Ventura College Sabbatical Leave Proposal

Proposed for Fall 2022 semester

Ryan Petitfils

Mathematics and Computer Science Department

Submission date: Oct 2021

Full-time hire date: August 2013

Previous Sabbaticals: 0

Background of Sabbatical Project:

The Ventura College Mission states "we serve a highly diverse student body by providing innovative instruction and student support, **focusing on associate degree and certificate completion**, transfer, workforce preparation, and basic skills." I would like to help Ventura College increase the number of associate degrees and certificates in Math and Computer Science. Unlike our other colleges, Moorpark and Oxnard, Ventura College **DOES NOT OFFER** a degree or certificate program in the Computer Science or Computer Information Systems discipline. Ventura College Computer Science has a lot of potential, however we have only one full-time professor in the discipline, who started in Fall 2021. These facts are a shame considering Computer Science is an ever growing discipline that nearly every U.S. College and University offers degrees in. The Bureau of Labor Statistics projects a 13% increase in Computer and Information Technology occupations in the next 10 years.[1] It is essential that Ventura College develop high quality programs in Computer Science.

Although we don't offer any degrees in CS or CIS, Ventura College is seeing growth in enrollment in the discipline. We have offered only one section of Intro to Computer Programming (CS V11) from Fall 2006 through Spring 2020. However, in Fall 2020, we added a second section, and now in Fall 2021, we have added a third section of CS V11. Our enrollment in Computer Science courses as a whole is also growing. Starting in 2016, we had 93 students taking CS courses, followed by 107 in Fall 2017, 99 in Fall 2018, 187 in Fall 2019 and 223 in Fall 2020. As of Spring 2021, 227 students were taking CS courses at Ventura College, showing over a 200% growth in enrollment over 5 years.

On a separate note, after the state law of AB705 went into effect in 2019, we have been working so that all of our math courses are in compliance with the law. AB705 states

[1] Bureau of Labor Statistics
https://www.bls.gov/ooh/computer-and-information-technology/home.htm

"community college districts [must] maximize the probability that the student will enter and complete transfer-level coursework in English and mathematics within a one-year timeframe." The AB705 law also states that it "prohibit[s] a community college or district or college from requiring students to enroll in remedial English or mathematics coursework that lengthens their time to complete a degree." Also, the law states that "the community college district or college shall minimize the impact on student financial aid and unit requirements for the degree by exploring embedded support and low or noncredit support options." We have already created our support Math "J" courses for College Algebra (Math V04), Elementary Statistics (Math V44), and Mathematics for Liberal Arts (Math V40), however we are finding that the College Algebra and Support (Math V04 and Math V04J) alone are not always enough for a STEM major to catch up on all their math in one semester.

Over the past 2020-2021 school year, the math department has created curriculum for a non-credit math class called Math Readiness for College Success (Math N101). The purpose of this course is to review the core prerequisite skills, competencies, and concepts for transfer-level math courses. This noncredit course is included in the noncredit category "Elementary and Secondary Basic Skills." The goal is to offer the Math N101 course for the first time in Fall 2022 and expand on it with an additional course. By including an additional noncredit course, "courses classified as noncredit career development and college preparation (CDCP) prepare students for employment or to be successful in college level-credit coursework. Once a program is chaptered approved, the noncredit courses that comprise a CDCP program will be eligible for enhanced funding pursuant to Education Code 84750.5 and 84760.5.CDCP certificates can be awarded in the following four noncredit categories: **elementary and secondary basic skills,** workforce preparation, short-term vocational with high employment potential program, English as a second language and vocational English as a second language." [2] By including an additional noncredit course and developing a Certificate of Competency, Ventura College will be eligible to receive Career Development and College Preparation (CDCP) enhanced funding.

