

The Next Frontier in Computer Networking/IT: Virtualization/Cloud Computing and Cybersecurity

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1. Purpose: The purpose of my sabbatical is to progress my knowledge and training into the next generation of computer networking/IT technologies. Doing so would make me a more valuable instructor and asset to Oxnard College with the ultimate goal of enhancing the computer networking/IT program and training provided to students. It could be argued that computer networking/IT evolves at a pace as fast as any field of study in any of the programs in our District and a very important change is happening right now. Every eight years or so the industry experiences a major shift in the way networking/IT services are offered. We are currently in the midst of one of those shifts, and I feel it is necessary for me to receive updated training in these vitally important growth areas of networking/IT. The industry is quickly moving into the cloud where data storage and applications now increasingly reside and virtualization is allowing enterprises to rent needed resources on a metered basis from cloud providers such as Amazon AWS and Microsoft Azure and only pay for what is used similar to what we expect from our utility companies. Cybersecurity has always been extremely important in IT, but the field of cybersecurity is evolving rapidly because increasingly assets are being stored in the cloud rather than on the PC, network, and local datacenter. As the industry evolves, it is important that my training match the current trends in the industry, and since this is most evidently the beginning of a new eight year or longer cycle, it is important to get this training in the front end of the cycle to the benefit of our program and our students.

I have now been a full-time instructor for twelve years, and I teach primarily Cisco, Microsoft, and CompTIA courses, and most of my current update training is with these vendors and their specific courses which are very light in virtualization/cloud computing and cybersecurity. I have a vision of our program advancing into these important new areas with additional vendors, additional certifications, and most important more training and job preparedness for our students so they are prepared and qualified for the most prosperous computer networking/IT jobs. I would be extremely appreciative of a sabbatical which would allow me to have a singular focus on moving my knowledge and skill set into these new high growth areas and then transition the program to increase our course work, hands-on training, and certification preparedness in virtualization/cloud computing and cybersecurity. I should share that I initiated our campus becoming a PearsonVUE Testing Center six years ago, and as such with our industry partners, we are able to provide our students with significant discounts on certification exams and convenient testing options.

2. Rationale

a. Professional Development: This sabbatical, if accepted, would allow me to dedicate myself for a full semester to upgrading my knowledge and hands-on skills into virtualization, cloud computing, and cybersecurity which will include course work and certification exams. I had an amazing opportunity to serve as department chair of the

technology programs six of the last eight years; not only did I get to represent the interests of the programs I served, I also had the opportunity to serve Oxnard College on shared governance committees such as Planning and Budgeting Committee (PBC), Program Effectiveness and Planning Committee (PEPC), Curriculum Committee, Accreditation Committee, as well as my stint as co-chair of the Learning Outcomes Team (LOT) Committee. I really take pride that during the worst of the budget cut years when programs were placed on the discontinuance list at the start of the school year in 2011, that we held firm in PBC and saved much of what was proposed to be cut, and today, we are reaping those benefits of a campus that is more of a comprehensive community college that is growing and fleshing out and not just recovering. I am sharing some background on my service because it relates to my request for a sabbatical. I feel I am at a point in my career where I need to take a step back and make my primary focus updating my skills sets into these exciting new growth areas in the field of computer networking/IT.

- b. Value to Department:** As the lead faculty for the computer networking/IT program, it is imperative that my knowledge and hands-on skills be up to date with the current and huge growth areas of computer networking/IT such as virtualization/cloud computing and cybersecurity. Even though I seek and receive update training during the academic year on all aspects of computer networking/IT, I feel that I need more dedicated standalone course work and certifications in these newer technologies, and that will enable me to make better informed decisions as to the direction of new courses in our program on these subjects as well as decisions on how money is spent in support of the labs activities in support of this new content.
- c. Value to College or District:** We are in the education business and investing in our teachers is one of the best investments that we can make; studies show that the most important ingredient to student learning and student success is a well-trained, talented instructor. As a result of this sabbatical, I believe we will enhance the offerings of our program, and we will enhance hands-on training opportunities in the areas virtualization/cloud computing and cybersecurity. Along with the industry advisory council of the computer networking/IT program, this training will allow me to make the most informed decisions as to the direction of the program.
- d. Value to Students:** Students will receive increased course work and hands-on training in huge growth areas of computer networking/IT which will enhance their job prospects and their job preparedness. These students will be better prepared for certification exams in virtualization/cloud computing and cybersecurity as a result of the work I will complete during my sabbatical, if awarded.
- e. Value to Community:** There are lucrative job opportunities for qualified computer networking/IT candidates, especially in the aforementioned growth areas. It is

