



**CodeHS**

# Texas Foundations of Cybersecurity Course



**Created by CodeHS**



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# Course Overview

## Texas Foundations of Cybersecurity



### Course Summary

In the Texas Foundations of Cybersecurity course, students develop the knowledge and skills needed to explore fundamental concepts related to the ethics, laws, and operations of cybersecurity by examining trends and operations of cyberattacks, threats, and vulnerabilities.

The skills obtained in this course prepare students for additional study in cybersecurity.

### Standards Alignment

This course is 100% aligned to the Texas state standards for Foundations of Cybersecurity. View the full aligned with the link below.

Course Documents	
Course Overview	<a href="https://codehs.com/course/TX_foundations_cyber/overview">codehs.com/course/TX_foundations_cyber/overview</a>
Course Syllabus	<a href="https://codehs.com/syllabus/21289">codehs.com/syllabus/21289</a>
Standards Alignment	<a href="https://codehs.com/standards/TX_Foundations_of_Cyber">codehs.com/standards/TX_Foundations_of_Cyber</a>

### How to Preview the Course

Go to [codehs.com/login](https://codehs.com/login) and enter the following TEA teacher credentials to preview the Texas courses on CodeHS.

#### TEA Teacher Account Credentials

**Username:** TXdemo

**Password:** Texas123

 **Navigation Guide:** [codehs.com/navguide](https://codehs.com/navguide)

# CodeHS Pro License

Everything you need to teach, all in one spot.



**30,000+**

Classrooms Using  
CodeHS Per Month

**4 million**

Students Learning  
to Code on CodeHS

**CodeHS is a comprehensive computer science teaching platform.**

We provide standard-aligned K-12 curriculum, customizable PD, and a suite of teachers tools including a coding LMS and IDE with real-time collaboration.

## What's included with a CodeHS **Pro** License?

Access to the full CodeHS platform and curriculum including:

- ✓ Customizable Gradebook
- ✓ Fast Grade
- ✓ AI Hints & Grading Tools
- ✓ Assessment Reports
- ✓ Detailed Lesson Plans
- ✓ Online & Offline Handouts
- ✓ Real-Time Student Data
- ✓ Assignment Configuration
- ✓ Access Controls
- ✓ Due Date Settings
- ✓ Integrations for District Platforms
- ✓ Dedicated Support & more!

## Learn More

If you have questions, require additional information, or would like a CodeHS demo, please reach out to us at [hello@codehs.com](mailto:hello@codehs.com).

# Course Outline



## Texas Foundations of Cybersecurity

Module	Description
<b>What is Cybersecurity?</b>	Students explore the basics of cybersecurity. Students will learn about why cybersecurity is important, recent threats to cybersecurity, and different careers in the field.
<b>Digital Citizenship and Cyber Hygiene</b>	Students learn topics on Internet etiquette, how to stay safe on the web, potential effects of digital footprints, how to protect their information, and the implications of cyberbullying.
<b>Project: Public Service Announcement</b>	For this project, students create a Public Service Announcement (PSA) to teach their peers about digital citizenship and cyber hygiene. Students can select any of the topics covered so far.
<b>The ABCs of Cryptography</b>	Students dive into the history of cryptography systems, the motivation behind using encryption systems, and basic cryptography systems. Additionally, students explore topics on how to use cryptography, cryptology, and cryptanalysis to decode a message without the use of a key.
<b>Project: Classic Cipher Newscast</b>	In this project, students will get to create a newscast! This could be pre-recorded or presented live. Students will write, rehearse, and perform an approximately 5 – 10 minute newscast with their team. Each team will be given a different <b>**classic cipher**</b> (beyond Caesar and Vigenere) to research and address in their newscast.

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<b>System Administration</b>	Students compare and contrast common operating systems (Windows, Linux, OS) and explain the importance of application security. Students investigate security options and implement user accounts to enforce authentication and authorization. Students also demonstrate how to work with basic and advanced command prompts.
<b>Software Security</b>	Students learn what happens when running a web application and how to look inside web apps using developer tools, source code, and more. Students learn basic SQL and common attacks like SQLi, and by the end of the module, students will be able to recommend solutions for flawed security systems.
<b>Project: Security Assessment Report (SQLi)</b>	In this project, students work as a consultant to a (fake) reputable company. They are tasked with testing the company's website for SQL injection and writing a security assessment report based on your findings.
<b>Networking Fundamentals</b>	Students explore the structure and design of the internet and networks, and how this design affects the reliability of network communication, the security of data, and personal privacy. Students learn how the Internet connects computers all over the world by using networking protocols.
<b>IT Infrastructure</b>	Students learn about the physical elements of computers and networking, such as motherboards, RAM, routers, and the use of port numbers, ethernet, and wireless devices.

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<b>Project: Troubleshooting</b>	In this project, students explore the troubleshooting methodology and utilize it to solve sample IT support issues.
<b>Project: IT Professional</b>	In this project, you will explore cybersecurity career pathways and build skills that will be needed within these fields such as communication.
<b>Project: Digital Forensics</b>	In this project, students will work through fictitious forensic cases to practice collecting, examining, analyzing and reporting on data that they have unveiled.
<b>Cyber Defense</b>	In this module, you will explore different types of network attacks & how to build up security walls to defend against them.
<b>Project: Put it in Writing!</b>	In this project, students develop a training policy that informs employees on matters of network security & details the company policy on preventative measures employees should take.
<b>Risk Management</b>	In this module, you will demonstrate skills in conducting vulnerability scans and recognizing vulnerabilities in security systems. You will conduct a security audit and examine port scanning, packet sniffing, and proxy servers to discover exploits in a system. You will also be able to recommend security measures to mitigate the vulnerabilities.
<b>Project: The Game of Risk</b>	In this project, you will design and create a board game or a card game that will help players to identify randomized security vulnerabilities and their appropriate defenses.

Questions? Please email the CodeHS Team at [hello@codehs.com](mailto:hello@codehs.com).