, and possibly the state and country. The same is true for students enrolling in Chemistry R110.

3. Oxnard College will benefit from this sabbatical because it will add Oxnard College to the list of community colleges in the state that offer chemistry online. In addition it will increase enrollments in these courses without having to use a much in demand large classroom.
4. The district will benefit from this proposal as well. Having students apply to Oxnard College for an online chemistry course helps support and improve our reputation as a distance learning district.

SCHEDULE OF ACTIVITIES

JANUARY, 2010: Contact community colleges in California and other states who offer online chemistry. Gather textbook information as well as information about how the courses are set up.

FEBRUARY, 2010: Interview Christiane Mainzer regarding specifics in web design and access for her online geography courses. Continue to research how online chemistry courses are conducted at other community colleges.

MARCH, 2010: Begin design of Chemistry R110 and Chemistry R100 online courses.

APRIL, 2010: Continue with design of online courses. Investigate online lab portion of Chemistry R110. Investigate online tutorial courses offered through California State and University of California institutions.

MAY, 2010: Finalize online chemistry courses for inclusion in Spring 2011 schedule of classes.