

Saint Francis University Cybersecurity Industry Advisory Board Meeting

Thursday, August 11, 2022 at 10:00 am in SC 028

SFU Faculty/Staff in attendance: Rachel Wagner, John Valkovci, Dan Wetklow, Kevin Slonka,
Mike Zambotti, Beth Warner

Council Members in person: Giovanna Palmieri, Jason Rhykerd

Council Member via zoom: Rich Murphey, Joe Wynn, Mark Sherman

Welcome and Introduction

Mr. John Valkovci welcomed everyone in person and zoom to our first inaugural meeting to make our very good Cybersecurity program better. The other driving force for this meeting is the Center for Academic Excellence in Cyber Education. We need to submit information to the CAE showing proof that we are teaching these classes and information of the program.

SFU Faculty and Staff:

- Rachel Wagner, Chair of Department
- Dan Wetklow, Professor of Computer Science
- John Valkovci, Associate Professor of Cybersecurity and Program Director
- Mike Zambotti, Visiting Assistant Professor of Cybersecurity (from Miles)
- Kevin Slonka, Assistant Professor of Computer Science and Cybersecurity (from UPJ Greensburg and Sourcereer)
- Joe Karwoski, Adjunct Assistant Professor of Computer Science
- Beth Warner, Coordinator of Computer Science program

Virtual attendees:

- Rich Murphey, runs the VM for the FTK used for Valkovci's Forensic class. He has a PhD in Cybersecurity and began consulting independently in 2005.
- Joe Wynn, CEO at Seiso, LLC in Pittsburgh. He has worked in IT for over 25 years. Attended Duquesne and started first cyber program and moved on to helping people with Cyber needs. Joe is attending as a guest for this meeting
- Mark Sherman, runs the cybersecurity program for an engineering firm in Dewberry, VA and works remotely. Grew up in Johnstown and attended Penn State. Started out as engineer and moved into cybersecurity. He agreed to join the board because there is a shortage of getting the right talent into cyber and he is willing to help guide us with correct skill sets to move forward.

In person attendees:

- Giovanni Palmieri, 2021 SFU alumni. Started internship at Sheetz about 3.5 years ago as an undergrad and currently works at Sheetz in their Cybersecurity dept. He is eager to give his two cents on our program.
- Jason Rhykerd, CCO at Sheetz. Worked in many other environments and different sectors. He has worked in the Cyber world for 22+ years. He noted that Sheetz currently has 5 cyber openings. He wanted to join the board to have a relationship with local universities.

Department Overview

John would like to start with the Center. Our goal is to graduate qualified outstanding cybersecurity professionals that can step right into a position in Cybersecurity field. When we look at this goal, one is our flexible curriculum, which is hands on ability.

Kevin spoke about the Networking style courses, Intro to Networking class, as well as more in depth networking courses including: Firewalls, IDS, Linux. Kevin will be teaching the Networking System track.

Curriculum

How can we improve our curriculum to make our students more competitive?

CORE: CSA 101, CSA 130, CSA 201, CPSC 121, CPSC 140

TRACKS: three (3) tracks required with 9 credits from each

Blockchain Applications Track (9 credits)

- CSA 110: Blockchain Fundamentals
- CSA 111: Cryptocurrency
- CSA 410: Dark Web Analysis and Threat Detection

Digital Forensics Track (9 credits)

- CSA 202: Digital Forensics II
- CSA 301: Complex Online Investigations
- CSA 401: MAC (Apple) Forensics
- CSA 402: Mobile Device Forensics

Penetration Testing Track (9 credits)

- CSA 210: Open Source Cyber Intelligence
- CSA 420: Ethical Hacking I
- CSA 421: Ethical Hacking II

System Administration Track (9 credits)

- CPSC 322: Introduction to System Administration
- CPSC 332: Information Networking and Security
- CPSC 345: Database Management
- CPSC 422: System Administration

Curriculum Discussion:

Jason asked where would GRC side fit in? John said the Digital Privacy and Security with CIPP text. This should be a certification available to our students. Kevin asked if we need to offer one more class on the GRC field, Jason suggested a class might be Threat Assessment.

Joe suggested that they have been doing this at Duquesne. He shared his screen with a flow chart of their creation process. If we have a project, let students build their own labs. Project list: infosec policies/standards, monitoring program, corrective action process. From a risk management

prospective, he finds that people are great at finding problems, but bad at how decision-making works. This can identify assets. We could evaluate risk assessment.

Mark suggested that if students learn the fundamentals, they could learn the GRC. Jason said we need to inform the students about how politics are involved and educate them with the risks and how to manage it. Mike added that you have these conversations with other non-technical people and the business so that they understand on the business side.

Joe mentioned the 300 or 400 level courses to hit on these things, but he thinks this should be in a lower level class, a freshman class to start the conversation.

