DEPARTMENT: Computer Support Technology    COURSE NO: CST 1250
COURSE TITLE: Information Security Administration    CREDITS: 3

CATALOG DESCRIPTION
In this course the student will continue to explore information security administration issues, including the hands on setup of secure environment components. This will include securing the network hardware and software, intrusion detection and other security devices and topologies. The student will learn information security setup and maintenance, disaster recovery and implementation of security policies.

AUDIENCE
This course is for students and professionals that are responsible for the security of information in their organization, including computer technicians, Information Systems managers and support staff.

FULFILLS MN TRANSFER CURRICULUM AREA(S): Does not apply

PREREQUISITES OR NECESSARY SKILLS/KNOWLEDGE: It is required that the student successfully completes the following courses or have the equivalent knowledge or skills:
CST 1220 – Information Security Management

LENGTH OF COURSE: 2 lecture hours and 2 lab hours per week for 16 weeks or the equivalent if delivered via distance learning.

THIS COURSE IS USUALLY OFFERED:
Every other year □  Fall □  Spring X  Summer □  Undetermined □

Four goals are emphasized in courses at Minnesota West Community and Technical College:

1. **ACADEMIC CONTENT**: The student will achieve the knowledge and skill needed in the area of Information Security Administration.
2. **THINKING SKILLS**: The student will have an understanding of the rational, theory and components of Information Security.
3. **COMMUNICATION SKILLS**: The student will begin to demonstrate appropriate communication techniques in working with the internet and fellow students to complete assignments.
4. **HUMAN DIVERSITY** – The student will gain self-awareness regarding their feelings towards people of different cultures, value systems and economic status.

Topics to be covered:
1. Implement security controls in several operating and network environments
2. Respond to security incidents
3. Develop a plan for a secure network environment
4. Setup firewalls, Routers, software and other components in a secure network
5. Develop and test intrusion detection systems
LIST OF EXPECTED COURSE OUTCOMES:
1. Outline a security policy
2. Locate information security resources
3. Use security advisories to understand and correct software vulnerabilities
4. Describe the need for security issue management
5. Respond to security incidents
6. Identify the major attack routes to the corporate Environment
7. Develop a threat taxonomy
8. Describe encryption technology and encryption algorithms
9. Identify a variety of cryptanalytic attacks
10. Identify a number of network devices
11. Describe the various forms of network addressing
12. Describe how to defend against packet sniffers
13. Describe the TCP, UDP, and IP protocols and their weaknesses
14. Setup network and host intrusion detection
15. Describe how operators analyze and respond to events
16. Describe the trade-offs among security, performance, and ease of use
17. Identify preventative system security controls
18. Create backup strategies that can be used as corrective security controls
19. Use preventive security controls to protect network users
20. Describe detective controls available to UNIX systems
21. Outline the corrective controls necessary to recover from a security incident
22. Describe the security setups available with default Windows configurations
23. Understand detective controls available to Windows systems
24. Describe the differences between auditing and policy verification
25. Identify various information security standards
26. Develop ways to address audit exposures
27. Identify the benefits and legal concerns of security testing

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning          X Student presentations
X Creative Projects              X Lecture
X Problem Solving                X Interactive Lectures
X Individual Coaching            X Films/Videos/Slides
X Demonstration                  X Labs

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading                X Tests                   X Individual Projects
X Oral Presentations    X Worksheets              X Collaborative Projects
X Textbook Problems     X Papers                  X Portfolios
X Group Problems        □ Term Papers            X Performance Exams
X Other

The information in this course outline is subject to revision

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.