

CyberWATCH Advisory Board Meeting

February 23, 2006





Presenter for slides 3-11

Vera Zdravkovich

Director, CyberWATCH

Prince George's Community College

vzdravkovich@pgcc.edu

301-322-0452

Vision

CyberWATCH will advance and disseminate best practices, standards, and benchmarks designed to prepare cybersecurity specialists capable of responding effectively to accelerating changes in information assurance and to the immediate security needs of critical infrastructures.



CyberWATCH Membership Community Colleges

- Anne Arundel Community College
- College of Southern Maryland *
- Community College Baltimore County
- Howard Community College *
- Montgomery College
- Northern Virginia Community College
- Prince George's Community College

Universities

- George Mason University
- George Washington University
- Johns Hopkins University
- Towson University
- University of Maryland College Park
- University of Maryland University College *

High Schools

- Center of Applied Technology – South – Anne Arundel County
- Center of Applied Technology – North – Anne Arundel County
- Prince George’s County Public Schools
- Sollers Point Tech – Baltimore County
- Woodrow Wilson Senior High – Washington, D.C.



Government Partners

- Metropolitan Washington Council of Government, MWCOCG

Public/Private Supporters

- Assured Decisions, LLC
- Cisco Systems
- CompTIA
- Computer Sciences Corporation
- Department of Homeland Security
- GSX
- Lockheed Martin Corporation

Public/Private Supporters

- Maryland Association of Community Colleges
- Maryland State Department of Education
- Michael Mumford of the Defense Intelligence Agency
- Nashville State Community College
- Prince George's Workforce Services Corporation



CyberWATCH Goals

- Cybersecurity Education
 - Curriculum development
 - Students Competitions/Case Studies
 - Educational pathways/Articulations
- Student Jobs & Internships and Faculty Externships
- Faculty Development
 - Workshops/Training/Conferences
 - Faculty externships



CyberWATCH Goals (Cont'd)

- Virtual Lab
 - Housed at Montgomery College
 - Available remotely
 - Available to all partners
- High School Student and Teacher Development



Presenter for Slides 13-18

Fred Klappenberger

CyberWATCH Co-Director

Professor, Anne Arundel Community
College

faklappenberger@acc.edu



CURRICULUM DEVELOPMENT Community College Level

Goals

- Develop degree programs in Information Systems Security at community colleges
- Map programs to NTISSI 4011
- Articulate of 2-year programs with 4-year partners
- Preparation of students for certifications, e.g.,
 - CCNA
 - A +
 - Network +
 - Security +
 - SCNP
 - CCE
 - CWNA

Progress

- December 2005
 - Five partner community colleges met
 - Overview of program development process
 - NSA representative re NTISSI 4011
 - Provided hardcopies of NTISSI 4011
 - Provided copy of spreadsheet mapping tool

Progress

- Jan 2006
 - AACCC resubmitted 4011 mapping

- Feb 2006 (Follow-up meetings)
 - One-on-one with partner community college
 - Share courses and mapping details
 - Select candidate courses for 4011 map
 - Detail mapping process
 - Discuss team composition

Future Months

- Continue working with partner CCs
- Expand outreach to other CCs
 - broaden the base
- Provide written guidelines for mapping procedures

Out-Year/s

- Work on articulations with high schools
- Work on articulations with four year institutions
- Refine mappings to meet additional standards (NIST, US-CERT, . . .)
- Refine offerings to meet gov't and industry needs

Curriculum Development Baccalaureate Level



Presenter Slides 20-24

Mike Lyons

Professor, George Mason University

mlyons3@gmu.edu

George Mason University Goals

- Review of the Security elements of the curriculum in the BS in IT
- Redesign of Security courses (additions, changes, deletions)
- Introduction of a Cyber Security Capstone option for seniors

Planned Activities

Curriculum development:

- Revision of Articulation Agreement for Virginia Community College System (VCCS) Liaison with VCCS institutions, especially NVCC
- Evaluation of courses at other regional Community Colleges
- Work with Cisco to determine how to integrate Cisco Academy components into BSIT degree, including credit for high school and CC courses
- Discussions with other regional 4-year institutions

Planned Activities (cont):

Other curricula:

- Review security aspects of IT Minor and IT Certificate programs
- Review security aspects of other degrees (e.g. CompSci, SysEng)
- Evaluate post-graduate options in or related to security
- Compare above with other regional institutions
- Document security options from high school to post-graduate levels



Planned Activities (cont):

Career Development

- Evaluate current mechanisms for connecting students and regional employers

Partners

- Evaluate level of interest in becoming CyberWATCH partners at Chantilly High School (Cisco Local Academy) and at AOL

