NATIONAL CENTERS OF ACADEMIC EXCELLENCE IN CYBERSECURITY (CAE-C)

CYBERSECURITY FACULTY DEVELOPMENT, PHASE 2 – EXPANDING SUPPLY IN RESPONSE TO DEMAND – A NATIONAL FOCUS

PRE-CONFERENCE WORKSHOP - FACULTY PROFESSIONAL DEVELOPMENT

INSTITUTIONAL CONSORTIUM

- Moraine Valley Community College

- Metro Sate University of St Paul

- San Antonio College

- University of Texas – San Antonio

- University of North Texas

- University of West Florida

- University of Alabama – Huntsville

- Dakota State University

PROJECT LEADS

- PI – Wayne Pauli – Dakota State University

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- Co-PI – Josh Pauli – Dakota State University
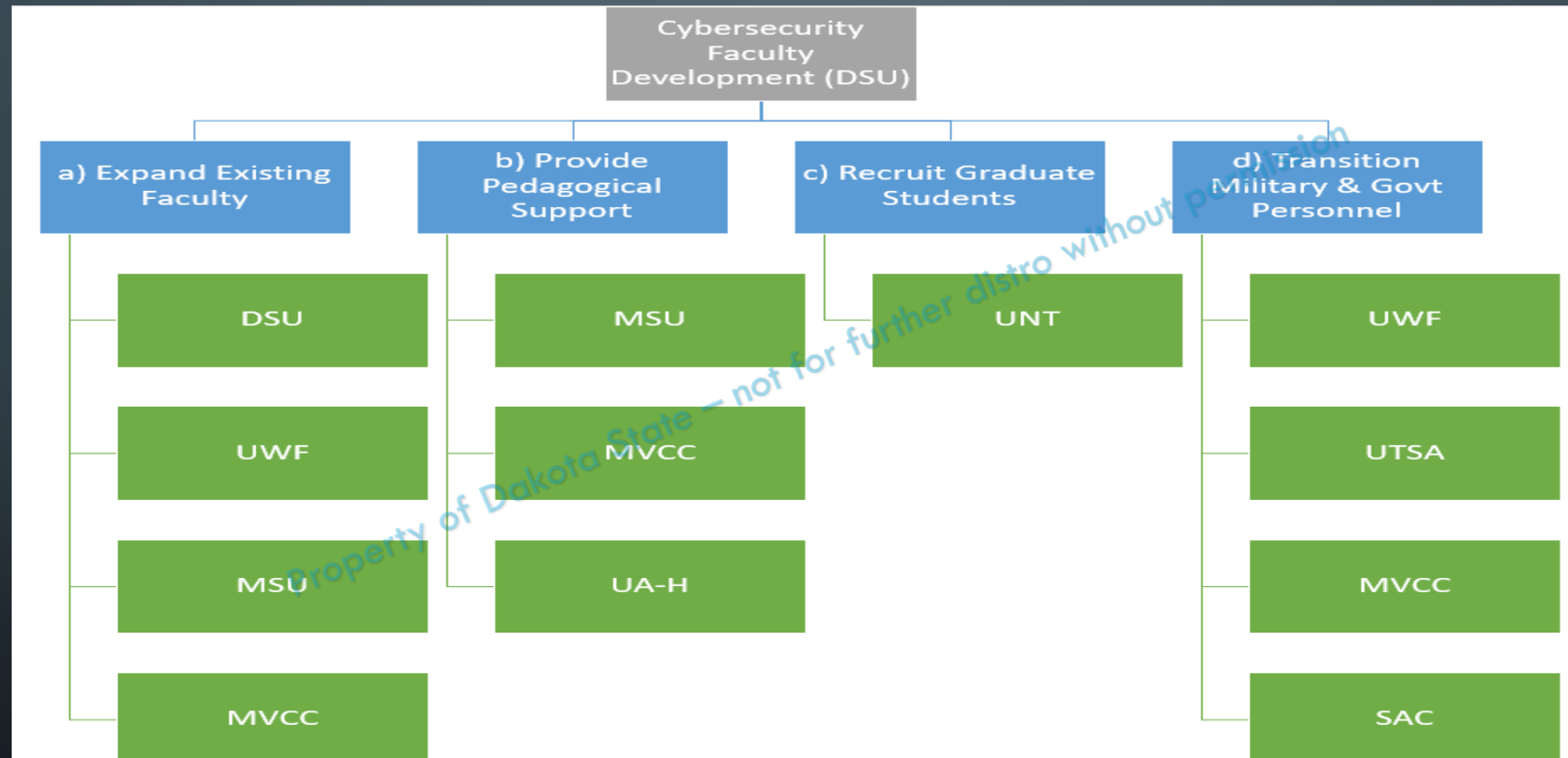
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FACT: *"THERE IS A CRITICAL SHORTAGE OF CYBERSECURITY PROFESSIONALS AVAILABLE TO TEACH AND PERFORM FACULTY DUTIES IN CYBERSECURITY"*.

