

CTS2123 Introduction to Network Security

Term III (20123) - Summer 2012– Section 8520

SYLLABUS

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Course Meets: Directed Study

Course Description: Prerequisite: CNT1401 and (CET1610 or CNT2102 or Network+ certification). This course reflects an integrated classroom and laboratory experience in the fundamentals of computer network security. Instruction will examine the principles and mechanisms of network security. Topics include security policy development, security audits, legal aspects of computer crime, controlling systems and data access, and issues of common operating systems. This course prepares students to take the CompTIA Security+ certification exam. 45 class hours.

Course Objectives: Upon completion of course, with a minimum 70% accuracy:

1. The student will demonstrate knowledge and skills related to identifying security threats.
2. The student will demonstrate knowledge and skills related to hardening internal systems and services.
3. The student will demonstrate knowledge and skills related to hardening internetwork devices and services.
4. The student will demonstrate knowledge and skills related to securing network communications.
5. The student will demonstrate knowledge and skills related to managing a PKI.
6. The student will demonstrate knowledge and skills related to managing certificates.
7. The student will demonstrate knowledge and skills related to enforcing an organizational security policy.
8. The student will demonstrate knowledge and skills related to monitoring the security infrastructure.

Texts, Supplies etc.:

Activation Code for “SY0-301 LabSim”, Testout.com, ISBN978-1-935080-40-4 (3 year activation)

Promo Code to order LabSim directly from website: 14-232TA

Institution: Pasco-Hernando Community College - West

Instructor: Lederer, Karen

Make sure you select SY0-301

Once activated enroll in class CTS2123 Summer 2012

Requires Internet Explorer

Headset or earbuds

Folder for lab sheets (No notebooks)

At least one Flash Drive

Attendance: Directed Study students must either provide the necessary lab equipment at home or make arrangements to work in D214 lab. Students who receive federal financial aid must attend class, by participating in course work and assignments regularly, to ensure eligibility for their aid. Failure to do so may result in a reduction of awards and may require financial aid students to repay all or part of the aid received. Students are responsible completing course work on their own time.

Grading: Student performance is assessed as follows:

Assignments – 20%

Lab Folder– 20%

Module Exams – 20%

Midterm Exam – 10%

Final Exam – 30%

The midterm and final exam are both delivered via myPHCC. The required labs are contained in instructor supplied documents. These labs are designed to help you understand in a concrete way the material presented in the course.

Letter grade A: 90%+
Letter grade B: 80-89%
Letter grade C: 70-79%
Letter grade D: 60-69%

Course Workload: It is estimated that students will need to spend approximately 6 to 8 hours per week outside of class time, on this course.

Important Dates:

Last day to DROP/ADD - May 10, 2012
Last day to WITHDRAW or AUDIT - June 25, 2012

Right to Change Syllabus:

If necessary, some components of this syllabus may change. However, any changes will be announced in class. The student is responsible for any such changes.

Submission Policy: It is expected that you will complete all assignments by the due date. Credit may be deducted for assignments turned in after the due date. Generally, submissions up to one week late will be subject to a 5% deduction, two weeks late will be subject to a 10% deduction, and work turned in after the second week will not be graded. Of course you may have a legitimate reason for a late submission, related to health, family, or work. If so please contact the Professor in advance. Grading in this case will be at the Professor's discretion.

Other Course Policies: Any form of academic dishonesty will result in an automatic zero. Cell phones and pagers should be turned off during class. Failure to do so will result in the student being asked to leave. The use of classroom computers during class is strictly for this course's material and assignments. Any student using the computer during class time for other reasons will be asked to leave. In unusual circumstances, make-up tests can be arranged in advance with my consent, and will be administered within three days of the original test. Please be advised that my make-up tests will differ from the original and may be more difficult. As a general rule there are no extra credit assignments available. Additional course information can be found in my PHCC – Course FAQs.

Title IV Financial Aid Information:

You must attend class through 60% of the term. Failure to do so may require you to repay all or a portion of your Title IV Financial Aid (PELL, SEOG, ACG, and Stafford Loans) to the Federal Government and/or PHCC. If you have questions, contact the financial aid office on your campus.

