

Harbor College Cyber Security Advisory Board Meeting

Via Zoom on Friday October 11, 2024

Introductions: S. Nguyen, Chair Social Science and Technology Divisions, M. Chow, CIS Instructor, W. Baires, CS Instructor, P. Lopez, Dean Academic Affairs, A. Pimentel, Distance Ed Coordinator and Instructor, P. Navarro is Cyber Security Director, Industry expert and Instructor he offers support to get the program running. E. Gomez working with Northrup Grumman Assistant Security Manager, Industry Expert and Instructor, Certified in Security Plus. Dr. Beheshi, Chair Dominguez Hills.

Program purpose and goals: Data shows there is a driven demand for training in Cyber Security. Nguyen would like to offer a Cyber Security Certificate program or even non-credit courses, Security Plus Course. We are open to innovation and we would like to have all our students succeed. We are a Hispanic serving institution; the majority of our students are students of color under represented and first generation. Our competing College's outside of our District has Cyber Programs. We think that there's opportunity for growth and building from the ground up with experts like yourselves to teach for us are the difference makers. We currently don't have any direct Cyber Security Classes at Harbor College. We do have indirect courses like Linux and coding. Schools within our District offers those direct courses which we can easily adopt for our own.

Expert panel discussion with Prof. Gomez and Prof. Navarro. Please share your valuable insight is and what the potential might be for this new program. Mr. Gomez agreed that in terms of diversity, equity and inclusion. Mr. Navarro shared his background experience in law enforcement. As your developing this curriculum it's important to include not only the Security Plus certificate but soft skills and networking. Mr. Nguyen agreed that the security plus certificate is the gold standard in cyber security in terms of certification and is something we really want to focus on and is a priority. Prof. Navarro, from his prospective the Security Plus is a foundational element for anyone who wants to get into cyber security. He's also taken the security plus and explains it provides the foundational information that somebody needs in order to understand the Cyber Security bubble or landscape end to end and its so broad. It touches everything from compliance to engineering. As a prerequisite to that, students should take Windows Operating Systems and Linux and with those courses and taking the Security Plus its really going to enable someone to go out and get an entry level job to be productive in security. A lot of the students he's mentoring just want to take the Security Plus cert and go to work which is not recommended because they need to have a level of experience before entering the workforce. The application developers would benefit from taking Security Plus as would accountants. Mr. Nguyen thanked Mr. Navarro for his insights. This is a great foundation that were building. With all those things you have in mind there please take a look at screen he shared West LA College's Certificate of Achievement in network and Information Systems Security. There is a list of three Core courses CIS 214, 211 and 215 in addition students would take three elective courses. As hiring managers if someone was to apply and you asked for their transcripts he asked what would their thoughts be on the courses they took. Mr. Gomez responded that some of these courses will give them entry level skills needed but as a hiring manager the one thing that we weigh of everything else is the DOD "Department of Defense" baseline certifications. In order to touch any system with a DOD contractor you have to have Security

Plus. Thinking about giving the students value. Mr. Navarro added that it will also add room for growth when employees obtain the certification. Mr. Nguyen replied this is also valuable to current employees. You can market this for entry level and people with years of experience which can also allow networking between students. Mr. Navarro added that students will need soft skills such as emailing and being able to understand project management. Offering a one-unit course in project management would also be valuable. Mr. Nguyen explained that could be a big selling point. Dean Lopez explained its possible to add a work experience class which could bring internship possibilities. Mr. Gomez agreed that those are important skills and is a huge component. Mr. Navarro replied that any internship would be great the problem is that it is a huge challenge because they usually can't find internships till students are in their 3rd year of the program due to litigations. He explained he sees a demand for women in the industry. Mr. Nguyen explained we are really trying to ramp up our efforts not only to female students but women of color who are severely underrepresented in cyber security and it will be a big emphasis for us. Mr. Beheshi, Professor at CSUDH joined the meeting. Mr. Nguyen explained that Dominguez Hills is on of the few university's that offers a Masters Cyber Security Program. We have a long-standing relationship with the university.

