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**Department of Engineering, Computer Programming, and Technology**

Division of Computer Programming and Analysis

CTS 1120C – Introduction to Network Security



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**West Campus, online course for the Fall 2018 term.**

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| **Course Description**  **Prerequisites**: CTS 1134C. This course covers a broad overview of security topics related to information security including: cryptography, security baselines, and current attack and counter attack methods. The course covers methods to secure communications, Web security and hardening the network infrastructure. It also teaches the student to develop comprehensive security and management policies. It looks at both Windows and Linux security techniques for hardening the operating system. The objectives of this course are mapped to Comptia’s Security+ Certification Exam. |

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| **Instructor** | eisler_portrait1.png  Andrew Eisler, B.A., M.S., Ed.S. |
| **Title** | Professor, Computer Programming & Analysis |
| **Student Interaction Hours** | Monday (online) 9:00 am to 10:00 am (Canvas, 321-427-0938)  Tuesday (online) 9:00 am to 10:00 am (Canvas, 321-427-0938)  Wednesday (online) 9:00 am to 10:00 am (Canvas, 321-427-0938)  Thursday (online) 9:00 am to 10:00 am (Canvas, 321-427-0938)  Friday (online) 9:00 am to 10:00 am (Canvas, 321-427-0938) |
| **email** | **Canvas**or [aeisler@valenciacollege.edu](mailto:aeisler@valenciacollege.edu)  (Please use Canvas :)  Thank You! |
| **Location** | online |
| **Class Times** | NA |
| **Start Date** | 08/27/2018 (Monday) |
| **Course Credits** | 3.0 |
| **Contact Me** | (321) 427-0938 (cell phone (best way to contact me)) |
| **CRN** | 13561 |

**A syllabus is a roadmap for success in a particular course and is a contract between the student and the instructor.**  By participating in this course, the student agrees to, and accepts the terms and conditions of this contract. It is student’s responsibility to carefully read this syllabus, and to adhere to all college policies and course procedures within.  The following information provides an overview of the course and class practices.

**Major Competencies (what you will learn to do)**

1. Students will be able to explain and define general security concepts
2. Students will understand communications security
3. Students will understand and be able to develop infrastructure security
4. Students will understand and explain the basics of cryptology
5. Students will understand and be able to implement operational / organization security

**Required Text**

In this course, you will be using both Canvas and the LabSim Online learning environment throughout the semester. There is NO textbook for this course. You will need to ***purchase a LabSim Security+ activation code from the Campus Bookstore to activate your LabSim account.*** The instructions on how to correctly activate and register your LabSim account can be read from the Course Materials link on the left side of the screen. The title of the link is "LabSim Quick Start Guide for Students."

**Important !**

Email me as soon as you read the syllabus, register and explore LabSim, and explore the Canvas site.  **Emailing me will assure that you will not get dropped for non-attendance**.  Any student who fails to email me by the end of the first week of class will be withdrawn from the course.

**Web Site**

Supplementary information for the course is available at:

<https://learn.valenciacollege.edu/>

The Canvas Web site contains class notes, class announcements, the course syllabus, test dates, and other important information for the course.

**Email**

All students are requested to use their Canvas email account. **Emailed assignment submissions will not be accepted.**

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**Grading and Evaluation Criteria**

**Grading**

* The final course grade is based on percentages assigned to the quizzes, labs, and tests that are assigned throughout the course.
* A 89.5 to 100 %
* B 79.5 to 89.4 %
* C 69.5 to 79.4 %
* D 59.5 to 69.4 %
* F Below 59.4 %

**Points are available as follows:**

1. **Tests**

* Test 1: 100 points
* Test 2: 100 points

**Tests will count for 40 percent of the grade (20 percent each test).**

**2. Lab Assignment Points**

* There will be several labs and exams assigned throughout the semester via the LabSim website.**You are expected to complete ALL available labs and “test exams” offered to you in LabSim.  Labs and LabSim exams will account for 60 percent of the grade.**

**Test Policies:**

* All tests are in administered online.
* Make-up tests are possible if tests are missed, but format and content may vary from test to test. Medical (or other) documentation is required before a makeup exam can be arranged.
* The final exam may be comprehensive.
* Make up tests will not be given for the final exam.
* Exam dates can be found in the Syllabus, the Canvas Modules, and on the Canvas Course Calendar.
* The Final Exam is mandatory for all students or a grade of “F” will be awarded.