CCDC

- GMU will send a team to the Mid-Atlantic CCDC



Presenter Slides 26- 31

Casey O'Brien

CyberWATCH Co-Director

Professor, Community College of
Baltimore County

cobrien@ccbcmd.edu

Module Development

Progress

- Worked with Ajay Gupta (PGCC) on updating list of potential modules
- Developed three new modules: password assurance (both Windows and *NIX-based systems) and OS hardening
- Modules ready to be posted on the CyberWATCH Web site: Developing a Security Policy, Social Engineering, Wireless Security, Firewalls, Intrusion Detection Systems, Forensics, Physical Security, Disaster Recovery and Business Continuity

Year I – To Do

- **Modules:**
 - Send out blurb to participants inviting submissions
 - Send out list of potential modules to develop
 - Identify pay scale for module development
 - Collect and post on CyberWATCH Web site any modules that faculty are currently using and would be willing to share

Collegiate Cyber Defense Competition (CCDC)

Progress

- Competition dates/location: March 24-26, Lancaster, PA
- Participating teams: AACCC, CCBC, George Mason University, Loyola College, and Towson University
- 1st Mid-Atlantic Regional CCDC Web site created (<http://student.ccbcmd.edu/~cobrie12/ccdc>)
- Working with Tim Rosenberg (White Wolf Security) on setting up competition network, scoring system, business taskings, food, lodging, and travel arrangements
- Coordinated with the University of Texas at San Antonio on sending the Regional winner to their National competition (April 21-23)

Year I – To Do

- **CCDC:**
 - Identify public and private-sector sponsors
 - Print certificates and banner
 - Get trophy
 - Print t-shirts
 - Coordinate with teams on hotel rooms and travel arrangements
 - Identify additional volunteers



Presenter Slides 33-37

Cynthia Mason-Posey for
Rick Leon, Washington Metropolitan
Council of Governments

rleon@mwkog.org



Student Internships and Faculty Externships

Goals

- To provide internship opportunities for CyberWATCH students;
- To secure externships for Cyber WATCH consortium member community college faculty.


Goals – Year 1

- Hold a forum for the business community on April 25, 2006
- Hold job-preparedness training and job fair for students in May 2006
- Secure first round of internships/externships, summer 2006

Business Forum Goals:

- Introduce CyberWATCH to potential partners within the business and government sectors
- Explore industry needs
- Review existing curriculum and program offerings at institutes of higher education
- Initiate dialogue which can contribute to tailored curriculum

COG Forum




CyberWATCH Regional Center

**Building a Cybersecurity and
Information Assurance Workforce**

A forum hosted by the
Metropolitan Washington Council of Governments
In partnership with
The CyberWATCH Regional Center

April 24, 2006
9:00 am to 12:00 pm
COG Training Center, Lobby Level
777 N. Capitol Street, NE, 1st floor, Washington, DC 20002



National Science Foundation
Logo



Presenter Slides 39 - 40

Vera Zdravkovich for Allan Berg,
Professor, Towson University
aberg@towson.edu



Student Internships Train-the-Trainer Program

Goal

- Establish a robust industry and government internship program for implementation by each CyberWATCH member.
- Provide faculty workshops on working with students to develop resumes and cover letters for internships.
- Provide faculty workshops on preparing students for internship interviews (interview coaching).



Presenter, Slides 42-44

Cynthia Mason-Posey for Dennis Stewart,
CyberWATCH Co-Director, Professor,
Northern Virginia Community College
dstewart@nvcc.edu

Faculty Development

Year 1 Goals

- Survey and analyze current needs of IT faculty.
- Coordinate cybersecurity and/or computer forensics training for community college faculty.
 - Provide one five-day Level One Bootcamp in cybersecurity/information assurance
 - Provide three one-day workshops
 - Number of people to be trained: 20 per event or 80 total

Progress

- Developed and disseminated Survey to determine the level of security training required.
- Developed and agreed upon the plans for faculty training workshops.



Presenter Slides 46- 51

David Hall

CyberWATCH Co-Director

Professor, Montgomery College

David.Hall@montgomerycollege.edu

CyberWATCH Remote Lab

Development & Rollout Schedule

The Virtual Lab

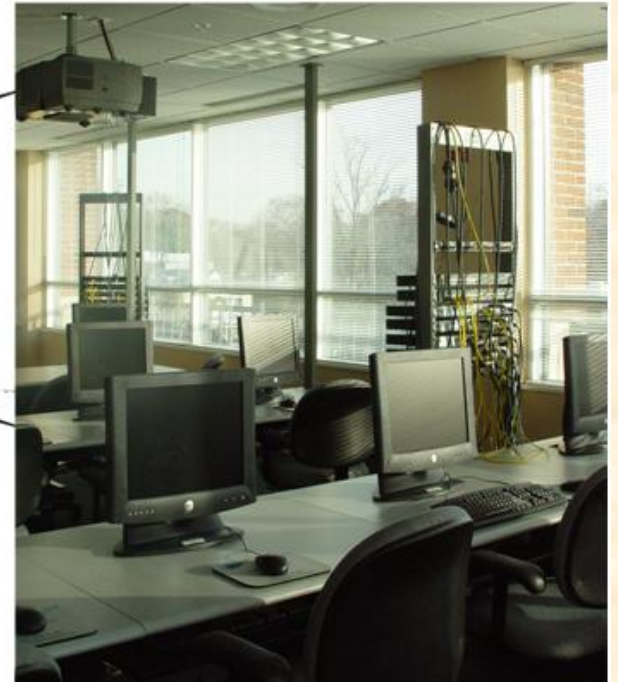
PGCC Classroom



AACC Classroom



Montgomery College Virtual Lab



Virtual Security Lab Status

- Based on a similar lab at Moraine Valley Community College near Chicago
- Original lab design has been improved and made more efficient in the past two years (since our original proposal)
- Dave Hall went to MVCC in January to investigate the changes and modify our planned lab