Purpose of Sabbatical Project:

The purpose of my sabbatical project is twofold: **(1)** Work concurrently with the Department Chair of Math and Computer Science and Computer Science Faculty to assist in the development and design of curriculum for the Computer Science discipline which includes updating current courses, creating new courses, and developing brand new programs including: certificates of achievement, proficiency awards, Associate degrees, or Associate degrees for Transfer in Computer Science (using TMC[3] as a model) to include in the college catalog. **(2)**.

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[2] Program and Course Approval Handbook https://www.asccc.org/content/pcah-7th-edition

[3] Template Model Curriculum (TMC) for Computer Science: https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Educational-Services-and-Support/Academic-

Work concurrently with the Department chair of Math and Computer Science and English and Math and Learning Resources Division to create, or select an additional noncredit class (other than Math N101) and create of a Noncredit Certificate of Competency that may lead to enhanced funding from CDCP at the state.

Components of Sabbatical Project:

1. Assist Computer Science instructors and the Department Chair to conduct research and identify which courses need to be updated and which courses need to be created in order to add to the Computer Science program. Update these courses on CourseLeaf by making necessary changes, and write and propose the new CS courses on CourseLeaf.
2. Once the courses are created and approved, work with the CS instructors, Department Chair, and Ventura College as a whole to conduct research and assist in the creation of CS Programs on CourseLeaf, and work toward approving these CS programs to add to our College Catalog.
3. Assist the Department Chair and Division to add a noncredit course in CourseLeaf to a new noncredit Certificate of Competency to the Ventura College Catalog.
4. Create a noncredit Certificate of Competency which includes Math N101 and other appropriate noncredit course(s) in CourseLeaf that will allow for enhanced funding from the CDCP, to offer quality programs to our students especially those transferring with a math-related major who need a strong foundation in math before transferring.

Timeline of Sabbatical Project (if approved for Fall 2022):

(Prior to Sabbatical) Nov 2021 - May 2022: Work with the Math and Computer Science faculty to decide which Computer Science course and programs to create and prioritize as well which non-credit course(s) to create and what to add to a noncredit certificate. Do a departmental vote to decide which courses and programs we should prioritize.

(During Sabbatical) August 2022 - Sept 2022: Along with input from CS and math instructors, create the course outlines for the new CS courses and any additional noncredit courses. Update and revise curriculum as necessary for CS. Submit the courses to the curriculum committee. Make any requested changes.

Oct 2022 - Nov 2022: After the courses are approved by the curriculum committee, begin the process for programs: Write up the CS programs and a noncredit certificate of Competency. Submit the programs to the curriculum committee. Make any requested changes.

Affairs/What-we-do/Curriculum-and-Instruction-Unit/TMC-Templates-2021/tmc-computersci-template-rev-3-a11y.pdf?la=en&hash=D090C44108516EDAD2DD209A358EF6120D49CA23

December 2022: Finalize the curriculum for the new courses and programs and reply to any feedback given from the College, District, and State. Complete any forms and provide additional information as requested by any of these governing bodies.

Value of Sabbatical Project to VCCCD and Ventura College:

By creating CS programs and noncredit certficates, the district and college would greatly benefit by adding more options to their colleges. Creating more Computer Science degrees and programs will attract more students and faculty to Ventura College and will give students more options and reasons to complete their degrees at VCCCD. It will also attract more STEM students to the college and help us increase our offering of STEM courses, which may lead to enhanced funding opportunities. Having a Computer Science degree program will also bring the college up-to-date with offering one of the most desirable and competitive degrees. By creating a CS program at Ventura College, we will also be on track with Vision Goal # 1 of the CCCCO, which states "1. Over five years, increase by at least 20 percent the number of California Community College students annually who acquire associate degrees, credentials, certificates, or specific skill sets that prepare them for an in-demand job." [4]

A noncredit certificate which includes Math N101 would also allow for STEM students and others to catch up on the math that they need to know for their transfer goals, with the bonus possibility of receiving CDCP funds. Doing so would also put Ventura College in compliance with the AB705 law and related legislature. Additional noncredit math courses and a certificate in mathematics also aligns with Ventura College Educational Master Plan Objective 2c, which states: "Ensure that at least 90% of new students are prepared for transfer-level Math and English by the end of their first year."[5]