**Course Protocols**

* **Email:**email through Canvas is the best way to contact me.  Please check your email often (every day) for any important information about the course.
* **Missed Lectures**: Students are responsible for obtaining information about assignments and material covered or provided during missed lectures from other students in the course.
* **Late Assignments**: Assignments must be turned in person on the assigned day for full credit. There will be a 20% penalty for assignments turned in one day late within the due date and time. There will be a 25% penalty for projects turned in two days within the due date and time. No assignments will be accepted after two days after the Due Date.
* **Academic Integrity**: Plagiarism and cheating of any kind on an examination, homework, project, or any other assignment will not be tolerated. It may result in an “F’ for that assignment (and can, depending on the severity of the case, lead to an “F” for the entire course).  The violation may be subject to appropriate referral to the Office of Student Conduct for further action.
* More than **three unexcused** absences could result in grade F or Withdrawal from class.
* **Failing to take the final exam will result in grade F**.
* **It is the student’s responsibility to withdraw from the course**. Any withdrawal after the withdraw deadline could result in F.
* **No make-up labs, quizzes, homework, or exams are permitted** unless prior arrangement with the instructor has been made.
* You **must satisfactorily complete all course requirements** in order to receive a passing grade including: Laboratory Assignments, Exams, and Quizzes.
* **All assignments, examinations, and assessments are to be completed individually**. Cheating is prohibited: An incident of academic dishonesty would lead to withdrawing the student from the course with grade letter “F” and may also result in recommendation for expulsion from the program.
* In order to provide you with adequate support, **contacting the instructor via cell phone,**is a requirement for this course.
* **Keep all email communications within the Canvas email facility** unless your email is about communicating an emergency and/or about a situation of great urgency.

**Important Dates**

Please check the school’s calendar at:

<http://valenciacollege.edu/calendar/>

**Helpful Media **

For this class, you may find it useful to save your work on a flash drive because Valencia College PCs (if you use on-campus labs) may be formatted at night to repair any accidental corrupt files. A flash drive is portable memory storage. It is re-writeable and holds its memory without a power supply, unlike RAM, flash drives will fit into any USB port on a computer. They will also "hot swap," which means a user can plug the drive into a computer and will not have to restart it to access the flash drive. The drives are very stable memory storage devices. Or you can use the cloud (SkyDrive) storage.

**Course Requirements**

Basic computer navigation skills and access to a computer/Internet.

**Quality Expectations, Late Work, Missed Deadlines**

* All students in this course are future professionals and candidates for an Associates’ degree. You might be the best technologist on the planet, but all I know about you is the quality of the work you produce in our class. Your work is a direct reflection of you as a professional.
* I understand that occasionally our real lives overtake our school life so there is leeway for late assignments. Assignments must be turned in on the assigned day for full credit. There will be a 20% penalty for projects turned in one day late within the due date and time. There will be a 25% penalty for projects turned in two days within the due date and time. No assignments will be accepted after two days after the Due Date.
* Failure to upload an assignment correctly is the same as late.
* All tests must be taken during the open window timeline. **Once the exam window closes no make-up exams**.
* Make up exceptions:
  + If Canvas goes down or there’s a similar technical glitch, then I'll adjust the due dates.
  + If you have an emergency, health issue, extenuating circumstance, jury duty, military duty, contact me. I will need documentation from you before I allow any make-up.
* There is no extra credit anticipated in this course.
* Exams, including a final examination, are closed book. The purpose of this course is to prepare you for reading, understanding, and implementing computer concepts in the domain of wireless networks.
* Our class calendar on Canvas will help you keep on track.

**Electronic Class Work**

All class work is electronically submitted to Canvas. The Syllabus and Course Modules will map out each homework, quiz, exam, and reading assignment that is required based on due dates. If you do not understand please ask questions.

