



358158: FUNDAMENTALS OF CYBERSECURITY COM SCI-X 420.1

Winter 2018 Section 1 4 Credits 01/09/2018 to 03/13/2018
Modified 10/12/2017

Contact Information

UCLA Extension Public Contact:

Phone: 

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Instructor:

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Description

This course combines theoretical security models with practical state-of-the-art examples for a comprehensive and useful introduction to this field and should benefit auditors, system administrators, or anyone else with a basic understanding of information technology. Topics include security policies, risk analysis, cryptography, and network security. Course material is consistent with relevant portions of the Certified Information System Security Professional (CISSP) certification exam's Common Body of Knowledge (CBK).

Objectives

By the end of this course, a successful learner should be able to:

1. Understand the role of a security policy, and how an organization can manage information security
2. Understand how security relates to risk, and the role of a risk analysis
3. Understand the strengths and weaknesses of various authentication methods
4. Understand how proper software development can reduce security risks, and describe the types of vulnerabilities poorly written software can experience
5. Understand the importance of hardware security mechanisms in enforcing all other technical security controls
6. Know how the various layers of the network protocol stack contribute to security
7. Understand the basics of cryptography, including the differences between public and private key cryptography

Materials

The required text is **All-In-One CISSP**, Seventh Edition by Shon Harris and Fernando Maymi, McGraw Hill, ISBN-13: 978-0071849272 and ISBN-10: 0071849270

Evaluation

Criteria

Assignment Type	Points	Percentage of Final
Weekly discussion questions	50	50%
Midterm	25	25%
Final	25	25%
	100 Points	100%

Weekly discussions must be posted by the due date, or one point out of 5 will be deducted.

Breakdown

A+	100 %	to 97.0%
A	< 97.0 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
F	< 70.0 %	to 0.0%

Institutional Policies

Student Conduct

Students are subject to disciplinary action for several types of misconduct or attempted misconduct, including but not limited to dishonesty, such as cheating, multiple submission, plagiarism, or knowingly furnishing false information to the University; or theft or misuse of the intellectual property of others or violation of others' copyrights. Students are encouraged to familiarize themselves with policy provisions which proscribe these and other forms of misconduct at: <https://www.uclaextension.edu/pages/str/studentConduct.jsp> (<https://www.uclaextension.edu/pages/str/studentConduct.jsp>)

Services for Students with Disabilities

In accordance with the Americans with Disabilities Act of 1990, UCLA Extension provides appropriate accommodations and support services to qualified applicants and students with disabilities. These include, but are not limited to, auxiliary aids/services such as sign language interpreters, assistive listening devices for hearing-impaired individuals, extended time for and proctoring of exams, and registration assistance. Accommodations and types of support services vary and are specifically designed to meet the disability-related needs of each student based on current, verifiable medical documentation. Arrangements for auxiliary aids/services are available only through UCLA Extension's Office for Students with Disabilities at (310) 825-0183 or by email at access@uclaextension.edu (<mailto:access@uclaextension.edu>). For complete information see: <https://www.uclaextension.edu/pages/str/studentswithDisabilities.jsp> (<https://www.uclaextension.edu/pages/str/studentswithDisabilities.jsp>)

Incompletes

Your instructor may post the interim grade *Incomplete/I* if at the end of the class your overall work is of passing quality but a portion could not be submitted for understandable reasons (e.g. illness). It is your responsibility to petition your instructor for permission to submit work late and to provide an explanation, and it is his or her sole decision whether to accept the explanation. If permitted, the *Incomplete/I* grade will be posted and a time frame defined for you to submit the missing work, ranging from one to twelve weeks. *Incomplete/I* grades that remain unchanged after twelve weeks will lapse to *F*, *NP* or *U*. Receiving an *I* grade entitles you to submit only the missing work your instructor has agreed to accept late, and does not allow other work to be retaken or oblige UCLA Extension to provide continuing access to course materials via Canvas. The *Incomplete/I* grade is not an option for courses that do not bear credit, such as 700, 800, or 900-level courses. For complete information, see: <https://www.uclaextension.edu/pages/str/grading.jsp> (<https://www.uclaextension.edu/pages/str/grading.jsp>)

All Grades are Final

No change of grade may be made by anyone other than the instructor, and then, only to correct clerical errors. No term grade except Incomplete may be revised by re-examination. The correction of a clerical error may be authorized only by the instructor of record communicating directly with personnel of Student and Alumni Services.

