

Lassen Community College Course Outline

CS 154 IT Security: Defense against the digital dark arts 0.0 units

I. Catalog Description

This is the fifth of five courses that aims to prepare students for a role as an entry-level IT Support Professional. Once all five courses are completed students will be eligible for the IT Support Professional Certificate. In this course, students are introduced to IT security concepts, tools, and best practices. It discusses the three As of information security: authentication, authorization, and accounting. It also covers network security solutions, ranging from firewalls to Wi-Fi encryption options. The course is rounded out by putting all these elements together into a multi-layered, in-depth security architecture, followed by recommendations on how to integrate a culture of security into an organization or team. This course has been approved for online and hybrid delivery.

Prerequisite(s): None

Transferable: Not transferable

30 hours lecture

Scheduled: Fall & Spring

II. Coding Information

Repeatability: Not Repeatable, Take 1 Time

Grading Option: Pass/No Pass

Credit Type: Non Credit

TOP Code: 070100

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

1. Demonstrate knowledge of how various encryption algorithms and techniques work and their benefits.
2. Apply the concepts of IT security to real life scenarios and make recommendations to protect user data
3. Identify the difference between authentication and authorization

B. Course Objectives

Upon completion of this course the student will be able to:

1. Evaluate potential risks and recommend ways to reduce risk.
2. Understand the Various authentication systems and types.
3. Make recommendations on how best to secure a network
4. Help others to understand security concepts and protect themselves.

IV. Course Content

- A. Understanding Security Threats
- B. Cryptology
- C. AAA Security

- D. Securing Your Networks
- E. Defense in Depth
- F. Creating a Company Culture for Security

V. Assignments

A. Appropriate Readings

1. Technical Support Journals
2. Professional Blogs on Cybersecurity
3. Cybersecurity Reports and Projections

B. Writing Assignments

A written security plan for a mock organization that demonstrates knowledge of risks, user interface and data protection.

C. Quizzes

Weekly online quizzes

D. Virtual labs

Qwiklabs activities to simulate hands on computer security.

VI. Methods of Evaluation

Traditional Classroom Evaluation

Term paper (topic choice, thesis statement, outline, bibliography, rough draft, final draft), homework (analysis of current economic problems), classroom discussion, essay, journals, and multiple choice problems.

Hybrid Evaluation

All quizzes and exams will be administered during the in person class time. Students will be expected to complete online assignments and activities equivalent to in class assignments and activities for the online portion of the course. Electronic communication, both synchronous and asynchronous will be evaluated for participation and to maintain effective communication between instructor and students.

Online Evaluation

A variety of methods will be used, such as: research papers, asynchronous and synchronous (chat/forum) discussions, online quizzes and exams, posting to online website and email communications using the districts approved learning management system.

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

- | | |
|--|---|
| <input checked="" type="checkbox"/> Traditional Classroom Delivery | <input type="checkbox"/> Correspondence Delivery |
| <input checked="" type="checkbox"/> Hybrid Delivery | <input checked="" type="checkbox"/> Online Delivery |

Traditional Classroom Delivery

Lecture, discussion, audio/visual aids, demonstration, group exercises, guest speakers, lab, individualized programs and other as needed.

Hybrid Delivery

A combination of traditional classroom and online instruction will be utilized. Each semester a minimum of 17 hours, or 1/3 of the lecture hours, will be taught face-to face by the instructor and the remaining hours will be instructed online through the technology platform adopted by the District. Traditional class instruction will consist of exercises/assignments, lectures, visual aids, and practice exercises. Online delivery will consist of exercises/assignments, lecture posts, discussions, adding extra resources and other media sources as appropriate.

Online Delivery

A variety of methods will be used, such as: research papers, asynchronous and synchronous (chat/forum) discussions, online quizzes and exams, posting to online website and email communications using the districts approved learning management system.

VIII. Representative Texts and Supplies

All course materials, including readings and texts are available through Coursera

IX. Discipline/s Assignment

Computer Science, Computer Information Systems

X. Course Status

Current Status: Active

Original Approval Date: 12/01/2020

Course Originator: Melinda Duerksen

Board Approval: 12/15/2020

Chancellor's Office Approval: 01/21/2021

Revised by: Melinda Duerksen

Curriculum/Academic Standards Committee Revision Date: 10/03/2023