Disability Statement:

Complying with the Americans with Disabilities Act (ADA), PHCC makes every reasonable effort to accommodate students with disabilities. However, the college requires documentation of a student's disability before providing accommodations for it. I wish you to have every opportunity to learn and participate in this class. Therefore, if you have any hearing, visual, or motor limitations which would impede your progress in this class, please let me know at the beginning of the term. I will make every reasonable effort to facilitate your learning within the physical realities of the classroom. It is also prudent to make your special needs known to PHCC's Coordinator of Services for Students with Disabilities, Mr. Ron Thiessen (727) 816-3236). See the PHCC Catalog/Student Handbook for additional information.

Equal Access/Equal Opportunity Commitment:

Pasco-Hernando Community College subscribes to and endorses equal employment and educational opportunity. Its policies and practices will ensure non-discriminatory treatment of all persons without regard to race, color, age, religion, marital status, gender, disability, or national origin.

Cheating and Plagiarism:

Plagiarism is the deliberate or unintentional use of someone else's work without giving them credit and passing off the material as one's own. It is a violation of PHCC student conduct and the moral ethics that guide higher education. Cheating is the giving or taking of information for the purpose of wrongfully aiding oneself or another person in academic work that is to be considered as part of a grade. If you are caught deliberately passing off someone else's work as your own or cheating on an exam, action will be taken in accordance with the disciplinary procedures outlined in the College Catalog/Student Handbook. Please refer to the College Catalog/Student Handbook for an explanation of what actions are considered cheating.

Course/Instructor Evaluations:

Course and instructor evaluations are an important part of each course taught at PHCC. Following the last day to withdraw for the semester, you will receive an e-mail notification that you should log into *myPHCC* to complete the "Course and Instructor Evaluation by Students" form for each course in which you are enrolled, whether the course is offered online or in person. You will be given one week to complete this evaluation. Reminder notices will be sent to assist you. Please be sure to complete this important evaluation for each of your courses. ***All students are strongly encouraged to submit this online evaluation. The evaluation you complete is submitted directly to the Office of Institutional Research and Assessment, NOT to your instructor, and is completely anonymous!***

Software Policy:

Students are to review the PHCC computer use policy in the College Catalog/Student Handbook. Only authorized College staff may download or install software on College equipment. Use, installation or downloading of software or other computer files without proper authorization or licensing may be a violation of Federal and/or State laws and/or Rules of the District Board of Trustees. Students found to have violated this policy may be subject to discipline in accordance with the College Catalog/Student Handbook.

All the software programs you will be using in this course have been copyrighted by the authors and developers of the programs. This means that it is a violation of law to copy the programs, or any part of them, without the advance written approval of the author or developer. You are hereby strictly prohibited from making any copy of any software program for any reason whatsoever. Violation of this policy will subject you to college disciplinary action and possible criminal penalties.

Smoking Policy:

Smoking is permitted only in specifically designated areas on PHCC campuses and at PHCC centers.

Withdrawal Policy:

Students who decide not to complete the course are advised to withdraw by the official deadline for withdrawal or change to audit. It is each student's responsibility to withdraw or change to audit by the appropriate deadline date.

Midterm Progress: Near the mid-point of the semester you should consider your academic performance to date. You have received some feedback in this course in the form of tests and assignments. Using this feedback and the information provided in this syllabus, you should have a good idea of your grade at this point. If your progress thus far is a "D" or an "F", you may want to talk to me. You should also make an appointment with an advisor in Student Services. These sessions can be used to clarify why you may be having difficulty, what courses are available for you to overcome your difficulties, and what course of action you may want to take. The deadline to withdraw or audit is stated under "Important Dates" elsewhere in the syllabus. You are encouraged to be aware of your level of academic performance at all times throughout the semester and to request help from instructors and Student Services personnel as you need it. All high school students who are dually-enrolled at PHCC must identify themselves as such to me. Because Student Services is required to provide grades to the high schools, I must provide a grade for every dually-enrolled high school student to the Student Services office at this time. Please remember that because you have earned a certain grade at this point does not automatically mean you will have earned the same grade at the end of the semester. If you believe that your grade at this point is above a "D", AND you are NOT a high school student who is dually-enrolled at PHCC, you need take no action at this time.

