

CTC 362 – Communication Systems Security

Fall 2016

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Classroom	SCC-800	Class Time	TuTh 7:00PM-8:15PM
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CATALOG DESCRIPTION:

This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. Federal Government Guidance and regulations regarding Information Assurance and Cybersecurity are introduced.

PRE-REQUISITES

- CSC 116 Introduction to Hardware
- CSC 228 Introduction to Networks

TEXTBOOK

M. Whitman and H. Mattord. Principles of Information Security, 5th Edition
ISBN-13: 978-1-285-44836-7
ISBN-10: 1-285-44836-7

REFERENCE:

(For Rainbow Series reports see http://en.wikipedia.org/wiki/Rainbow_Series)

For Trusted Computers Networks

CSC-ST5-004-85 Technical Rationale Behind CSC-STD-003-85: Computer Security Requirements
NCSC-TG-011 Trusted Network Interpretation Environments Guideline (TNI)

SUBPART 239.71--SECURITY AND PRIVACY FOR COMPUTER SYSTEMS (TEMPEST: U.S. DEPARTMENT OF DEFENSE))

HTTP://WWW.ACQ.OSD.MIL/DPAP/DARS/DFARS/HTML/CURRENT/239_71.HTM

U.S. National Institute of Standards and Technology; Computer Security Division and Federal Information Processing Standards(FIPS) www.nist.gov

The Committee on National Security Systems Guidance/Directives <http://www.cnss.gov/>

US Department of Homeland Security CyberSecurity Division
<http://www.dhs.gov/files/cybersecurity.shtm>

MAKING:

Perform marking of sensitive information procedure (defined in C.F.R. 32 Section 2003, National Security Information – Standard Forms)
Define marking, handling, storing, and destroying of classified, unclassified, and sensitive information & media

EMSEC/TEMPEST:

Define and describe EMSEC/TEMPEST security as it relates to the risk management process
http://www.acq.osd.mil/dpap/dars/dfars/html/current/239_71.htm

NSTISSAM COMPUSEC/1-99

Describe purpose and contents of NSTISSAM COMPUSEC/1-99, Advisory Memorandum on the Transition from the Trusted Computer System Evaluation Criteria to the International Common Criteria for Information Technology Security Evaluation.

http://www.niap-ccevs.org/nstissam_compusec_1-99.pdf
<http://www.cnss.gov/full-index.html>
http://www.cnss.gov/Assets/pdf/nstissam_infosec_1-99.pdf

Trusted Computer Base (TCB)

Define trusted computer base (TCB) reference monitors and kernels

<http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA108831&Location=U2&doc=GetTRDoc.pdf>

COMSEC Policy

List National COMSEC Policies

List National COMSEC Procedures

http://www.cnss.gov/Assets/pdf/cnssp_1.pdf

<http://www.dtic.mil/whs/directives/corres/pdf/852301p.pdf>

COURSE GOALS:

The primary objective of this course is to teach students to analyze the vulnerabilities and related solutions in the area of networking, computer systems and imaging. The course presents solutions ranging from cryptography and its applications to intrusion detection and practical countermeasures against network attacks through watermarking of images and biometric identification techniques. Federal Government and Industry guidance on Information Assurance and Cybersecurity are introduced.

SPECIFIC INSTRUCTIONAL GOALS:

The purpose of the course is to provide the student with an overview of the field of Information Security and Assurance.

STUDENT LEARNING OUTCOMES:

Upon completion of this course, students will be able to:

- Identify and prioritize information assets.
- Identify and prioritize threats to information assets.
- Define an information security strategy and architecture.
- Plan for and respond to intruders in an information system
- Describe legal and public relations implications of security and privacy issues.
- Present a disaster recovery plan for recovery of information assets after an incident
- Identify resources available from Federal Government and Private Industry which can help address Information Assurance and Cybersecurity Issues.

ATTENDANCE:

Students are expected and encouraged to attend lectures and contribute to discussions. It is the student's responsibility to contact the instructor as early as possible if he/she cannot attend class. There will be no make-up opportunities, although all classes will have companion videos available on line.

The student is responsible for materials missed during an absence, whether excused or not. Classes will start at the prescribed time and will end at the prescribed time. Instructor will be available during the posted office hours and you may make an appointment for times not posted.

GRADING BREAKDOWN:

Test #1	20%
Test #2	20%
Final Exam	25%
Labs/quizzes	35%
	100%

Evaluation criteria explained:

- Students are expected to be active participants in each class meeting. Full credit for participation will be extended to students who regularly ask questions, share observations, and contribute relevant personal experiences.
- The mid-term examination will consist of objective questions and will require a technological comprehension that covers the lecture material and assigned readings.

The assignments will consist of a number of individual in class and homework tasks.

Students will be given specific guidance on the amount of collaboration permitted for each assignment. Unless otherwise specified, all assignments are individual assignments, and thus must be completely the original work of the student submitting them and include proper citations to the published work of others.

Quizzes:

Quizzes may be given throughout the semester, at a rate of approximately 1 per chapter. Quizzes will always cover the material covered since the last Quiz or Exam. The quizzes will be combinations of objective and short-answer questions. Quizzes will be administered online via Blackboard. Makeup quizzes will not be given. However, the lowest quiz grade will be dropped. Any class material missed by the student is the student's responsibility to acquire.

GRADING SCALE:

96-100 = A 90-95 = A- 87-89 = B+ 83-86 = B 80-82 = B-
77-79 = C+ 73-76 = C 70-72 = C- 67-69 = D+ 63-66 = D below 60 = F

GENERAL POLICIES:

ACADEMIC HONOR CODE

Programming assignments must be done individually. Failure to do so will result in a violation of the CSUDH Academic Honor Code. The following cases will be considered as violations: identical code, and extremely similar code. Violations will be reported to the Office of Vice President of Academic Affairs. Disciplinary action will be taken against any student who alone or with others engages in any act of academic fraud or deceit (Read University Regulations in University Catalog). It is the student's responsibility to ensure they fully understand to what extent they may collaborate or discuss content with other students. No exam work may be performed with the assistance of others or outside material unless specifically instructed as permissible. If an exam or assignment is designated "no outside assistance" this includes, but is not limited to, peers, books, publications, the Internet and the WWW. If a student is instructed to provide citations for sources, proper use of citation support is expected.

ATTENDANCE POLICY

Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class.

STUDENT ACADEMIC APPEALS PROCESS

Authority and responsibility for assigning grades to students' rests with the faculty. However, in those instances where students believe that miscommunication, error, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

ADA STATEMENT

Students with disabilities, who believe they may need an academic adjustment in this class, are encouraged to contact me as soon as possible to better ensure receipt of timely adjustments.