

Sabbatical Proposal for Spring 2022

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Project Title: Restructuring and Modernizing Ventura College's Geographic Information System (GIS) Program

Synopsis:

During the sabbatical, I will make a major revision to our GIS Program. This project fits under our contract's Sabbatical Purpose 8.6.C.(2). This may include some study both at a 4-year institution and through private company training (while not quite framed as per 8.6.C.(1), it will still aid the course/program development activities). I will also investigate (and implement if possible) moving the program beyond just offering a Proficiency Award. We may be able to offer a Certificate of Achievement and/or an AA.

While this is not my first sabbatical, the need to make this major program revision is great and overdue, but without a semester release to work on this, it will not happen. I see the chaos created for one of our newer faculty members when the program she is teaching in was allowed to wither away after the last full-time instructor retired. While it will be many years before I am able to retire, I would like to put our GIS program on a path to thrive both now and after I step down. So, I am hoping that the timing of this request lines up with fewer valid requests by 1st time sabbatical applicants!

Background:

In Fall 1998, long-term Math and Sciences Dean, Bob Renger, hired me to pioneer a GIS course for the college. That led to a full-time position in Geography in Spring 1999 with a key goal of developing a GIS program for Ventura College within the Geography Department.

After the first big multiyear push that established our program (five courses leading to a Proficiency Award in Geographic Information Systems) we have incrementally modified the program, established a dedicated lab (shared with engineering) in SCI 106, and tried to keep up with this ever-advancing field.

Over the years we have prepared many GIS professionals working in our region and beyond. We have also provided students who have not gone on in this subfield of geography, tools and knowledge in geospatial technologies that they are using in various fields of study and careers.

In the past ½ decade, there has been a huge shift in the GIS world away from desktop-based, individual-driven analysis and map production, to cloud based data and processing, AI augmented analysis, Big Data and Internet of Things (IoT) integrations, crowd sourcing and open data/mapping, and a number of other significant changes.

It has been impossible to keep up with the changes as the sole instructor in this program (occasionally we have had a part-time instructor teach part of one of the courses, but all the course and program updates fall on me).

At first, since this has been a time of transition, legacy software and practices have continued to be a key part of what most users have been doing, thus emphasizing the “old” way has not been too detrimental, but that is rapidly changing.

To be relevant in this field of study and its related industries, we need to bring our program up to date. This means major course and program restructuring, instructor re-training, and finding other individuals who can help us modernize (both part-time faculty and GIS professionals).

Proposal Details:

I will use a Spring 2022 sabbatical to achieve a few interrelated tasks.

#1: Reevaluate and Restructure the GIS Program

This will include course revisions and new course proposals. In addition to our core classes, we may implement a number of short courses (1 unit?) that cover aspects of the geospatial technology “universe”.

As currently structured, our GIS program did not pivot well to remote instruction as required by pandemic limitations. Key learning components were not able to be accomplished with the resources and time frame we have had. In other words, we’ve been limping through.

By restructuring, we can build in Hybrid learning opportunities (and perhaps fully distanced learning options, too). On one hand, the new emphasis on distributed data, processing, and analysis could, with well thought out course design, allow for remote learning. On the other hand, the advanced and complex skills and experiential knowledge required to do GIS are not easy to accomplish remotely. The sabbatical will provide time to work with colleagues to make the necessary adjustments and explore what remote learning opportunities are best.

One major barrier to remote learning is the level of computing resource required, hence the initial preference for fully on-campus or hybrid (with time in the GIS lab). This has been an equity issue, because the computing needs are high and the type of computing devices needed often not available to students with limited means (Surface computers or other underpowered laptops do not suffice). Lack of large computer monitors is also an issue as spatial data visualization and map production are best done with more screen “real estate”. These impediments will be reviewed and hopefully overcome with creative solutions.

#2: Faculty Growth

Without the time allowed in a sabbatical leave, it has been difficult to keep up with just the general, overarching changes in this area of study/practice, not to mention all the more advanced developments. During the sabbatical I will take advantage of the many industry learning opportunities (these are already available to us through our software license). These learning opportunities are also available to students, but without the time to fully explore the benefits, it has limited my ability to direct students to the correct learning modules (some are very industry specific, or cover topics that are too advanced or not related to the general mastery goals of an introductory program.)

