Advanced Network Security CTS 2127

This course is a study of advanced information system security concepts, including those of the ten network security domains. By the completion of this course, you will be able to design access controls, assess and manage risks, and manage operational and physical security to support organizational missions. Students will study hardware and software reliability and security using currently available technology. Emphasis will be placed on security analysis of the system, physical threats to systems, virus protection, systems recovery, and encryption. Prerequisite: CIS 1352 or consent of the department.

Marcus Dabai

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A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less

The Chipola Catalog provides policies and procedures regarding the grading system. A student’s Grade Point Average is derived from the grading system/quality point scale.

Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day
Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

**MAKE-UP POLICY:**
Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

**ACADEMIC HONOR CODE POLICY:**
Students are expected to uphold the Academic Honor Code. Chipola College’s Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

**STUDENTS WITH DISABILITIES POLICY:**
Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola’s goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

**LIBRARY AND ON-LINE REFERENCE MATERIALS:**
The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the **LINCCWeb** icon on the Chipola Library website at [www.chipola.edu/library](http://www.chipola.edu/library). If you have questions about database usage consult the “How to Use the Chipola Databases” on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

**TECHNOLOGY RESOURCES:**
The college’s learning management system is **Canvas**. Classes become available on Canvas on the first day of the semester. It is the student’s responsibility to log onto the Canvas system the first day of class to establish the first day of attendance and to check announcements. All official class communication must be through Canvas. For further information, contact your instructor or the Director of eLearning. The Canvas support hotline is available online in live chat and on the phone, toll-free, at 855-308-2812 for any issues in accessing or utilizing Canvas. The **Information Technology**
Center, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website.

TUTORING RESOURCES:
Chipola College has contracted Smarthinking, a Pearson Company, for online tutoring services, accessible especially from 5 p.m. to 8 a.m. It can be accessed through Canvas. Additionally, the Academic Center for Excellence (ACE) Lab, located in Building L, offers free tutoring from 8 a.m. to 5 p.m. and is equipped with computer workstations. Lab hours are posted each semester at the room entrance.

ELECTRONIC DEVICE USAGE:
All electronic devices such as cell phones, beepers, pagers, and related devices are to be silenced prior to entering classrooms and/or laboratories to avoid disruption. Should it become necessary for a student to leave his/her “device” on to send or receive an emergency call and/or text message, the student must inform the instructor prior to class. If the student finds it necessary to send and/or receive an emergency call and/or text message during class/lab time, he/she is instructed to take all books and belongings and step outside the classroom to deal with the situation. To minimize classroom disruption and the distraction to classmates, the student will not be permitted to reenter the classroom during that class period. Any time a test is being administered, all such devices must be turned off and put away. If a device is seen or heard during an exam, a score of zero will be given for that exam. Initial and repeated infractions may result in disciplinary action.

DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:

Associate in Science degree in Computer Information Technology Learning Outcomes:

CIT-1 Understand, install, configure, monitor, use, and troubleshoot computer hardware and software. [1.0, 2.0, 3.0, 4.0, 6.0, IT Support 12.0, 13.0]
CIT-2 Understand, install, configure, monitor, use, and troubleshoot network hardware and software. [8.0, 9.0]
CIT-3 Demonstrate general computing workplace competencies, including employability skills, interpersonal & customer service skills, and user support skills. [11.0, IT Support 12.0, 13.0, 14.0, 15.0]
CIT-4 Demonstrate project management skills. [10.0]
CIT-5 Perform database management and design tasks. [7.0]

Associate in Science degree in Network Systems Technology Learning Outcomes:

NST-1 Understand, install, configure, monitor, use, and/or troubleshoot computer hardware and software. [1.0, 3.0]
NST-2 Understand, install, configure, monitor, use, and troubleshoot network hardware and software. [2.0, 4.0]
NST-3 Demonstrate general computing workplace competencies, including employability skills, interpersonal & customer service skills, and user support skills. [5.0, Server Admin 18.0]
NST-4 Demonstrate project management skills. [6.0]
NST-5 Depends on Specialization:
   A) Server Administration (Program Code 2181): Demonstrate advanced understanding of networked environments and perform network administration activities. [Server Admin Specialization 7.0-8.0]
   B) Network/Cybersecurity (Program Code 2182): Demonstrate proficiency in securing networks and data, including performing penetration testing and responding to cybersecurity incidents. [Network/Cybersecurity Specialization 7.0-9.0]
   C) Digital Forensics (Program Code 2183): Demonstrate understanding of forensic casework procedures and perform computer and mobile device forensic investigations. [Digital Forensics Specialization 7.0-14.0]

<table>
<thead>
<tr>
<th>COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR CTS 2127</th>
<th>DISCIPLINE-SPECIFIC COMPETENCIES</th>
<th>ASSESSMENT METHODS FOR COURSE LEVEL STUDENT LEARNING OUTCOMES</th>
<th>LEARNING ARTIFACTS FOR AS PROGRAM ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course, the student will be able to:</td>
<td>CIT-1 CIT-2 CIT-3 NST-1 NST-2 NST-3</td>
<td>H or Proj. or Q or T</td>
<td>H or Proj. or T</td>
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<td>2. Understand the Technologies used in Making a Networked Information System Secure and Assured.</td>
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<td>3. Understand U.S. Compliance Laws</td>
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<td>4. Explore Cryptography and Encryption</td>
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<td>9. Explain how to anticipate threats and develop procedures for recovery.</td>
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**Assessment Codes**
MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:

1. Attend and participate in class regularly.
2. Read all assigned material before class.
3. Study in-class notes and online (Canvas) materials.
4. Complete assigned projects in a timely manner to enable reflections and revisions on the final product.
5. Participate in discussions.
6. Demonstrate your mastery of the required skills on quizzes, exams, etc.
7. Complete all assignments with promptness and accuracy.
8. All written documents as well as online assignments must be completed using correct grammar, spelling, and structure.

The grading breakdown is subject to change at the discretion of the instructor.

Quizzes up to 40%
Test (which includes Midterm and Final) up to 60%
Assignments, Projects and/or Labs up to 40%
Participation up to 20%

Please see your first day handout for individual instructor grading schemes.

Academic Honesty: Do not attempt to get assistance on exams from any other individual; or to complete assignments or gain answers for quiz questions or assignments dishonestly. Please refer to the Chipola College Catalog and the Chipola College Student Handbook for information on the Academic Honor Code and the Academic Honor Code – Consequences. Academic dishonesty includes but is not limited to plagiarism, cheating, and misrepresentation on assignments, quizzes and/or exams.

ASSIGNMENT AND/OR COURSE OUTLINE

The following topics will be covered in this course at the discretion of the instructor:

Information Systems Security
Changing the Way People and Businesses do Business
Malicious Attacks, Threats, and Vulnerabilities
The Drivers of Information Security Business, Access Controls
Security Operations and Administration
Auditing, Testing, and Monitoring
Risk, Response, and Recovery
Cryptography, Networks and Communications
Malicious Code and Activity, Information Security Standards
Information Security Education and Training
Information Security Professional Certifications, US Compliance Laws

See your Instructor First Day Handout for individual instructor assignment schedule.