The Power of Community: Increasing Student Engagement, Academic Success and Workforce Readiness Through Cybersecurity Clubs and Activities

Palm Beach State College Student Ethical Hackers Club (EHC)

EHC Club
Vision
Building Community
Building Character
Building Competence
Training & Development
Digital Entrepreneurs
CyberForce Team
Cyber Demonstrations
BrainBowl Competitions
Cybersecurity Symposium
CyberWeek Conference
College & Univ. Partnerships
Cyber Industry Partnerships
Canvas Shell Database
Results: #2 In State of Florida

Ethical Hackers Club

CAE
IN CYBERSECURITY
COMMUNITY

Cybersecurity/IT Pathway Project: PBSC & SDPBC

Project PI: Dwight Elliott, MS., JD., **Grant Program Coordinator:** Marwan Abdulmalek
SDPBC Representatives: Anthony Asci and Moise Derosier
Palm Beach State College & School District of Palm Beach County

Introduction

The Cyber/IT Pathways project is a cooperative endeavor of Palm Beach State College and the School District of Palm Beach County (PBSC and SDPBC).

The goal of this one-year project was to increase the number of workers that are prepared to fill cybersecurity/information technology jobs by creating a model that is suitable for expansion, adoption, and sustainability/scalability in the state.

Project Description

OBJECTIVE 1. Increase the number of students enrolled in SDPBC and PBSC Cyber/IT pathway programs by 5% in August 2023 as compared to August 2022;

OBJECTIVE 2. Increase the number of industry certifications and degrees earned by SDPBC and PBSC students programs by 5% in August 2023 as compared to August 2022;

OBJECTIVE 3. Create articulated curriculum that aligns instruction at SDPBC with course objectives at PBSC programs by August 2023; and

OBJECTIVE 4. Increase student job readiness through participation in experiential learning programs by at least 95% or targeted students by August 2023.
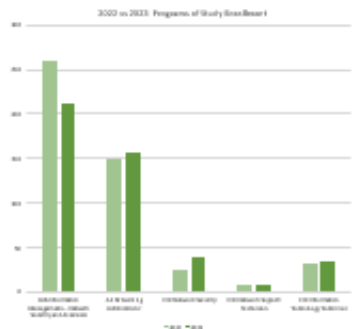
Figure 1. Graph of PBSC student enrollment based on Program of Study. (Updated Summer 2023)
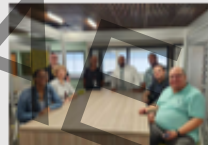
Outcomes and Discussion

Figure 2. Teachers from the SDPBC tour PBSC campus during Professional Development training

Figure 3. Teachers from the SDPBC attend professional development at PBSC for CompTIA IT Fundamentals+ certification

Figure 4. PBSC Ethical Hackers Club FIU campus tour

Figure 5. SDPBC students attend PBSC Spring 2023 Cybersecurity Symposium

Objective 1. Increase in SDPBC Cybersecurity program

	August 2022	August 2023
Student Enrollment	400	1527

Table 1. Student enrollment in the SDPBC Cybersecurity program increased from August 2022 to August 2023 by over 280%.

Objective 3. Increase in Cybersecurity Curriculum & Pathway

Figure 6. 5 courses were redeveloped/created

NOTE: PBSC and SDPBC Curriculum Mapping Pathway Project ongoing and continuous at all times.

Objective 2. Increase in industry certs and degrees

SDPBC Certs	SY2022	SY2023
SDPBC CompTIA IT Fundamentals+	60.2%	70.2%
MTA/ITS Cyber/Networking/Security exams	62	76

PBSC Certs	2022	2023
CompTIA A+	0	8
CompTIA Network+	0	3
CompTIA Security+	0	Boot Camp in Progress

Objective 4. Increase in job readiness

Figure 7. PBSC Students receiving training from **Splunk Software Solutions** during PBSC Fall 2023 Cyber Week in October during Cyber Awareness Month

Figure 8. Job readiness training from **Steve Lindsey at Xtec.com** at the Spring 2023 Cybersecurity Symposium

Conclusions

Conclusion Summary:

PBSC and SDPBC is excited about our participation in the Cybersecurity/IT Pathway grant collaborative initiatives. In spite of many challenges and learning lessons our team at PBSC and SDPBC have adjusted throughout the year and stayed the course in terms of putting together events and activities since FALL 2022 and into SUMMER 2023 that will help us achieve the grant goals.

Implications for Cybersecurity Education in Florida:

PBSC is committed to continue working with the SDPBC to continue creating curriculum pathways and future workforce preparedness for students within the Palm Beach County area. The Cybersecurity/IT industry and landscape will continue to grow exponentially within the Palm Beach County area and PBSC is in a strategic position from an education standpoint to formulate alliance and partnerships with the SDPBC, non-profit organizations, the government sector and private industry to ensure our students are fully workforce ready.

- **PBSC Cybersecurity Evolution and Growth:** The Cybersecurity curriculum continues to expand at PBSC and we are committed to creating a strong foundation and infrastructure to prepare students for success in the Cybersecurity field. This will have tremendous implications for ensuring that our curriculum adapts to the changes within the Cybersecurity industry.

- **SDPBC Teacher Training Customized Training and Preparedness Levels:** Teachers have various backgrounds in SDPBC, so, our Cybersecurity trainings must address the different levels of teacher competence and capabilities from a customized standpoint. Some teachers are more advanced, such as those that work at the Cyber academies. The strategy that focuses on customized learning for each teacher will have positive implications that ensure the teachers are provided the necessary Cybersecurity training for students in the SDPBC and beyond.

- **PBSC Curriculum Evolution:** PBSC has re-developed and created 5+ courses in Cybersecurity within the last year. We are also coordinating with the SDPBC to build curriculum pathways on an ongoing basis. We will continue to benchmark with other academic institutions and form Cybersecurity alliances and partnerships in order to ensure our curriculum is competitive and current. The Cybersecurity industry continues to change, adapt and expand based on Cyberthreats and Cybercrimes, therefore we have a strategic game plan in place for continuous growth and development. This will have positive implications for our students and their future in the Cybersecurity field.

- **Ethical Hackers Club (EHC), Community Development and Impact:** At PBSC our Ethical Hackers Club (EHC) has been extremely instrumental, useful and impactful in creating a community of shared learning, friendship, mutual growth and development in Cybersecurity. Our students engage in shared Cyberactivities, Cybergames, hands on challenges, Ethical hacking activities, as well as presentations and competitions with other academic institutions. The club also reaches students within the SDPBC who are interested in Cybersecurity. For example, one of our top performing students is a dual enrollment student from the SDPBC. The experiences students obtain in the club will have a tremendous impact that leads to workforce preparedness for students in the Cybersecurity field and the greater Palm Beach County area.

Cybersecurity/IT Pathway Grant Activities: Results & Impact

Cyber Workforce Readiness & Cybersecurity Industry Partners

Cyberbit

Cyberhub

CyberFlorida

Splunk

National Cyberleague (NCL)

Florida College System (FCS)

Discord

USF

FIU

MDC