Mr. Nguyen would like to take the opportunity for our Harbor college faculty if there's anything you would like to add or ask the panel this is your time. Dr. Chow thanked everyone for their time and industry knowledge shared. She asked what did they feel was the fluff or subject matters to try to avoid or focus on. Mr. Gomez responded that it was a combination of improper hiring. The instructors that were hired to teach the content were not well prepared to teach some of these technologies. Some of them didn't have the experience to teach all the tools. Dr. Chow explained how would we fulfill a pathway for all these courses due to credit limits we don't want to cut out courses they need. Mr. Nguyen added the data currently suggests the market and demand for students who actually want to take the courses here and transfer. The bigger push is students want entry level and then build from there and another market for those who have some skills sets already but need the Cyber Security Plus certificate. Dr. Beheshi asked if we have courses at Harbor. Mr. Nguyen said at the moment we have limited offering at Harbor but in our District, we have more courses that we could adopt and have this up and running within a year. Mr. Beheshi replied you want to have courses that could apply to a certificate and transferable as well so they could apply it to a Bachelors. He explained he creates a road map for the students at the community colleges explaining what classes to take that will get them into a four-year degree. He shared a list of courses that community college students should take prior to transferring. He explained there's so many different ways they can go. Mr. Nguyen explained we don't have the cyber security courses at the moment but it wont take long to have them ready. The bigger thing ahead for us is how we want to approach the start of this. Focus on what we can do initially and then ramp it up from there. Dr. Beheshi asked if we are familiar with CAE they have a new Cyber AI aspect. Mr. Nguyen agreed that is on our agenda as well. We are now working with all of your counsel and advise to start working on curriculum. We would like to collaborate with Mr. Gomez and Mr. Navarro for their expertise on which class offerings would be most beneficial in terms of creating this certificate program. He believes there is a market with students who only need the Security Plus preparation class. Mr. Gomez explained yes you have a huge area of growth with offering it online at a community college. This will give the student additional assurance that the staff teaching the course are validated and equipped. This would be a value to add to your program. Mr. Navarro agreed students will received college credit for this course. He thinks it fantastic and he recommends it. Mr. Nguyen explained the course offered will be robust and they will be able to networks. We will prioritize CS 214

which is Security Plus preparation course that will get the student ready to take the test. This will be very useful. He also thinks there's a possibility we can offer a non-credit course which is free for students. From there, on the side we can start ramping up the courses that we think are deemed necessary for the certificate of achievement in Cyber Security. That's are proposed plan of action at this point. We would be honored to bring you gentlemen in and be apart of this to assist us I'm making this a reality. Mr. Navarro thinks having it non-credit would help because students will need to buy a voucher at \$300 to take the exam. Dr. Beheshi asked if we have feed back from students that have an interest in the program. Mr. Nguyen explained yes that is apart of our roadmap. Mr. Nguyen asked if Mr. Navarro has any comments. Mr. Navarro said he will make himself available to assist the college with the program and could assist with guest speaking as well. Mr. Nguyen thanked him and everyone for attending we appreciate you all and will be in touch very soon.

Carl Freeman, who was not able to make it to the meeting, added some helpful comments below related to the initial draft of the Program Narrative:

Changes to 'Respectfully' Consider 😊 :

Penetration Testers

Before:

Penetration testers evaluate network system security by conducting simulated internal and external cyberattacks using adversary tools and techniques. They attempt to breach and exploit critical systems and gain access to sensitive information to assess system security.

After:

Penetration testers evaluate internet facing enterprise-wide applications and network system security vulnerabilities by conducting simulated internal and external cyberattacks using common adversary selected tools and techniques. They attempt to breach and exploit critical systems or internet facing applications, such as browsers to gain access to sensitive information.

General Comment to Consider - Linked to Language Directly Below:

'Their tasks include assessment of the physical security of servers, systems, or network devices to identify vulnerability to temperature, vandalism, or natural disasters; collecting stakeholder data to evaluate risk and to develop mitigation strategies; conducting network and security system audits using established criteria; designing security solutions to address known device vulnerabilities; updating corporate policies to improve cyber security; and writing audit reports to communicate technical and procedural findings and recommend solutions'.

Comment: Pen testers are rarely assigned to 'update corporate policies'. They are also rarely asked to 'design security solutions to address known vulnerabilities', however they are asked to '**recommend** design or architecture changes to existing infrastructure to mitigate the risks noted in their 'Penetration Test Report' deliverable. They often also negotiate the scope of specific Pen Test cases that will be executed during the test event(s) with their customer before testing begins.

He also had some insight on the initial course sequencing on 3/30/35:

Thoughts to Consider:

- Why Cloud+?
 - o On premises vs. virtual RHEL / Windows Server 20xx, client workstation and network/security appliance solutions are still 'dominant in mid-large state/Federal Government agencies and commercial businesses'?
- Consider a Cybersecurity 'Policy / Requirements' introductory course vs. 'Intro to Ethical Hacking' (ISO27000, NIST SP 800-53 and 53A, for example)
 - o A Systems Security Engineering (SSE) focus. Specifically, how requirements are 'allocated' to subsystems in the 'deliverable' to the customer (a mobile phone application or Weapons System for the U.S. Navy)
- Why Beginning Linux vs. Windows?
- Most large employers in SoCal have an 'Education Outreach' office.
 - o Have you attempted to engage with any of them to seek their involvement in developing and endorsing the curriculum for both 'programs' you've creating?
- Did you review similar programs offered by other Community Colleges across the country that have moderate-high curriculum development involvement with 'local industry or Government agencies'? NoVA CC example [HERE](#)