Code of Conduct: In Accordance with Florida Statutes, no student attending PHCC may participate in any activities that are disruptive to the normal, peaceful, and orderly operation of state institutions of higher learning. The following acts of misconduct are prohibited at or on any campus, at any clinical or internship site, and at any College sponsored or College-affiliated activity or event. All formal complaints alleging a violation of this Rule shall be subject to the student disciplinary procedure established pursuant to District Board of Trustees Rule 6Hx19-6.13, "Code of Student conduct and Student Disciplinary Policy", and set forth in Internal Management Memorandum #6-15, "Student Disciplinary Procedures." Any student who is found to have committed an act of misconduct may be disciplined in accordance with this Rule. If the student is suspected of violating a State or Federal law, the incident may be reported to the appropriate law enforcement agency. (See Student Catalog/Student Handbook for more details of Code of Conduct).

Schedule – CTS2123 Network Security

Directed Study – Summer 2012

Week	Topics for Discussion	LabSim & Reading For Class	Assignments / Lab	Due Dates
5/7	<p>Make arrangements to meet with Professor: Introduction to CTS2123 Course Overview Overview of LabSim: Browser based versus client-based</p> <p>See Audio Recording: Security overview Windows networking review Principal of Sec Review</p>	<p>Obtain your Activation Code – Follow “Activate Your Lab Sim” PDF or website instructions.</p> <p>Modules 0.1, 0.2 Module 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7</p> <p>Additional Reading – see myPHCC</p>	<p>Complete White Hat Agreement LAB: DOS Commands Review*</p> <p>Start your lab folder</p>	5/11
5/14	<p>See Audio Recording: Access Control models Authentication Identification Tokens Authorization Physical security Best practices</p>	<p>Module 1.1, 1.2, 1.3, 1.4, 1.5, 1.6</p> <p>Additional Reading – see myPHCC</p>	<p>LAB: Preparing our workstations* (VMWare: Server 2003) LAB: Server 2003 Security Policy Settings* LAB: Investigating Security Templates* LAB: Security Configuration Wizard*</p> <p>Assignment A1</p>	5/25
5/21	<p>See Audio Recording: Cryptography Hashing Symmetric and asymmetric encryption</p>	<p>Module 2.1, 2.2, 2.3, 2.4</p> <p>Additional Reading – see myPHCC</p>	<p>LAB: WinDump* LAB: Wireshark*</p>	
5/28	<p>See Audio Recording: OSI Model review PKI Implementing cryptography Protocols and ports Secure protocols</p>	<p>Module 3.1, 2.5, 2.6, 3.2, 2.7</p> <p>Additional Reading – see myPHCC</p>	<p>LAB: Hardening Server 2003* LAB: Installing a CA Hierarchy* LAB: Using Nmap*</p> <p>Assignment A2</p>	6/8
6/4	<p>See Audio Recording: IP Addressing Network authentication Remote access, radius, TACACS+</p>	<p>Module 3.3 – 3.9</p> <p>Additional Reading – see myPHCC</p>	<p>LAB: SoftPerfect Network Scanner*</p> <p>Assignment A3 – IP addressing</p>	6/15
6/11	<p>See Audio Recording: Network attacks Reconnaissance Common attacks Common device vulnerabilities Attacking switches</p>	<p>Module 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7</p> <p>Additional Reading – see myPHCC</p>	<p>LAB: SNORT Basics*</p>	
6/18	<p>Midterm</p> <p>See Audio Recording: Protecting our networks Firewalls DMZ</p>	<p>Module 5.1 – 5.7</p> <p>Additional Reading – see myPHCC</p>	<p>LAB: Complete SNORT Basics LAB: MySQL* LAB: More SNORT*</p>	6/18

	IDS Distribution layer security Access layer security Proxies Content filtering NAC		Assignment A4: IDS/IPS	6/29
6/25	OS security Password attacks OS hardening File security	Module 6.1, 6.2, 6.3, 6.4, 6.5 Additional Reading – see myPHCC	LAB: Capsa*	
7/2	Application security Web application issues Email problems Other network applications Virtualization	Module 7.1, 7.2, 7.3, 7.4, 7.5 Additional Reading – see myPHCC On your own, no classroom discussion: 7.6 – app development	LAB: Analyzing Log Files* LAB: BackTrack2* Assignment A5: Virtualization	7/13
7/9	Penetration testing Risk management Vulnerability assessment Final Exam	Module 9.3, 9.1, 9.2 Additional Reading – see myPHCC	LAB: NESSUS* LAB: The Dude* LAB: Backtrack5 Basics* Lab Folder Due	7/16

* Requires Classroom Equipment or Suitable Home Equipment