incumbent upon me, the College, and the District to always support modernizing our CTE programs and providing our community with local, qualified job candidates who will have prosperous careers, afford homes in an expensive area of the country to live, and provide for their families.

3. Implementation

- a. Implementation Procedure:** If approved for sabbatical, in the fall of 2016, I will enroll in two courses at a university or training institute for a full semester of course work and hands-on training in virtualization/cloud computing and cybersecurity. One of the top cybersecurity training institutes is the SANS Technology Institute and I would be most interested in receiving training/coursework from this esteemed cybersecurity institution. The Cork Institute of Technology is another highly regarded provider of training in cloud computing and virtualization and their curriculum is closely linked with some of the leaders in the industry such as VMWare, EMC, SpringSource, and RSA. These two institutions would be highest on my list.
- b. Projected Results:** My projected results are to make important implementation decisions on two new courses I wrote and that are on the books that have not been offered as of yet; these two courses are: CNIT R150 - Virtualization and CNIT R151 - Cloud Computing. These implementation decisions include vendor alignment, which leads to certification alignment, as well as lab implementation. During the sabbatical, I will take course work in virtualization/cloud computing and cybersecurity; I will take the related certification exams to demonstrate my preparedness to teach these two new courses. These are such important growth areas that I feel it is incumbent upon me to receive updated training/certification, and honestly, I would be very fired up to do so after having taught the same subjects for so long. I also plan on writing a new course on cybersecurity during my sabbatical which is one of the most important, more advanced areas of networking/IT. We currently have one course called CNIT R145 – CompTIA Security+, and I would like to flesh out our security training further beyond this course in our program.
- c. Dissemination Plan:** In a “train the trainer” mode, I feel I will be able to provide update training to the adjunct instructors in my program and point them to additional training resources that I will become aware of during my update training/courses in virtualization/cloud computing and cybersecurity. These new areas are so important and dominant that pieces of it are included in many of our current courses, and this will only increase over time such as what has occurred with wireless networking over the last eight years. The course outlines I revise/create during my sabbatical will be available to any interested party.
- d. Project Timeline:** My projected timeline is as follows:

August 2016 – December 2016: Complete two courses in virtualization/cloud computing at a university or training institute.

November – December 2016: Revise and/or create courses in virtualization/cloud computing and cybersecurity which will include making purchasing decisions for lab implementation of the training.

December – Early January: Create virtualization/cloud computing and cybersecurity training resources for the adjunct instructors in the program.

Spring Semester 2017 – Begin teaching our CNIT courses in virtualization/cloud computing.

4. Past Contributions to the District

- Dept. Chair (Technology Programs) - 2007-2009, 2011-2015
- Planning and Budgeting Committee – During 2nd Dept. Chair Stint
- Program Effectiveness and Planning Committee – During 2nd Dept. Chair Stint
- Curriculum Committee – 6 time member
- Learning Outcomes Team Co-Chair – Spring 2013
- Member of many of the following committees: adjunct hiring, full-time hiring, tenure review, adjunct evaluation, full-time evaluation.
- Implementer of contract education training with EDD, primarily NAVY training courses in computer networking/IT.
- PearsonVUE Testing Center Administrator for the past 6 years. I have proctored hundreds of certification exams for program students and our contract ed partners, most of this unpaid as part of my student support hours.

5. Length of Service: 12 years full-time

Past Sabbaticals Awarded: None