

IOWA STATE UNIVERSITY

Teaching Computer Security Literacy at the High School Level

Why Teach Computer Security Literacy?

High school students are in near constant contact with the Internet and as schools incorporate more technology into curricula, students need to be aware of computer security issues and how to take steps towards mitigating the realistic security threats they may encounter.



Approach

A semester-long curriculum is being developed that focuses on learning computer security from the user's point-of-view.

The project contains materials for high school educators designed to be easy to understand and easy to use while subduing any fear educators may have about teaching the technology concepts in the classroom.

Materials are available free of charge by a creative commons license and include:

- Videos
- Activities & Worksheets
- Writing Assignments
- Enrichment Activities
- Projects
- Discussion Guides
- Assessments
- Teacher Tools

Moving Forward

The foundation of the high school curriculum is currently available for teachers to begin integrating into their classrooms. Work continues as new lessons and activities are being developed. A lab component will be integrated into the curriculums with modules designed to let students and teachers gain hands-on experience for different security scenarios they may encounter through virtual machines.

Acknowledgements

- Materials are based on information presented in Computer Security Literacy: Staying Safe in a Digital World by Douglas Jacobson and Joseph Idziorek.
- Videos were written by Douglas Jacobson and Dale Grauman and storyboarded, designed, edited and narrated by Dale Grauman.
- Funding for this project has been provided by the Department of Justice.

Benefits and Impact

The curriculum focuses on topics a user would face on a day-to-day basis, working to strengthen the weakest link in computer security, the user, by providing a concrete and applicable education regarding information technology. Students will relate the information they learn to real world situations through class-based discussions, case studies, and classroom assignments.

As a result, students will:

- define computer security terms and mechanisms.
- state computer security best practices.
- describe the strengths, weaknesses, and limitations of security mechanisms and concepts.
- give examples of common security threats, threat sources, and threat motivations.
- explain their role in protecting their own physical and non-physical computing assets.
- discuss current events topics and security articles
- critique computing actions in the context of security.

