

**University of Southern California**  
**VITERBI SCHOOL OF ENGINEERING**

Master of Cyber Security  
Program Learning Objectives

The USC Viterbi School of Engineering Master of Cyber Security focuses on the fundamental theory and practices for designing, engineering and operating high assurance secure information systems. The program addresses the challenges and problems of sound policy formulation, verifiably secure operating systems, security-aware applications, secure networking, and use of cryptography and key management. This elucidates a foundation of sound principles for mitigation strategies that include advanced persistent threat employing malicious subversion.

- Upon completion of the USC Viterbi School of Engineering Master of Cyber Security degree program, students will demonstrate broad understanding of trusted systems and standards, and proven verifiable protection of trustworthy high assurance security designed to substantially address the problems of adversarial attacks that include software subversion. The concentration is on what matters most to operational stakeholders. Students will be able to take on current large-scale security issues which have the potential of wreaking massive damage to the well being, safety, and privacy of the people of our nation.
- Upon completion of the USC Master of Cyber Security degree program, students will be able to apply critical principles and practices pertinent to cyber security and information protection in their employment practice.
- Upon completion of the USC Master of Cyber Security degree, students will be able to work in diverse global contexts and apply universally respectful and globally centric practices pertinent to cyber security.
- USC students enrolled in the Master of Cyber Security program will demonstrate understanding of contemporary engineering design principles and associated innovative practices relevant to the notion of threat to an information system and technical and procedural approaches to mitigating the threat, the technical concepts of secure system design and development, and mechanisms for building security services and risk management, and be able to implement these practices under guidance of Informatics faculty members in preparation for employment in Cyber Security and Information Assurance industries.