COURSE SYLLABUS

COURSE: **SEC 160** **SECURITY ADMINISTRATION I**

HOURS: Lecture: **2** Lab/Shop: **2** Work Exp/Clinical: **0** Credits: **3**

COURSE DESCRIPTION:

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses.

PREREQUISITE(S): SEC 110

COREQUISITE(S): NONE

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle.

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Demonstrate methods for keeping networks and their computers secure. Show an understanding of the facilities for securing networks, including protection against viruses, worms, malware, and OS and application exploits.
2. Implement secure access through authentication and encryption.
3. Implement security policies.
4. Provide common application security. Address DNS, SMTP, HTTP, Instant Messaging, and other user- and system-accessible protocols with their implementation or protocol design weaknesses.
5. Ensure continuing security. Detect active attacks through network traffic analysis, system and application log monitoring, and auditing. Track the warning signs of a problem or attack.
6. Ensure continuity. Discuss disaster planning and recovery issues such as redundancy (for systems and data), fault tolerance, power and environmental conditioning, backups, recovery strategies, and clustering.
7. Troubleshoot security vulnerabilities. Demonstrate skills in penetration testing, by looking for and identifying weaknesses in configurations for operating systems, applications, firewalls, network devices, policies, and procedures in a given environment.

***Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.