

Syllabus

Introduction to Cybersecurity

Course Overview

This one-semester course is intended to introduce you to the concepts of cybersecurity. This course has 13 lessons and 5 Course Activities. Each lesson contains one or more Lesson Activities.

In Introduction to Cybersecurity, you will examine key cybersecurity concepts and programs. You will identify the different types of cybersecurity threats and errors. You will explain how to protect your computer system, networks, and data from various cyber attacks. You will describe the process of risk assessment, mitigation, and incident handling. You will examine various laws, standards, and ethical issues related to cybersecurity. Finally, you will explore the career opportunities in the field of cybersecurity.

Your teacher will grade your work on the Course Activities, and you will grade your work on the Lesson Activities by comparing them with the given sample responses. The Course Activities (submitted to the teacher) and the Lesson Activities (self-checked) are major components of this course. There are other assessment components, namely the mastery test questions that feature along with the lesson and an end-of-semester test. These tests are a combination of simple multiple-choice questions and technology-enhanced (TE) questions.

Course Goals

By the end of this course, you will be able to do the following:

- Examine the key elements of key cybersecurity concepts and programs.
- Identify the different types of errors and threats in cybersecurity.
- Describe various security measures you can take to safeguard your computer system and operating system.
- Explain the features of different types of firewalls and describe how to create a network with a demilitarized zone (DMZ).
- Analyze the security options for wireless networks, virtual private networks (VPNs), and other evolving technologies.
- Examine the applications and techniques of cryptography.
- Describe the process of risk management, contingency planning, and incident handling.

- Examine various elements of cyber insurance.
- Examine the laws, standards, and ethical issues related to cybersecurity.
- Explore the career opportunities in the field.

General Skills

To participate in this course, you should be able to do the following:

- complete basic operations with word-processing software, such as Microsoft Word or Google Docs
- complete basic operations with presentation software, such as Microsoft PowerPoint or Google Docs presentation
- perform online research using various search engines and library databases
- communicate through email and participate in discussion boards

For a complete list of general skills that are required for participation in online courses, refer to the Prerequisites section of the Plato Student Orientation document, found at the beginning of this course.

Credit Value

Introduction to Cybersecurity is a 0.5-credit course.

Course Materials

- computer with Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft PowerPoint or equivalent

Course Pacing Guide

This course description and pacing guide is intended to help you keep on schedule with your work. Note that your course teacher may modify the schedule to meet the specific needs of your class.

Course Components and Grading Rubric

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight
Module. <i>Each module in this course contains an interactive tutorial and an associated mastery test. Tutorials may include one or more Lesson Activities that constitute tasks associated with the tutorial. The module score comes from a student's score on the mastery test.</i>	13	30%
Discussion. <i>Online discussions allow for higher-order thinking about terminal objectives. An online threaded discussion mirrors the educational experience of a classroom discussion. Teachers can initiate a discussion by asking a complex, open-ended question. Students can engage in the discussion by responding both to the question and to the thoughts of others. Each unit in a course has one predefined discussion topic; teachers may add more discussion topics.</i>	5	20%
Course Activity. <i>Course Activities are similar to Unit Activities in scope but may be found at any point in the course, either to prepare the student for new learning or to act as a performance-based activity required for a learning objective. Like Unit Activities, Course Activities include simple rubrics, and sample answers are available for teachers. Course Activities are teacher graded.</i>	5	30%
End of Semester Test. <i>The end of semester test (EOS) appears at the end of the course. Students are delivered a few items from every tutorial in the course in order to assess the major course objectives.</i>	1	20%
Total	24	100%

*Teachers may manually adjust these weights if desired, per district grading requirements.

Unit 1

Day	Activity/Objective	Type
1 day: 1	Syllabus and Plato Student Orientation <i>Review the Plato Student Orientation and Course Syllabus at the beginning of this course.</i>	Course Orientation
4 days: 2–5	Cybersecurity Errors and Threats <i>Identify and examine the different types of cybersecurity errors and threats.</i>	Lesson

Day	Activity/Objective	Type
4 days: 6–9	Cybersecurity Concepts and Programs <i>Examine cybersecurity concepts and describe the key elements of cybersecurity programs.</i>	Lesson
4 days: 10–13	Course Activity 1	Course Activity
1 day: 14	Para Jumble	Game
1 day: 15	Course Discussion 1	Course Discussion

Unit 2

Day	Activity/Objective	Type
4 days: 16–19	Protecting Your Computer System <i>Examine various security measures you can take to safeguard your computer system.</i>	Lesson
4 days: 20–23	Operating System Security <i>Examine various security measures you can take to safeguard your operating system.</i>	Lesson
1 day: 24	Course Discussion 2	Course Discussion
4 days: 25–28	Protecting Yourself From Cyber Attacks <i>Describe various safety measures you can take to protect yourself from cyber attacks.</i>	Lesson
4 days: 29–32	Course Activity 2	Course Activity

Day	Activity/Objective	Type
1 day: 33	Space Jumble	Game

Unit 3

Day	Activity/Objective	Type
4 days: 34–37	Firewalls and Server Management <i>Describe the features of different types of firewalls and explain how to create a network with a demilitarized zone (DMZ).</i>	Lesson
5 days: 38–42	Security of Virtual Private Networks <i>Examine the security options for virtual private networks (VPNs) and other evolving technologies.</i>	Lesson
5 days: 43–47	Security of Wireless Networks <i>Identify the components of wireless networks and examine various security options.</i>	Lesson
1 day: 48	Course Discussion 3	Course Discussion
1 day: 49	Thwack-A-Mole	Game
5 days: 50–54	Cryptography <i>Analyze the applications and techniques of cryptography.</i>	Lesson
4 days: 55–58	Course Activity 3	Course Activity

Unit 4

Day	Activity/Objective	Type
5 days: 59–63	Risk Management and Insurance <i>Explain the process of risk management and examine various elements of cyber insurance.</i>	Lesson
1 day: 64	Para Jumble	Game
5 days: 65–69	Contingency Planning and Incident Handling <i>Explain the process of contingency planning and describe the key elements of incident handling.</i>	Lesson
1 day: 70	Course Discussion 4	Course Discussion
4 days: 71–74	Course Activity 4	Course Activity

Unit 5

Day	Activity/Objective	Type
4 days: 75–78	Laws, Standards, and Ethics in Cybersecurity <i>Examine the laws, standards, and ethical issues related to cybersecurity.</i>	Lesson
1 day: 79	Course Discussion 5	Course Discussion

Day	Activity/Objective	Type
4 days: 80–83	Careers in Cybersecurity <i>Discuss the evolution of cybersecurity and explore the career opportunities in the field.</i>	Lesson
4 days: 84–87	Course Activity 5	Course Activity
1 day: 88	Space Jumble	Game
1 day: 89	Course Review	
1 day: 90	End-of-Semester Exam	Assessment

Course Map

You will achieve course level objectives by completing each lesson’s instruction, assignments, and assessments. For a detailed look at how the materials meet these objectives, review the [course map](#).