Current Lab Rendition

- Substantial changes in the lab equipment
- Access/scheduling software development has been completed by MVCC
- The CyberWATCH lab will use and modify this software
- We will also examine Cisco's NetVIEW software

Lab Schedule

- December 2005 – Finalize lab location
- January 2006 – Finalize needed modifications to lab room
- February~April 2006 – Make physical modifications to lab room
- February 2006 – Order lab equipment
- March~April 2006 – Inventory and assemble lag gear

Lab Schedule

- April 2006 – Set up lab software and hardware with assistance of MVCC technician
- May~July 2006
 - Test lab for basic course rollout
- Fall 2006
 - Begin training of instructors for remote use of lab



Presenter, Slides 53 - 56

Cynthia Mason-Posey

CyberWATCH Project Manager

Professor, Prince George's Community
College

cmason-posey@pgcc.edu



High School Teachers

Year One Goals

- Provide faculty development and mentoring to high school Cisco Local Academy teachers
 - Instructor Orientation Training
 - July 17 & 18
 - Introductory course for new teachers
 - Towson High School
 - Provided by Baltimore County Public Schools

Year One Goals (Cont'd)

- CCNA 1
 - July 19 – 25th
 - Towson High School
 - Provided by Baltimore County Public Schools
- CCNA 2
 - July 28 – August 4
 - Towson High School
 - Provided by Baltimore County Public Schools

Year One Goals (Cont'd)

- CCNA 3
 - July 10 – 14th
 - Prince George's Community College
 - CCNA 4
- CCNA 4
 - July 24 – 28th
 - Prince George's Community College



Presenter Slides 58 - 62

Davina Pruitt-Mentle

Director, Educational Technology Policy,
Research and Outreach

University of Maryland College Park

dpruitt@umd.edu



High School Students

Goals

Women In Cybersecurity Workshops

- Two workshops/enrichment programs to give girls the opportunity to investigate careers in IT/IA.
- 30 (N=60) middle and high school students
- Maryland and Virginia
- Each session led by IT/IA women professionals
- Laboratory/hands on experience
- **Friday, April 21st at UMCP-*Cool Careers for Girls in Cybersecurity***

Goals

Young Scholars Program

- Three-week Cybersecurity Program
- Allows students to explore and expand their knowledge of essential skills, while exposing them to exciting IT/IA careers
- Curriculum will cover topics such as: security policy, cryptography, digital forensics, computer security, national defense, network attack, and wireless security.
- Confirmed field trips (NIST, NSA Cryptologic museum, campus working labs)
- Guest speakers
- **Currently recruiting 8 students for scholarships**

Progress

Cyberethics, Cybersafety and Cybersecurity (C3) Conference

- October 6, 2005 - Pre-Conference Workshops
- October 7-8, 2005 - Conference Sessions
- University of Maryland, College Park
- The conference website can be found at:
<http://www.edtechoutreach.umd.edu/C32005/index.html>
- Additional day and ½ devoted specifically to Cybersecurity issues for the user services and IT support staff
- 32 NSF funded attendees (recruited from local school system, private/charter school and area 2-4 year college IT departments) + others paid
- 147 attendees



Cyberethics, Cybersafety and Cybersecurity (C3) Conference

- The C3 conference has become one of the annual activities associated with National Cyber Security Awareness month--a congressional initiative led by the National Cyber Security Alliance.
- Each year the C3 conference will be held the first week in October to help kickoff the monthly awareness campaign.
- The 2006 conference will be held October 5, 6 & 7.
- Although CyberWATCH funding will not support the conference in year 2 (2006), several security related activities are being planned.



Presenter Slides 64 - 65

Vera Zdravkovich

CyberWATCH Director

Prince George's Community College

vzdravkovich@pgcc.edu

Evaluation

- Outside Evaluator, John Sener, Sener Learning Services
- Approved by NSF
- Annual and Summative Evaluation
- National Visiting Committee, NVC
- Selected by NSF
- Review Visit – May 2006

Challenges

- Development and Alignment of Curricula
- Student Internships and Job Placements
- Faculty Externships
- Faculty Development
- Virtual Lab Operation
- Building Synergy among Partners
- Effective and Interactive Relationships with Business partners and Government Agencies
- Expansion and inclusion of additional Higher Education Institutions