Value of Sabbatical Project to Ventura College Faculty:

Offering degrees in Computer Science will help us to expand our Computer Science offerings and increase the amount of STEM courses offered so that students can complete their entire degree at one school. Doing so will attract more CS faculty to our College and increase the number of full-time Computer Science faculty (which as of now we only have 1). Additional disciplines such as Math, Physics, and Engineering will also benefit with a rise in student enrollment as a result of the expanded courses and programs.

By creating a noncredit certificate of competency, the college will be eligible for CDCP funds, which will allow faculty to teach any of the noncredit math courses at their full lecture rate. Without the noncredit degree, instructors would only receive funding at the lab rate. The

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[4] Vision Goals for California Community Colleges https://www.cccco.edu/About-Us/Vision-for-Success/vision-goals

[5] 2020 -2023 Strategic Plan https://www.venturacollege.edu/sites/venturacollege/files/media/pdf_document/2020/2020-2023%20Strategic%20Plan%20Draft%20-%209-22-2020_0.pdf

certificate will attract more faculty to want to teach these courses, knowing well that they will receive full compensation for teaching any of the noncredit math courses.

Value of Sabbatical Project to Ventura College Students:

Students will be able to complete more classes and degree requirements in Computer Science at Ventura College without having to shop around at other schools. By offering additional courses and a TMC approved degree in Computer Science, students will flock to VC, increasing our FTE and degree completion rates. As a natural consequence, student enrollment in other STEM fields such as Math, Physics, and Engineering, will also increase, leading to higher persistence and degree completion.

Prior to starting their academic journey at Ventura College, many students struggle with math phobia and a fear of completing a college-level math course in one semester. A noncredit certificate would allow for STEM students and others to catch up on the math that they need to know for their transfer goals, while earning a degree that states they have learned the background mathematics needed, all at zero cost! Offering a noncredit certificate will also help our enrollment in the noncredit courses. Students can earn this certificate while taking their noncredit and college-level math courses concurrently, which they can finish in less than one year for a reduced cost without impacting their GPA.

Value of Sabbatical Project to Myself:

After teaching some programming classes myself (ENGR V14) MATLAB Programming for Engineers, I have a strong interest in eventually teaching Computer Science. I plan on obtaining an Associates degree in CS and possibly taking additional courses. I would like to teach many of the CS courses we offer at VC and help with the sustainability of the discipline and future programs that we may offer. By working closely to develop CS courses and programs with other faculty, I feel like it will help expand my knowledge of the discipline tremendously. I would be excited to work at a school that envisions such an essential discipline in today's world as Computer Science. I would feel empowered knowing that I have helped to develop the courses and programs offered that will continue to increase our course and program selection, student enrollment, and overall student satisfaction.

I also have an interest in teaching the noncredit math courses, and giving students a certificate for completing their noncredit math readiness courses would help to increase the enrollment. These courses will help us bridge the gap for STEM students who come in with a lack of mathematical knowledge or are math phobic. I believe these noncredit courses and certificate will be beneficial to students and faculty as a whole and be among the first colleges that offer noncredit degree programs, allowing us to also be completely AB705 compliant.

In closing, I also have 2 years of experience as the Curriculum Committee Technical Review Chair, where I used to review and edit course outlines and programs for the entire College on Curricunet (now CourseLeaf). I am highly experienced in curriculum design and understand many of the intricacies of the curriculum process and procedures. I am among the most qualified to review, edit, and create courses and programs second only to the curriculum chair and articulation officers. I am excited to apply my expertise to some of the most sought after courses and programs needed at Ventura College.

Thank you for your time and consideration of this important project.

Sincerely,

Ryan Petitfils

Mathematics Instructor