**Attendance Policy**

You will be held to the required hours of attendance. It is your responsibility to withdraw; I will not do that for you. You may **Withdraw by 11/09/2018** for a grade of W.  Please be safe in the lab if you are attending class on campus.  No drinks or food are allowed near the computers if you are taking an online class. The college recognizes the correlation between attendance and both student retention and achievement.  Any class session or activity missed, regardless of cause, reduces the opportunity of learning and may adversely affect a student's achievement in the course.  Class participation is required beginning with the first class meeting, and students are expected to attend all class sessions for which they are registered.  It is the responsibility of the student to arrange all make-up work missed because of legitimate class absences and to notify the instructor when an absence will occur.

The instructor determines the effect of absences on grades. However, students who are receiving financial aid or veterans' benefits, which are reported, as never attending a course, will be dropped from the class and benefits adjusted or rescinded.  In order to obtain credit for a course, a student must be in attendance at least 85% of the contact hours listed for a particular course.  The instructor may withdraw any student from the course if they miss more than 15% of the scheduled class sessions and activities.  Students must be enrolled before they can attend class.

**Instructor-Specific Attendance Policy**

Instructors are required to monitor their attendance and report students who are not attending class during the designated reporting periods - normally on a monthly basis - each term. Faculty members shall publish and distribute a class syllabus at the beginning of each course.  Instructors may require a more rigorous attendance policy due to program requirements or state mandates of 100% attendance.  Specific course requirements will be noted in their syllabi.

**Note**: Veterans should refer to the college catalog for more information about attendance.

**Your academic progress in required and that requires you to attend each meeting day where lack of progress and or absences could result in an impact to your grade. This includes not receiving a passing grade or loss of a letter grade regardless of your assignment grades. You should not miss more than 4 graded assignments. You should not miss more than 3 days.**

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**Academic Honesty and Plagiarism**

* Collaboration and discussion is encouraged in all course aspects other than actually completing the assigned work (exams, homework, projects, ). Indeed, collaboration often leads to increased understanding of the material being covered. If you have questions about an assignment, I encourage you to speak up and ask questions about it.
* Plagiarism is a form of fraud and will not be tolerated. You are expected to do your own wo Copying text or images from any source and claiming it as your own is considered plagiarism. Submitting copied text as your entire answer on a homework or project, even if you cite the source, is also a form of dishonesty. I want to read YOUR words, see your work, not someone else's.
* Any form of academic dishonesty will be appropriately address Valencia College subscribes to the plagiarism detection resource Turnitin.com.  This website provides online access to software designed to search the internet and compare submitted material to online content and provide the results of that comparison to the user and thus acts as a mechanism to reveal plagiarism.  All faculty reserve the right to request that assignments be submitted as electronic files and electronically submit assignments to Turnitin.com.  Assignments are compared automatically with a large database of journal articles, web articles, and previously submitted papers.  The instructor receives a report showing exactly how a student's paper was plagiarized.  For more information, go to http://www.turnitin.com and http:// [www.ugs.usf.edu/catalogs/0304/adap.htm (Links to an external site.)Links to an external site.](http://www.ugs.usf.edu/catalogs/0304/adap.htm) [. (Links to an external site.)Links to an external site.](http://www.ugs.usf.edu/catalogs/0304/adadap.htm#plagiarism)
* The complete Valencia College student code of conduct can be found on the following site: http://catalog.valenciacollege.edu/academicpoliciesprocedures/studentcodeofconduct/

**Office for Students with Disabilities**

Students with documented disabilities that desire to receive services including special testing conditions, or who need specific accommodations, should register with the Office for Students with Disabilities (OSD) in the Student Services Building (SSB), Rm. 102).  Please call the West Campus OSD office at (407) 582-1523. They will take care of you! There are no disadvantages in registering, and everything is kept confidential.  It does not get written on your transcript or diploma that services were ever received.  Services may not be received without registering. Additionally, services and accommodations are not retroactive.

