INTERNSHIPS

As a partner in the CyberWATCH consortium, the Metropolitan Washington Council of Governments (MWCOG) facilitates summer internship programs. Participating CyberWATCH students are provided with training opportunities and real-world experience in the areas of cybersecurity and information assurance. MWCOG partners with local businesses and IT professionals to give CyberWATCH students a unique opportunity to learn valuable skills and job experience to explore an industry they hope to move into. Internships may also lead to future job prospects. A variety of summer internship opportunities are offered along with job-readiness skills training. CyberWATCH students are matched with local businesses based on their interests, academic experience and skill levels.

Contact: Rick Leon, Metropolitan Washington Council of Governments, CyberWATCH Center, rleon@mwcog.org, 202-962-3341

EDUCATIONAL PATHWAYS/ARTICULATION

CyberWATCH is establishing articulations among its academic members and building a seamless pipeline for students from high school to graduate school. At this time most community colleges are in the process of curriculum development and mapping of courses to National Security Agency (NSA) standards. Baccalaureate granting institutions are also mapping their courses to NSA standards. Mapping of courses will assist with curriculum alignment, formal articulations, and seamless pipeline. The completion of this goal will take longer. It is expected that it will be partly accomplished by the end of 2007.

Several articulations have already been completed:

- •The articulation agreement between the Virginia Community College System (VCCS) and George Mason University (GMU) for the IT major reflects the restructuring of the security content of the degree and takes effect in August for the 2006-7 academic year.

- •An articulation agreement has been formed between Howard Community College and Johns Hopkins University for a 2-2-2 curriculum in Network Security..

- •A number of articulation agreements between Maryland community colleges and partner universities are in place and others are being established.

Contact: Vera Zdravkovich, Director, CyberWATCH Center, vzdravkovich@pgcc.edu, 301-322-0452

CyberWATCH Partners

Community Colleges & Universities

Johns Hopkins University
3400 N. Charles Street
Baltimore, MD 21218-2686

Capitol College
11301 Springfield Road
Laurel, MD 20708

University of Maryland
University College
3501 University Blvd East
Adelphi, MD 20783

Prince George's Community College
301 Largo Road
Largo, MD 20774

Montgomery College
20200 Observation Drive, HT 417
Germantown, MD 20876

George Washington University
2100 Foxhall Road, NW
Washington, DC 20007

Anne Arundel Community College
101 College Parkway
Arnold, MD 21012

George Mason University
10900 University Blvd MS 4F5
Manassas, VA 20110

Bowie State University
14000 Jericho Park Road
Bowie, MD 20715

Community College of
Baltimore County
7201 Rossville Blvd N335
Baltimore, MD 21237

University of Maryland College Park
2127 Tawes COE
College Park, MD 20742-1121

Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044

College of Southern Maryland
873 Mitchell Road
LaPlata, MD 20646

Northern Virginia Community College
3001 N. Beauregard Street
Alexandria, VA 22311

Towson University
8000 York Road
Towson, MD 21252

Government

Metropolitan Washington Council of Governments
777 North Capitol St., NE, Suite 300
Washington, DC 20002

High Schools

Center of Applied Technology – South
Anne Arundel County Public Schools
211 Central Avenue
East Edgewater, MD 21037

Center of Applied Technology – North
Anne Arundel County Public Schools
800 Stevenson Road
Severn, MD 21144

Sollers Point Tech
325 Sollers Point Road
Baltimore, MD 21222

Prince George's County Public Schools
Career and Technology Education
7711 Livingston Road
Oxon Hill, MD 20745

Woodrow Wilson Senior High
3950 Chesapeake Street, NW
Washington, DC 20016

Public/Private Supporters

CompTIA
1815 S. Meyers Road
Oakbrook Terrace, IL 60181-5228

Assured Decisions, LLC
10015 Old Columbia Road
Columbia, MD 21046

Nashville State Community College
120 White Bridge Road
Nashville, TN 37209

Cisco Systems
170 West Tasman Drive
San Jose, CA 95134-1706

US Department of Homeland Security
Washington, DC 20528

Global Skills Exchange Corporation (GSX)
9500 Arena Drive
Largo, MD 20774

Prince George's Workforce Services Corp.
1802 Brightseat Road
Landover, MD 20785-4235

Defense Intelligence Agency
Washington, DC 20340

Computer Sciences Corporation
7700 Hubble Drive
Lanham, MD 20706

Maryland Association of Community Colleges
60 West Street
Annapolis, MD 21401

Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

Lockheed Martin Corporation
7375 Executive Place
Lanham, MD 20706

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STATEMENT OF PURPOSE OF CW

CyberWATCH Regional ATE Center, a consortium of seven community colleges, eight universities, and federal and state agencies and businesses, addresses the need for a greater and better educated workforce in computer and network security. This is to be accomplished by developing and improving IS/IA curricula, advancing faculty professionally and technically, developing a student pipeline from middle school to graduate studies, attracting students into the field through activities such as Cyber Defense Competitions, internships, field trips, and by forming robust partnerships with area businesses and agencies.

