

Sabbatical Proposal for Spring 2015

Steve Palladino

Ventura College Geosciences

Project Title: Technology Integration into Science Curriculum

Synopsis: In the 2015/16 school year the new Applied Sciences Center (ASC) will come "online" with a unique learning environment, a 70 seat Science Visualization Hall. Concentrated attention by a faculty member will be required to enable many faculty to make best pedagogic use of the 3D projection capabilities of that room. Additional enhancements to learning technologies will be utilized for that room, specifically an instructor-linked tablet learning system. As the faculty member that has been most involved in the design process for this building and the Visualization Hall, I would like to have the release time provided by a sabbatical to ensure we do not waste the opportunities presented to us by Ventura County citizens through this final major expenditure of the Measure S bond funds.

I am seeking this sabbatical release as an effort to create curriculum for Geosciences and ESRM and help others develop curriculum to bring the Visualization Hall online in such a way that is most useful to any faculty from a number of disciplines who might find 3-D visualization (and other tools I can secure via a grant written during the sabbatical) advantageous for presenting concepts from their field. The work I will conduct in preparing curriculum materials for use in 3-D visualization will parallel my additional sabbatical goal of upgrading courses I teach so that they utilize pedagogic opportunities presented by these technological advances.

Proposal:

I will use a spring 2015 sabbatical to achieve a few interrelated tasks.

I see the release from regular duties as vital to the successful launch of the Visualization Hall in Fall 2015 (assuming no major construction delays). This facility will benefit our department, our division, and in many ways the campus and community.

As I am "mid-career" here at Ventura College (I will be in my 17th year at the time of the sabbatical), I am finding that my course delivery is not keeping up with the pedagogic opportunities presented by technological advances. Currently, most if not all of my energy is focused on keeping up with the day-to-day changes/events in the dynamic disciplines I teach (Geography and Environmental Science) not to mention the many extra tasks that have become part of our jobs. I am finding that late nights and chunks of my coveted summer rest are not enough to revamp my courses to a degree that keeps up with both technological opportunity, but also student expectation. Put plainly, my courses have become stagnant and would benefit greatly from the focused time a sabbatical will provide to reinvigorate them.

It will be a great pairing of activities for me to revive my courses as I am also investigating and implementing the best uses of technology for the Visualization Hall. I have begun the process of creating opportunities for new technologies by writing a successful VC Foundation Educational Enhancement Grant last year. The grant allowed us to purchase software and a touch screen computer that created an interactive environment for viewing student computer screens in our GIS/Engineering lab (SCI 106). This room is also heavily used for Geography and Environmental Science courses that benefit from regular access to computer tools and visual Internet resources (like Google Earth).

Sabbatical Proposal for Spring 2014

Steve Palladino

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Project Title: Technology Integration into Science Curriculum

Synopsis: In the 2014/15 school year the new Applied Sciences Center (ASC) will come "online" with a unique learning environment, a 70 seat Science Visualization Hall. Concentrated attention by a faculty member will be required to enable many faculty to make best pedagogic use of the 3D projection capabilities of that room. Additional enhancements to learning technologies will be utilized for that room, specifically an instructor-linked tablet learning system. As the faculty member that has been most involved in the design process for this building and the Visualization Hall, I would like to have the release time provided by a sabbatical to ensure we do not waste the opportunities presented to us by the community through this final major expenditure of the Measure S bond funds. I am seeking this sabbatical release as an effort to bring the Visualization Hall online in such a way that is most useful to any faculty from a number of disciplines who might find 3-D visualization (and other tools I can secure via a grant written during the sabbatical) advantageous for presenting concepts from their field. The work I will conduct in preparing curriculum materials for use in 3-D visualization will parallel my additional sabbatical goal of upgrading courses I teach so that they utilize pedagogic opportunities presented by these technological advances.

Proposal:

I will use a spring 2014 sabbatical to achieve a few interrelated tasks.

I see the release from regular duties as vital to the successful launch, sometime in 2014/2015, of the Visualization Hall. This facility will benefit our department, our division, and in many ways the campus and community.