John said we need to have a business facet with risk management. He also mentioned we don't have an introduction course; we call it a foundational course. Students are introduced to many cybersecurity concepts. Jason feels this is a very early foundation item.

Rich said he is glad to see the Blockchain applications in our curriculum.

Giovanni said that emerging in the field is Cloud Technology. Pen testers doing testing on Admin machines. There is a heavy shift there and would be hands on experience. John mentioned that we had the Cloud/IT course and we plan to incorporate this into our classes. Jason added there is the Cloud and how firewalls work differently and the other side of understanding those concepts. Students needs to understand the technology behind it, and they need to equip themselves with it.

CAE - CDE timeline (only a handful of universities hold this certification around the country)

- 2018 – CAE-CDE application process initiated
- 2019 – NSA revamped application process
- 2020/2021 – COVID
- 2021 – POS Application Submitted
- 2022 – POS Approved, Digital Forensics
- 2022 – October 14, CAE-CDE application due

We could have another program of study, but we need to complete this first one which is due on October 14, 2022.

Additional Discussion/Hands on Experience

Mark said that he has been involved with recruiting. Digital Forensics and Pen testing is what everyone wants to do. But those tests have the skills in System Administration. Kevin said all students need System Admin to work in the cyber field.

Jason said that he has speakers that are willing to come to campus to speak of different things, mentorships, etc.

John said the way we've designed our program, is we teach as many cyber courses as we can hands on.

Students will learn by doing, and some courses are built for that, for example, Digital Forensics. Some of our 101 courses are just things that students need to know.

Certifications

People have different opinions of certifications. We think there is a place of certifications for these to benefit our students.

- ACE/MCFE – proficient in FTK
- C|EH – (Ethical Hacking I and II)
- CTCE – Cryptocurrency (free through CipherTrace)
- Network +
- Security +

We don't want the students to have a bunch of letters after their name, but that they have the body of knowledge enough to pass the exam.

Kevin asked the board for their opinion: if the students had some exposure to an internship, instead of the certifications, how would that compare? Joe said they would hire the student that has experience over the certifications. Mark would agree that experience is more beneficial than certifications. He only looks at certifications for people without a college degree. Jason thinks the certifications are good for students to have. The student with the real-world experience is going to come out on top for the position.

There was a mention of free credits online. Faculty will look into this.

The certifications are good for students, but when they list it on their resume, students need to be able to talk about it during the interview. Rich said that he looks at this program and the certifications as evidence as building a foundation. Students may change jobs and career paths. He is for the internships and the certifications have lasting value. Giovanni said the certifications show a sign of initiative and feels that internships are highly encouraged. They are both equal to show initiative. Jason mentioned that he now knows that our students earned their certification from taking the courses.

Jason asked if there are any electives that students can take for an interview? Some students are afraid to speak up. Rachel mentioned that our Career Services office offers mock interviews for our students. She also mentioned that during Mentorship Week In October, we may offer a networking event like we do for engineering.

Dan added that we have a one credit Computer Science class that includes preparing for interviews, etc. Mark mentioned that one issue they are having is communication and students are not using email. They are working on using texting and other forms of communication.

Jason said that they are having trouble finding candidates that are motivated and passionate about their career. He also mentioned students holding speaking engagements, some Robert Morris students spoke about a concept of Cybersecurity. They were very well spoken and would be more hireable. Cyber

students present at a BSide in Pittsburgh. Mike said they could discuss this option with the Cybersecurity Club.

Cybersecurity Club

We also have a Cybersecurity Club. Mike said it is slow, but we would like to have a project based for meetings instead of just meeting. Jason said that Sheetz is working with PSU and meets with their Cybersecurity club and is willing to come to SFU and meet with our students. He said they will bring food and conversation. Mike agreed that was a great idea and they should set this up this semester.

Internship Discussion

We encourage our students to obtain internships, and many of them do. The students gain valuable experience with an internship. Our Career Services helps our students with the internship process.

Rich said that students can not have very much information when they do an internship since they can not have access to some things. Use the information they would need in industry to make building this bridge easier. This could be as a special project.

Enrollment/Graduates

Enrollment:

2017-2018 – three students

2018-2019 – seven students

2019-2020 – fifteen students

2020-2021 – nineteen students

2021-2022 – thirty-eight students

2022-2023 – forty-one anticipated students

Graduates:

As of spring 2022, we have graduated 10 cybersecurity majors

Capstone Project

There is not a capstone project in our curriculum. The CORE 407 is a general education class. John said now we have the resources available to build a capstone project. What ideas are there for the students to work on and with industry?

John will send out an email with the presentation. We would like to have quarterly meetings to take what we have discussed as a foundation and build on that.

Thank you

John thanked everyone for attending. Please send your feedback to us. Joe asked that two weeks before the next meeting, send out a note of challenges and new things we thought to help council members prepare for the meeting.

Official meeting adjourned at 12:00 pm. In person attendees and faculty attend lunch at Torvian.