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CURRICULUM DEVELOPMENT

CyberWATCH community college members are at different stages of the IA/IS curriculum development. Several colleges are offering degree and/or certificate programs. Courses are mapped to NSA 4011 standards, and one member, AACC started mapping to NSA 4013 standards. It is expected that by June 2007 all community colleges will have approved programs, and courses mapped to NSA standards.

Contact: Fred Klappenberger, Co-Director, CyberWATCH Center, faklappenberger@aacc.edu, 410-777-2207

STUDENT COMPETITION

The Community College of Baltimore County (CCBC), in conjunction with White Wolf Security and the CyberWATCH Center, hosted the 1st Mid-Atlantic Regional Collegiate Cyber Defense Competition at the Burle Business Park in Lancaster, PA on March 24-26, 2006. The competition involved five teams, representing four year universities and community colleges from Maryland, Pennsylvania, and Virginia: Anne Arundel Community College , Community College of Baltimore County, George Mason University, Millersville University, and Towson University.

While similar to other cyber defense competitions in many aspects, the Mid-Atlantic Regional CCDC, as part of the National CCDC, is unique in that it focuses on the operational aspect of managing and protecting an existing network infrastructure. Teams are scored based on their ability to detect and respond to outside threats, maintain availability of existing services such as mail servers and web servers, respond to business requests such as the addition or removal of additional services, and balance security needs against business needs.

The team from Millersville University placed first in the CCDC and went on to San Antonio, TX to represent the Mid-Atlantic region at the National CCDC, where they took second place.

Contact: Casey O'Brien, Co-Director, CyberWATCH Center, COBrien@ccbcmd.edu, 410-780-6139

VIRTUAL LAB

On September 28, 2006, CyberWATCH opened a Virtual Lab, a state-of-the-art IT security lab physically located on the Germantown Campus of Montgomery College that is available to all CyberWATCH institutions via the Internet.

Up to this point most institutions have invested in local labs — rooms filled with high tech equipment and computers – in order for students to gain hands-on experience during class hours. High-tech equipment in this type of lab may be mounted on mobile equipment racks or on permanent, immobile racks located in wiring closets adjacent to the actual classrooms. The down side of this is that these rooms must often remain idle due to scheduling considerations. It is also impossible for other institutions to use these lab rooms or share the equipment.

In designing the Virtual Lab, three requirements needed to be addressed:

1. accommodate several types of currently available security curricula

2. adapt to a variety of security classes now and in the future

3. render the lab available for scheduling at any time to all CyberWATCH institutions via Internet access

Contact: David Hall, Co-Director, CyberWATCH Center, David.Hall@montgomerycollege.edu, 301-353-7827

TECHNICAL TRAINING

CyberWATCH has collected, developed, and disseminated information security-related modules for inclusion in IA, Computer Science, Information Technology, Allied Health, Criminal Justice, and Business programs. The modules, which include PPT slides and hands-on labs, will be available to participating CyberWATCH member institutions in September, 2006.

16 faculty from both 2- and 4-year institutions participated in the CyberWATCH Security+ workshop at Northern Virginia Community College's Arlington campus. The goals of the workshop were:

a. To provide faculty with an introduction to the field of information security;

b. To provide faculty with the broad-based knowledge and skills necessary for further study in information security and related disciplines; and

c. To serve the needs of those seeking to pass the Computing Technology Industry Association's (CompTIA) Security+ certification

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HIGH SCHOOL TEACHER/COUNSELOR DEVELOPMENT

Cyberethics, Cybersafety, and Cybersecurity, C3 Conference - This 4th Annual Cyberethics, Cybersafety, and Cybersecurity (C3) Conference: *Implications for the Educational Community* held October 7-8, 2005 at the University of Maryland at College Park, added a day devoted to cybersecurity issues for K-20 IT user services and support staff. This portion of the conference provided IT support personnel with an introduction to the common cybersecurity issues that their organizational users face. It also explored strategies and solutions for addressing user concerns and organizational requirements for improving the security of information systems.

Women in Cybersecurity Workshops – University of Maryland at College Park (UMCP) hosted the first in a series of Cool Careers in Cybersecurity Workshops for middle school girls. It provided information and skills necessary to navigate the professional pipeline in the vast fields of Cybersecurity and Information Assurance as well as other science, technology, engineering, and mathematics (STEM) fields. The Workshop provided participants will a full day of speakers, hands-on activities and campus site visits. Thirty middle school girls had the opportunity to learn from women from companies and agencies throughout the state about what it takes to be a true success in the field. Attention was given to issues for women from underrepresented groups.

Davina Pruitt-Mentle, Partner, CyberWATCH Center, dpruitt@umd.edu, 301-405-8202

PROBLEM-BASED CASE STUDIES

Problem Based, Case Learning (PBCL) benefits students by strengthening business connections and integrating real world experience. The case studies are designed to enhance students' skills in critical thinking, problem solving, communicating, and working in teams while mastering technical competencies. This "train the trainer" model for professional development in PBCL uses immersion, direct and guided instruction, coaching, peer review, and performance assessment as faculty design, develop and implement Problem-based Case Studies (PBCS.) In fall 2006 through spring 2007, faculty will learn the PBCL method and create a portfolio of PBCSs to use in their classrooms.

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