



## COURSE INFORMATION

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## COURSE OVERVIEW

Cyber Crimes, those performed via the Internet, is the fastest growing category and dominates modern headlines: data breach, privacy violations, account hijacking, fraudulent wire transfers, cloned credit cards, phishing, vishing, and more! Often confused or conflated with [Cyber Warfare](#), the study of Cyber Crime is one where the primary objective is financial gain, not political. Inter-woven with our study of Cyber Crime will be a survey of infrastructure security and the Internet-of-Things (IoT), which govern the mundane operation of your lawn sprinklers or the spinning of centrifuges in a nuclear enrichment facility. We will use the 2010 STUXNET attack as a case study but will also investigate more recent attacks on electrical power grids and other energy pipelines. Particular attention will be paid to separating the hype from the actual threats. We will study the Dark Web, TOR, and cryptocurrencies such as Bitcoin. We will also examine the broader topic of Risk Management via an assessment of risks inherent in physical building security. The latter will be a field assignment that asks the student to apply classroom skills to real-world environment, in conjunction and coordination with facility owners.

## PROGRAM LEARNING OUTCOMES

The mission of the Graduate Program in Homeland Security is to produce leaders from a variety of educational and professional backgrounds who can effectively and efficiently identify, design, and mobilize the appropriate community resources to identify, prevent, deter, preempt, defend against, and respond to terrorist attacks and/or other critical incidents and emergencies on the local, regional, national and international levels.



## STUDENT LEARNING OUTCOMES

- ✓ Define critical infrastructure systems and services, and the importance they play in the national and global economy and quality of everyday life.
- ✓ Define common terms associated with infrastructure operation and protection such as threat, risk, reliability, robustness, redundancy, and resiliency.
- ✓ Analyze national, state, local, tribal and territorial strategy and policy documents related to the authority of both government and the private sector to manage and protect critical infrastructure, and the sensitive information about them.
- ✓ Comprehend the operation of critical infrastructure and understand their interwoven dependencies, potential susceptibility for failure, and consequences of their failures.
- ✓ Develop and deliver management-level threat intelligence and situational awareness briefings on specific critical infrastructure sectors.
- ✓ Evaluate solutions to prevent and respond to failures in complex infrastructure systems.
- ✓ Analyze the United States government's approach to critical infrastructure and key resource assurance, to those used by other nations, and the private sector.
- ✓ Synthesize information into a threat and vulnerability assessment model to measure acceptable risk levels and choose appropriate and feasible risk mitigation strategies.

## COURSE STRUCTURE

This course relies on various pedagogical approaches: reading assignments, instructor-guided discussions, student briefings, and projects. Reading assignments are an important self-learning tool and the classroom discussion is designed to supplement the reading by clarifying and elaborating concepts. As a seminar course, the instructor will rely on students to participate actively in discussion and critical thinking. Students should not hesitate to question and discuss controversial topics in an open and non-judgmental educational environment.

## REQUIRED COURSE MATERIALS

Required course materials and grading categories are posted online at: [homelandsecurity.sdsu.edu/cybercrime](http://homelandsecurity.sdsu.edu/cybercrime)

## COURSE POLICIES

By participating in this course, you acknowledge and accept the policies herewith and will e-sign at: [sign.sdsu.edu/hsec/policies](http://sign.sdsu.edu/hsec/policies)