A related growth opportunity is a partnership I have begun to foster with the Univ. of Southern California's Spatial Science program. They have implemented a Geodesign program at both the undergraduate and graduate level. This emerging field combines Geospatial tools and methods, with regional planning, large scope architectural project design, and geographic methods. It prepares students to work to help design our future, considering many variables, including sustainability, demographic change, social justice, urban and regional infrastructure improvements, and any other factors that can be georeferenced and integrated spatially.

This is an exciting new field. I have been interacting with key members of USC's Spatial Science Institute over the past 2 years. We have had preliminary discussions about creating a transfer pathway from VC to their program (since we have both architecture and GIS, we can provide the foundation for students who want to earn a BS at USC in Geodesign.) Lack of time though has limited my ability to explore this and similar options in detail.

A sabbatical in Spring 2022 would allow me to attend the full annual Geodesign conference in Redlands, California, rather than just one day. I may also enroll in or audit the USC *Introduction to Geodesign* course during my sabbatical to aid in determining if we can create a course or unit on that topic.

I will also take the opportunity to attend the 2022 American Association of Geographers annual meeting back east where I will be able to make connections and get information supportive of the sabbatical goals. (The last AAG annual meeting that I could break away to attend was in spring 2002 in Los Angeles! That was only due to its proximity and I only attended part of this multi-day conference that is the primary national/international meeting for our discipline.)

#3: New Courses, Certificates, and Degrees

Geodesign is just one example of some of the areas of GIS study I will be considering as part of a reworked GIS Program. There are a number of other more well-established areas of study in this field that we don't offer, but should be considered if we are going to be comprehensive, relevant, and able to offer a COA or an AA.

Fortunately, a direct outgrowth of my work in the 1990's as the Education Projects Manager in the pioneering GIS research center at UCSB was the subsequent creation a long-term support organization for GIS program development (the National Geospatial Technology Center of Excellence). I will work with them and their model curricula (in part based on the Core Curriculum for Technical Programs that was a grant project I directed at UCSB), to help upgrade our program. This is a wonderful "full circle" opportunity, though even the "GeoTech" Center is not up to date with some of the major changes in the field. It is possible that we will be able to provide them with new course/curriculum outlines.

This could lead to a future collaborative grant project. While not specifically planning to write a grant proposal during the sabbatical, it is quite possible that opportunity could arise.

#4: Collaboration with the GIS Community

As a co-founder of our regional GIS consortium (the Channel Islands Regional GIS Collaborative aka CIRGIS), I have close relations to the key GIS professionals in the region. I

will use the time afforded by the sabbatical to create and engage an advisory group to help guide and validate the changes to our GIS program.

I have already begun to meet with two former GIS instructors (now working in government and NGO GIS positions) who are interested in possibly teaching as a part of our reworked program. They are eager to explore new courses and hybrid teaching opportunities. Unfortunately, without the extra time of a sabbatical, I haven't been able to fully engage with these individuals to update and create new curriculum. During my sabbatical we may have these instructors cover my current courses (they will be encouraged to trial some modifications to the courses, within the current course outline bounds). This will give them reference points towards helping guide me as I restructure courses and the program.

Moorpark's Geologist recently proposed a degree/certificate in GIS in order to restart their Geography program. This effort may be on hold. We have connected a bit on this, but again due to time constraints I was not able to fully engage in their effort and ensure it didn't unnecessarily duplicate (or dilute) what we have been doing at Ventura College for the last two decades. If the sabbatical is granted, I will seek to coordinate our program development with theirs. We have the established program and thus may still be the main GIS hub, but a partnership with Moorpark may allow for more variety and opportunity in course offerings, helping students complete a their certificate or degree.

We already have collaborated to some extent with UCSB and CSUCI, but more could be done, especially with CSUCI and their geospatial course offerings.

Conclusion:

There is an urgency to accomplish the work outlined above, but as stated, most of it will not be accomplished without the release time provided by a sabbatical. While a 1.0 load means a reduced income for most instructors, to me this is a worthy sacrifice to ensure that the investment we have put in these past 2+ decades into the GIS program is on solid footing for the next decade and beyond. I would be extremely pleased to have this opportunity to serve our college and community in this way.