Sexual Harassment

The University of California is committed to creating and maintaining a community where all individuals who participate in University programs and activities can work and learn together in an atmosphere free of harassment, exploitation, or intimidation. Every member of the community should be aware that the University prohibits sexual harassment and sexual violence, and that such behavior violates both law and University policy. The University will respond promptly and effectively to reports of sexual harassment and sexual violence, and will take appropriate action to prevent, to correct, and when necessary, to discipline behavior that violates our policy.

All Extension students and instructors who believe they have been sexually harassed are encouraged to contact the Department of Student and Alumni Services for complaint resolution: UCLA Extension, Suite 113, 10995 Le Conte Ave., Westwood; Voice/TTY: (310) 825-7031. View the University's full Policy on Sexual Harassment and Sexual Violence at <http://policy.ucop.edu/doc/4000385/SHSV> (<http://policy.ucop.edu/doc/4000385/SHSV>).

Additional Items

About Your Online Course Materials

Please note the following about online course components at UCLA Extension:

- Students must have basic computer skills, including the use of word processing software, email, and the ability to use internet browsers, such as Safari, Firefox, or Chrome.
- Students are responsible for meeting the technical requirements of Canvas and familiarizing themselves with the Canvas Learning Management System.
 - What are the basic computer specifications for Canvas?
<https://guides.instructure.com/m/4214/l/82542-what-are-the-basic-computer-specifications-for-canvas>
 (https://guides.instructure.com/m/4214/l/82542-what-are-the-basic-computer-specifications-for-canvas)
 - Which browsers does Canvas support? <https://guides.instructure.com/m/67952/l/720329-which-browsers-does-canvas-support>
 (https://guides.instructure.com/m/67952/l/720329-which-browsers-does-canvas-support)
- Students are responsible for keeping a copy of all assignments and work submitted, and to be aware of all assignments, due dates, and course guidelines.
- Students are encouraged to keep and/or download a local copy of their assignment files, as **access to the online environment of a specific course is limited to 30 days after the final course date**, as listed in the course catalog.

If you need assistance downloading student materials from your course, please contact Canvas Support or the UCLA Extension Learning Support Team.

UCLA Extension Learning Support

Email: support@unexonline.zendesk.com (mailto:support@unexonline.zendesk.com)

Phone: Toll-free at (866) 269-7289 (US only) or (310) 206-4563.

Monday - Friday, 7am to 6pm (Pacific Time).

Website: <http://support.uclaextension.edu> (http://support.uclaextension.edu/)

The UCLA Extension learning support team assists both students and instructors with Canvas-related technical support, as well as general administrative questions.

For additional support on using Canvas or addressing a technical issue:

Click on the "Help" button on the lower left corner of the screen from within the Canvas system, where you can chat live with a technical support agent or submit a ticket for assistance.

Schedule

Unit	Topics	Activities
1	Introduction and Information Security overview	Video lectures and lecture notes
2	Information security Governance and Risk Management part 1	Ch 1, p 1-45; p 94-101
3	Information security Governance and Risk Management part 2	Ch 1, p86-94; Ch 2 p193-206
4	Access Control part 1	Ch 5 p. 721 – 786
5	Access Control part 2	Ch 5 p. 787 – 836

Unit	Topics	Activities
6	Software Development Security	Ch 8, 1077 – 1111; 1146 – 1154; 1178 – 1192
7	Hardware and Operating System Security Protections	Ch 3 -247 – 298
8	Telecommunication and Network security	Ch 4, 479 – 511, 581-608; 649 – 677
9	Cryptography	Ch 3 – p 335-398; (skip PKI); 409 – 414