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**Course Schedule**

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| **Date** | **Topics & Reading** | **Assignment Due** |
| **Week 1** | Introduction to the course  · Review Syllabus  · Class Café’ (Discussion Board)  · Enroll in LabSim   TestOut Security Pro **Chapter 1**  · Section 1.1 **Security Overview**  · LabSim assignment (labs and exams in:)  · Sections 1.1.1 through 1.1.8  · Section 1.2 **Using the Simulator**  · Sections 1.2.1 through 1.2.3    TestOut Security Pro: **Chapter 2**    Section 2.1 **Access Control**  · 2.1.1 Access Control Methods  · 2.1.2 Access Control Facts  · 2.1.3 Access Control Model Facts  · 2.1.4 Access Control Model Examples  · 2.1.5 Implementing Discretionary Access Control  · 2.1.6 Practice Questions Section 2.1  Section 2.2 **Authentication**  · 2.2.1 Authentication Part 1  · 2.2.2 Authentication Part 2  · 2.2.3 Authentication Facts  · 2.2.4 Using a Biometric Scanner  · 2.2.5 Using Single Sign-on  · 2.2.6 Single Sign-on Facts  · 2.2.7 Practice Questions Section 2.2 | Sep 3 at 11:59 PM |
| **Week** **2** | Section 2.3 **Authorization**  · 2.3.1 Authorization  · 2.3.2 Cumulative Access  · 2.3.3 Authorization Facts  · 2.3.4 Examining the Access Token  · 2.3.5 Practice Questions – Section 2.3    Section 2.4 **Access Control Best Practices**  · 2.4.1 Access Control Best Practices  · 2.4.2 Viewing Implicit Deny  · 2.4.3 Best Practices Facts  · 2.4.4 Practice Questions – Section 2.4    Section 2.5 **Active Directory Overview**  · 2.5.1 Active Directory Introduction  · 2.5.2 Active Directory Structure  · 2.5.3 Viewing Active Directory  · 2.5.4 Active Directory Facts  · 2.5.5 Practice Questions – Section 2.5    Section 2.6 **Windows Domain Users and Groups**  · 2.6.1 Creating User Accounts  · 2.6.2 Managing User Account Properties  · 2.6.3 Create User Accounts  · 2.6.4 Manage User Accounts  · 2.6.5 Managing Groups  · 2.6.6 Create a Group  · 2.6.7 Create Global Groups  · 2.6.8 User Account Management Facts  · 2.6.9 Practice Questions – Section 2.6    Section 2.7 **Linux Users**  · 2.7.1 Linux User and Group Overview  · 2.7.2 Managing Linux Users  · 2.7.3 Linux User Commands and Files  · 2.7.4 Create a User Account  · 2.7.5 Rename a User Account  · 2.7.6 Delete a User  · 2.7.7 Change Your Password  · 2.7.8 Change a User’s Password  · 2.7.9 Lock and Unlock User Accounts  · 2.7.10 Practice Questions – Section 2.7 | Sep 10 at 11:59 PM |
| **Week 3** | Section 2.8 **Linux Groups**  · 2.8.1 Managing Linux Groups  · 2.8.2 Linux Group Commands  · 2.8.3 Rename and Create Groups  · 2.8.4 Add Users to a Group  · 2.8.5 Remove a User from a Group  · 2.8.6 Practice Questions – Section 2.8  Section 2.9 **Linux User Security**  · 2.9.1 Linux User Security and Restrictions  · 2.9.2 Configuring Linux User Security and Restrictions  · 2.9.3 Linux User Security and Restriction Facts  · 2.9.4 Practice Questions – Section 2.9      Section 2.10 **Group Policy Overview**  · 2.10.1 Group Policy Overview  · 2.10.2 Viewing Group Policy  · 2.10.3 Group Policy Facts  · 2.10.4 Create and Link a GPO  2.10.5 Practice Questions – Section 2.10    Section 2.11 **Hardening Authentication 1**  · 2.11.1 Hardening Authentication  · 2.11.2 Configuring User Account Restrictions  · 2.11.3 Configure User Account Restrictions  · 2.11.4 Configuring Account Policies and UAC Settings  · 2.11.5 Configure Account Policies  · 2.11.6 