- PROJECT OBJECTIVES:

- 1. "Expand Existing Faculty"

- 2. "Provide Pedagogical Support"

- 3. "Recruit Graduate Students"

- 4. "Transition Military and Government Personnel"

OBJECTIVES BY INSTITUTION

LET'S DO A BIT OF A DEEPER DIVE INTO THIS

WHAT IS EACH INSTITUTION OFFERING?

WHY SHOULD YOU OR YOUR INSTITUTION BE INTERESTED IN THE OFFERINGS?

METRO STATE UNIVERSITY

- Provide conceptual and practical details of Advanced Incident Response and Handling leveraging the MN Cyber Range and other open source platforms and tools.
- Participants will experience how a Security Operation Center (SOC) team detect, analyze, and respond to cybersecurity incidents through various blue team scenarios available through MN Cyber Range.
- Recruit cybersecurity subject matter experts from the industry leveraging the MN Cyber Institute's partner network and other organizations across the nation.
- Provide participants with the necessary pedagogical background, tools, and resources and to prepare them to teach cybersecurity courses at the college/university level.
- Provide the participants an opportunity to co-teach or teach cybersecurity courses as community faculty (adjunct faculty).

UNIVERSITY OF WEST FLORIDA

Scenario based learning

- Two 3-day workshops in summer 2021, two in summer 2022
- Total 80 participants targeted over two years
- Equip participants with knowledge, skills, and abilities to create scenario-based teaching environments in their respective classrooms
- Establish a pilot recruitment program to recruit ten veterans (five per year)
- Create pathways for selected veterans, provide them with required knowledge, skills, and abilities, and bring them in our adjunct pool to teach lower-level courses

UNIVERSITY OF NORTH TEXAS

Professors of Practice (PoP) & PhD students

- Preparing PoPs on how to integrate/translate industry experience into course outline

- Mentoring PoPs for project-based learning and classroom management

- Co-teaching with PoPs and PhD students

- Mentoring soft skill competencies to PhD students

SAN ANTONIO COLLEGE

Expanding faculty numbers by focusing in military and first responders

- Recruit prior/current military and first responders
- Two day Teach Cyber workshop on the San Antonio College Campus
- One year of mentoring support via individual outreach and monthly video conferences.

UNIVERSITY OF TEXAS, SAN ANTONIO

Recruit and education transitioning military to have careers in academia

- Provide education at the masters and PhD levels for the interested military
- Use the military commands in San Antonio as a pilot program
- Provide limited number of scholarships for the education
- Develop and test promotional materials designed to recruit separating military into the program
- Investigate the interest of active duty military to teach cyber security at any of the K through university levels
- Expand the program to include federal labs

MORAINE VALLEY COMMUNITY COLLEGE

- Industry Certification Train-the-Trainer Workshops

- The National CSSIA Teaching and Learning Academy (Train-the-Trainer) would provide 10 workshops over two years. These workshops would serve 15-20 faculty members each. Each workshop would be aligned to recognized industry credentials, emerging technologies and popular products. Courses would include CISSP, CISA, CEH, Security+, CCNA Security Operations, Palo Alto Security Fundamentals and Linux Professional Institute. Other workshops might include VMware, EMC and Meraki.

UNIVERSITY OF ALABAMA - HUNTSVILLE

Teaching curriculum and instructing instructors

- Teach up to 500 students per term via a Massively Online SCADA Security Course for CAE colleges and universities.

- Lectures and hands-on content from SCADA Security expert, Dr. Tommy Morris of the University of Alabama in Huntsville.

- Faculty from local institutions take class, receive all materials and are simultaneously trained to teach the course in future terms.

DAKOTA STATE UNIVERSITY

Workshops

- DSU to do outreach into the CAE community to determine the areas of greatest need for instructor training. (KU's, etc.)
- Organize instructors in this content area & provide 4 in-person national train the trainer workshops.
- Instructors will leave having done content overview, questions answered, practiced and have labs in hand!

SO IN CONCLUSION: *"THERE IS A CRITICAL SHORTAGE OF CYBERSECURITY PROFESSIONALS AVAILABLE TO TEACH AND PERFORM FACULTY DUTIES IN CYBERSECURITY".*

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THIS IS SO IMPORTANT, THAT:

- NSA funded two (2) projects

- The University of Colorado, Colorado Springs is the lead institution for our sister project.

- We will be marketing together; we will be creating a joint calendar of events. We want participants to think of this as 1 project with 20 partner institutions developed by Lynne and her team.

QUESTIONS

- Before I introduce Dr Tejay from UCCS, are there any questions of me?

- Obviously, we are excited about developing and delivering these programs to the CAE Community.

- Obviously, we are excited to be working with these great partners, bringing you some amazing opportunities to *increase cybersecurity professionals available to teach and perform faculty duties in cybersecurity*

THANK YOU ☺