



Background

NC State is a leader for security research and education:

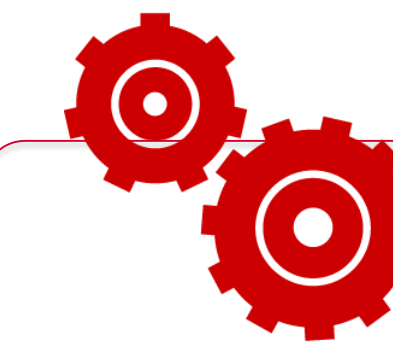
- ✓ NSA Center of Academic Excellence
- ✓ NSA Science of Security Lablet
- ✓ Security faculty have >60 years of cumulative experience

Course Materials “field-tested” and represent material from existing courses taught at NC State



Materials

- ✓ Lecture slides
- ✓ References to security community resources & online resources
- ✓ Active learning exercises & activities
- ✓ Guided lab activities
- ✓ Sample assignments & projects



Logistics

- ✓ In-person, online, or blended environments
- ✓ 15-week courses (customizable)
- ✓ Target audience: undergraduate (junior, senior) & graduate students



Courses

Introduction to Computer Security

for Undergraduate Students

- Cross-section of important security topics; OS security; forensics; firewalls; cybercrime; web security; privacy; social engineering

Introduction to Network Security

for Undergraduate Students

- Basic cryptography; identification & authentication; network attacks & defenses; malware & defense mechanisms

Computer & Network Security

for Graduate Students

- Basic cryptography; identification & authentication protocols; key management; access control & OS security; common network vulnerabilities & defense mechanisms

Cryptography

for Undergraduate & Graduate Students

- Theoretical foundations; formal definitions of security goals; formal proofs of security; proper use of cryptographic tools; advanced protocols

Privacy

for Undergraduate & Graduate Students

- Exposure to inference attacks & defenses; online tracking, advertising, & web privacy; measurement challenges & applications

Software Security

for Undergraduate & Graduate Students

- Designing, developing, and testing secure and dependable software-based systems