Hardening User Accounts  · 2.11.7 Restrict Local Accounts  · 2.11.8 Secure Default Accounts  · 2.11.9 Enforce User Account Control  · 2.11.10 Hardening Authentication Facts  · 2.11.11 Practice Questions – Section 2.11    Section 2.12 **Hardening Authentication 2**  · 2.12.1 Configuring Smart Card Authentication  · 2.12.2 Configuring User Account Restrictions  · 2.12.3 Smart Card Authentication Facts  · 2.12.4 Using Fine-Grained Password Policies  · 2.12.5 Fine-Grained Password Policy Facts  · 2.12.6 Create a Fine-Grained Password Policy  · 2.12.7 Practice Questions – Section 2.12 | Sep 17 at 11:59 PM |
| **Week 4** | Section 2.13 **Remote Access**  · 2.13.1 Remote Access  · 2.13.2 Remote Access Facts  · 2.13.3 RADIUS and TACACS+  · 2.13.4 RADIUS and TACACS+ Facts  · 2.13.5 Practice Questions – Section 2.13    Section 2.14 **Network Authentication**  · 2.14.1 Network Authentication Protocols  · 2.14.2 Network Authentication via LDAP  · 2.14.3 Network Authentication Facts  · 2.14.4 Controlling the Authentication Method  · 2.14.5 Configure Kerberos Policy Settings  · 2.14.6 Browsing a Directory Tree via LDAP  · 2.14.7 Trusts and Transitive Access  · 2.14.8 Trusts and Transitive Access Facts  · 2.14.9 Credential Management  · 2.14.10 Credential Management Facts  · 2.14.11 Practice Questions – Section 2.15    Section 2.15 **Identity Management**  · Section 2.15.1 Identity Management  · 2.15.2 Identity Management Facts  · 2.15.3 Practice Questions – Section 2.15  **Test 1 (Covers TestOut LabSim Chapters 1 and 2 (all))**  **Test is located in Canvas under Contents - Week 4** | Sep 24 at 11:59 PM |
| **Week 5** | Section 3.1 Cryptography  · 3.1.1 Cryptography Concepts  · 3.1.2 Cryptography Facts  · 3.1.3 Cryptographic Attacks  · 3.14 Cryptographic Attack Facts  · 3.1.5 Practice Questions – Section 3.1    Section 3.2 Hashing (3.2.1 through 3.2.4)  Section 3.3 Symmetric Encryption (3.3.1 through 3.3.5)  Section 3.4 Asymmetric Encryption (3.4.1 through 3.43)  Section 3.5 Public Key Infrastructure (PKI) (3.5.1 through 3.5.8)  Section 3.6 Cryptography Implementations (3.6.1 through 3.6.4) | Oct 1at 11:59 PM |
| **Week 6** | Chapter 4 Policies, Procedures, and Awareness  Section 4.1 Security Policies (4.1.1 through 4.1.11)  Section 4.2 Manageable Network Plan (4.2.1 through 4.2.4)  Section 4.3 Business Continuity (4.3.1 through 4.3.4)  Section 4.4 Risk Management (4.4.1 through 4.4.5)  Section 4.5 Incident Response (4.5.1 through 4.5.7)  Section 4.6 Social Engineering (4.6.1 through 4.6.6) | Oct 8 at 11:59 PM |
| **Week 7**  (next to last week . . .) | Section 4.7 Certification and Accreditation (4.7.1 through 4.7.4)  Section 4.8 Development (4.8.1 through 4.8.5)  Section 4.9 Employee Management (4.9.1 through 4.9.5)  Section 4.10 Third-Party Integration (4.10.1 through 4.10.3)    Chapter 5 Physical Security    Section 5.1 Physical Security (5.1.1 through 5.1.5)  Section 5.2 Hardware Security (5.2.1 through 5.2.4)  Section 5.3 Environmental Controls (5.3.1 through 5.3.6)  Section 5.4 Mobile Devices (5.4.1 through 5.4.7) | Oct 15 at 11:59 PM |
| **Week 8** | **Test 2** | Oct 22 at 11:59 PM |

**Disclaimer**

The Syllabus is subject to change at any time and in any manner – Professor Eisler will announce any changes by Announcement in Canvas.

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Andrew Eisler, B.A., M.S., Ed.S.

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