COLLEGE OF ENGINEERING
COMPUTER SCIENCE
VIRGINIA TECH.

From CS@VT to...

Cybersecurity Engineer

***Cybersecurity Engineers** defend the digital world. They protect networks, applications, and data from hackers, malware, and insider threats. It's a career where problem-solving meets detective work: spotting vulnerabilities, building defenses, and staying one step ahead in an ever-changing landscape.*

Essential Foundations

The CS core is more than requirements – it's your security toolkit. These courses give you your technical and ethical backbone (see the CS Roadmap for a full list).

- **CS 2104 Problem Solving in CS** - logical reasoning is critical for spotting vulnerabilities
- **CS 3114 Data Structures & Algorithms** - efficient data handling reduces exploit risks
- **CS 3214 Computer Systems** - understand OS and memory, where attacks often strike
- **CS 3604 Professionalism in Computing** - security depends on ethics, trust, and responsibility

Your Go-To Electives

- **CS 4104 Data & Algorithm Analysis**
  reason about attack-resistant solutions
- **CS 3274 Software Reverse Engineering**
  dissect programs & uncover hidden behavior
- **CS 4224 Linux Kernel Programming**
  security starts at the operating system's core
- **CS 4254 Computer Network Architecture**
  build & defend secure communication systems
- **CS 4264 Principles of Computer Security**
  modern security practice and protocols

Capstone (CS 4094)
Cap it off with a project that's all you. Your team might tackle a secure app or penetration testing toolkit. Projects often cross pathways, but your focus can highlight your security skills