

Instructional Scenario

Secure a Small Business



Course/Duty Area: Cybersecurity Fundamentals/Exploring Cybersecurity Fundamentals

Scenario:

Students act as a cybersecurity consultant team hired by a local small business of the student's choice. (The Business chosen must be one that would have an IT infrastructure that would need to be defended.) Each team will analyze the business's cyber risk, create a risk-management plan, and present practical recommendations that map to core cybersecurity concepts.

Big Question:

How should a small business establish its cybersecurity goals?

Focused Questions:

- What IT assets does this company have that will need to be defended?
- Identify the vulnerabilities to each asset identified.
- Which leg of the CIA triad would be compromised if the vulnerability were exploited?
- For each vulnerability, identify the threats that could pose a risk to the asset.
- Identify an appropriate risk management strategy for the risks identified.

Student Project or Outcome:

Students may work individually or in teams to produce a Video or PowerPoint Presentation that will progress through the focused questions given above.

Project-Based Assessment:

As the students describe the risks, they should display understanding of the following concepts:

- Confidentiality and integrity (including non-repudiation)
- The relationship between assets, vulnerabilities, threats, and risk
- Specific risks, such as email, social engineering, insider threats, network threats, physical threats (e.g., fire, floods), and threats stemming from software systems or user actions
- Risk strategies (e.g., assume, avoid, mitigate, transfer)
- Tools to mitigate threats (e.g., authentication, hashing/digital signatures, redundancy, backups)

Teacher Resources:

- [Cyber.org](https://www.cyber.org/)
- [Critical Infrastructure Sectors](https://www.cisa.gov/critical-infrastructure-sectors), Cybersecurity and Infrastructure Security Agency
- [What is the CIA Triad and Why is it important?](https://www.fortinet.com/resources/white-papers/what-is-the-cia-triad-and-why-is-it-important), Fortinet
- [What is Risk Mitigation? The Four Types and How to Apply Them](https://www.mhaconsulting.com/resources/white-papers/what-is-risk-mitigation-the-four-types-and-how-to-apply-them), Michael Herrera, MHA Consulting

Scenario submitted by Peyton Chichester, Chesterfield County Public Schools