
“Just Say No” to Teaching Ethical Hacking

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Institution

- Only public institution of higher education in the District of Columbia and an HBCU
- Urban land-grant institution
- Established in 1977 from the merger of:
 - Federal City College – 4 year, est. 1968
 - Washington Technical Inst. – 2 year, est. 1968
 - DC Teachers College – est. 1955
 - Miner Teachers College – 1851, 1879, 1929
 - Wilson Teachers College – 1873, 1913, 1929

Organization

- President \ Provost and VP Academic Affairs
 - David A Clark School of Law
 - College of Arts and Sciences
 - Divisions: Arts and Education; Science and Mathematics; Urban Affairs, Behavioral and Social Sciences
 - School of Business and Public Policy
 - School of Engineering and Applied Sciences
 - Department of Engineering, Architecture and Aerospace Technology
 - Department of Computer Science and Information Technology
 - Department of Electrical Engineering

Students and Faculty

- Total of approx. 6000 students
- Ethnic mix reflects the city:
 - 73 % African-American and 6 % Hispanic
- Departmental Data
 - Majors estimate: 220
 - Full time faculty: 9

Faculty

- David Barnett – Cisco program
- Gail Finley – IA Education
- Bggyund Yu – Sensor Networks
- Sheraly Zeadally – Wireless networks

CS \ IT Program Performance Expectations



- “**computer scientists** should be prepared to work in a broad range of positions involving tasks from theoretical work to software development”
- “**information technology** professionals should be able to work effectively at planning, implementation, configuration, and maintenance of an organization’s computing infrastructure”

CS \ IT Security Requirements

- Common graduation outcomes for all computing programs

“understanding of ... security ...”

- IT goes further in specific curriculum requirements for topics in

“Information assurance and security...”

ABET 2007-2008 Criteria for Accrediting Computing Programs

BS Information Technology at UDC

- Shared beginning programming courses
- Core areas:
 - Networking
 - Database
 - Web Technologies
- Required concentration in one core area
- Required application domain\

BS Information Technology (cont'd)

- Interdisciplinary application domain/s supporting:
 - Networking and database development
 - Business courses in management, accounting and finance
 - Forensics
 - Criminal justice courses covering rules of evidence, courtroom protocol, law and privacy issues ; possible coordination with our law school
 - Web technologies
 - Graphic design courses

AAS Computer Science Technology

- Two year degree program
 - as of December 1, the two year program has shifted to a newly formed Community College
- Options:
 - Intended articulation with BS degrees
 - Networking
 - Software

BS CS /IT Information Assurance Courses

- Computer Networking CS\IT
- Network Security CS\IT
- Secure Computing Systems CS
 - New Course – not yet offered
- Digital Forensics IT
 - New Course – not yet offered

Professional Ethics Course

- **Professional Ethics** 200 level course
- Prior to this single course, ethics and societal issues were to be covered in several courses throughout the curriculum
- Textbook: “The Gift of Fire”, Baase, Sara

Computer Literacy

- Computer Concepts and Applications
 - 2 credit lecture, 1 credit lab (meets for two hours)
 - computer security issues: password selection, networks, botNets

Expected outcome

- Increase student awareness on computer security issues from the start

IA Threads

- Implementation of Information Assurance topics in some BSIT/BSCS courses
 - Operating system
 - Software Engineering
 - Databases

IA Research

- Additional courses to be developed for a future ***research concentration in Information Assurance*** could include:
 - Wireless Security
 - Security Management
 - Computer/Handheld Forensics

Why? “Just Say No”

- There are three major concerns when teaching ethical hacking to students

First Concern

Concern that we may be teaching dangerous skills to those who are not yet able to make mature decisions about when this is appropriate. A recent study showed one\third of faculty held this concern (Livermore).

- Some may think that it is just fun
- Some may consider hacking as a prank

Second Concern

Some students, while excellent students, may have backgrounds that would make them unsuitable for such a class

- There are some who advocate screening students prior to the class.
- There are privacy issues to screening students prior to a class – except for academic issues

Third Concern

There is the issue of liability in hacking outside of laboratory experiments.

- Schools may be held liable.
- Faculty may be held liable.

There are those who advocate that students sign an honor code prior to class.

References

- Livermore, Jeffery, *What are Faculty Attitudes Toward Teaching Ethical Hacking and Penetration Testing?*, Proceedings of the 11th Colloquium for Information Systems Security Education, Boston University, Boston, MA, June 4-7, 2007.
- Aycok, John, Heather Crawford and Rennie deGraaf, *Spamulator: The Internet on a Laptop*, ITICSE'08. June 30-July 2, 2008, Madrid Spain.