As I am "mid-career" here at Ventura College (I will be in my 16th year at the time of the sabbatical), I am finding that my course delivery is not keeping up with the pedagogic opportunities presented by technological advances. Currently, most if not all of my energy is focused on keeping up with the day-to-day changes/events in the dynamic disciplines I teach (Geography and Environmental Science) not to mention the many extra tasks that have become part of our jobs. I am finding that late nights and chunks of my coveted summer rest are not enough to revamp my courses to a degree that keeps up with both technological opportunity, but also student expectation. Put plainly, my courses have become stagnant and would benefit greatly from the focused time a sabbatical will provide to reinvigorate them.

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Details:

#1, 3-D Visualization curriculum opportunities and development

As the faculty chair of FOG, I have been very involved in the planning & design of the Visualization Hall (as well as the ASC in general). We have had one meeting with a provider of 3D content as we are planning ahead as to what equipment to purchase for the Visualization Hall. In Spring 2014, the ASC will be in mid-construction and it will be time to determine what equipment to buy, which will depend in part on how it supports 3-D content for learning. As we pick equipment we will also want to do a thorough search of content available for various disciplines. 3D visualization, for example, can be used for learning in the following areas:

- Anatomical components (Biology/Anthropology/Nursing)
- Chemical/crystal structure (Chemistry, Geology)
- Earth environments (Geography, Geology, Oceanography, ESRM)
- Astronomical features (Astronomy) and,
- Beyond the Sciences in areas such as CAD, Architecture, and Automotive (Engines)

During the sabbatical, I will take the lead on finding and researching 3D learning components and curriculum. Both for the courses in our area, including those I am revamping and may teach in the Visualization Hall, and also for other disciplines in the sciences (and outside our Division). I intend to give a Flex Day presentation on the outcome of this effort, while also working closely with key faculty who may be most likely to use this classroom. Additional flex presentations may be made to orient faculty in the use of the medium (3D projection).

There will be other attendant issues that, with the time provided by the sabbatical, I will be able to help with in my roles as FOG co-chair, department chair, and potential user of this facility. This will be done in conjunction with the FOG group, the VP of Instruction, and the Dean of Math and Sciences. These issues include:

- Creating flexible scheduling for the use of the 3D visualization (In semester room swapping; sign up utilization; or other scheduling without conflicts strategies),
- Identifying special facility utilization/maintenance needs as they pertain to teaching,
- Working with staff such as the Physics/Geosciences lab tech to monitor and support this room,
- Providing opportunities for outside groups to experience 3D visualization, and
- Any other issues as they come up.

#2, Enhancing the Visualization Hall via tablet-based instruction

As we were designing the room we had hopes that a large grant that our division submitted would allow us to purchase sets of tablet computers for use in the Visualization Hall. Unfortunately, that grant was not successful. During the sabbatical, I will search out and apply for a grant or grants to follow through with this idea. Given the visual nature of the Geosciences and some of the other disciplines that may be using this facility, to be able to have students see and interact with images on the tablets (with a push-pull potential enabled by software such as we will purchase under the Foundation grant for SCI 106) will provide an enhanced learning opportunity in those fields. Tablets can also be used as an advanced version of the "clicker"-type student feedback approach to teaching. I will research and then communicate to my colleagues other uses that instructor-linked tablet learning can provide.

We may even choose to write a combined or separate grant to purchase and install the second visualization component the room was designed for, a partial dome. That is a major project, so it will take a secondary roll to the attempt to acquire funds to get the tablet-based learning system for the Visualization Hall.

#3, Revamp courses to include new technologies

Each of my courses could use at minimum a "facelift", but some really could use a major "overhaul". I will use the sabbatical as an opportunity to update these courses utilizing the technologies available (3D visualization, tablet-based learning, computer learning management (new software in SCI 106 which we intend to use with the tablets in the Visualization Hall), better video and imagery use, animations, clickers/tablet response, and other techniques/technologies explored during the sabbatical.)

The primary focus will be our Physical Geography lecture course. I will share the curriculum updates with my colleagues so that we can impact not just my 3 sections with 150+ students per semester, but also the other 6 sections which combined with my classes serve over 450+ students a semester.

I will also work on World Regional Geography which currently has a revision going through the curriculum process that implements greater use of technology for students (many who are pre-teachers). With greater visualization opportunities, these students will be able to better explore the big, interesting world we live in.

As I work on these two subject areas I will seek to utilize the advances made for these courses in my other courses and will share ideas with my colleagues, both in my department and other departments as well. Perhaps this will lead to another flex presentation.