SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: Security Hardware

CODE NO. :   CJS420   **SEMESTER:**   4

PROGRAM: Law and Security Administration

AUTHOR: Timothy A. Pritchard

DATE: Jan/2000   **PREVIOUS OUTLINE DATED:**   Sept/1998

APPROVED:

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DEAN   **DATE**

TOTAL CREDITS: 3

PREREQUISITE(S):   NONE

LENGTH OF COURSE: 3 Hours/Week   **TOTAL CREDIT HOURS:**   48

I.   COURSE DESCRIPTION:

The security hardware course will offer the student a solid base of knowledge in the area of security, which will be of considerable challenge, hardware. There are many different aspects of the hardware topic from fencing to windows through to alarm sensors and access control systems.

This course will offer information that will place the student in a positive competitive position for their first security job and will challenge them to continue their learning in this complex topic.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

- define probability as it relates to a security risk
- list the five probability categories
- identify a given number of the factors found in the probability categories
- state the five probability ratings
- define vulnerability as it relates to a security risk
- identify common assets of a property or company
- identify potential risks
- be familiar with the importance of historical experience
- define criticality as it relates to a security risk
- state the five criticality ratings
- state the purpose of a security survey
- be familiar with the techniques of conducting a security survey
- complete a survey of a given property
- define barrier
- state five natural barriers
- name three manmade barriers
- state the purpose of a barrier
- identify basic building construction components relevant to security
- state the parts of a doorway
- name the five types of windows
- name two types of glass by production method
- name four uses of glass
- identify the seven types of security glass
- describe the seven types of fencing
- be familiar with various chain link fence penetration statistics
- state the components of a chain link fence system and their purpose
Security Hardware

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

- calculate the size and depth of fence post holes
- state the difference between barbed wire, barbed tape and concertina
- identify various installation techniques of barbed tape and barbed tape obstacles
- define expanded metal fabric
- define diamonds as it relates to expanded metal fabric
- state a given number of advantages and disadvantages of expanded metal fabric
- identify the four main components of a mechanical lock
- name the four styles of mechanical locks
- describe the two main parts of a pin tumbler lock
- identify the five methods of defeating a lock
- describe a master key system
- identify the two major types of lock configurations
- state and describe the five lock functions
- define fail safe and fail secure
- identify and describe the five electrical lock types
- identify the three areas of protection in which alarm sensors are used
- describe a passive infrared detector
- be familiar with some installation issues
- describe a glass break detector
- be familiar with some installation issues
- identify four electro-mechanical sensor devices
- describe a photo electric detection device
- name six fire detectors
- be familiar with the annunciation of alarm sensors
- name a given number of other alarm system components
- state the three methods of alarm termination
- name the four reasons an access control system are installed
- state the six techniques of controlling access
- describe a computerized access control front end device(s)
- describe a reader interface module
- list and describe the five types of reader technology
- state the functions of a computerized access control system
- list and describe five common entry point configurations
- define CCTV
- name five purposes of CCTV in security
- list and describe the ten main components of a CCTV system
- Name five communication methods used in security
- Name the parts of a portable radio
- Be familiar with the use of a portable radio

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

- Be familiar with the use of cordless phones, cellular, satellite and written/verbal communication devices in security
- state the purpose of an identification program
- name three methods of capturing images for identification purposes
- be familiar with administration systems commonly utilized in security operations

Part I: Risk Analysis

This section provides the student with information required to conduct a risk analysis of a property or company. It will cover the Probability, Vulnerability and Criticality of a situation occurring along with information on security surveys conducted to assist in the overall assessment of the risk.

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- define probability as it relates to a security risk
- list the five probability categories
- identify a given number of the factors found in the probability categories
- state the five probability ratings
- define vulnerability as it relates to a security risk
- identify common assets of a property or company
- identify potential risks
- be familiar with the importance of historical experience
- define criticality as it relates to a security risk
- state the five criticality ratings
- state the purpose of a security survey
- be familiar with the techniques of conducting a security survey
- complete a survey of a given property

III. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

Part II: Barriers

Section two deals with the various types of barriers utilized in security and covers the topics of manmade and natural barriers, Glazing materials, fencing, barbed wire and tape, expanded metal & welded wire fabric.

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- define barrier
- state five natural barriers
- name three manmade barriers
- state the purpose of a barrier
- identify basic building construction components relevant to security
- state the parts of a doorway
- name the five types of windows
- name two types of glass by production method
- name four uses of glass
- identify the seven types of security glass
- describe the seven types of fencing
- be familiar with various chain link fence penetration statistics
- state the components of a chain link fence system and their purpose
- calculate the size and depth of fence post holes
- state the difference between barbed wire, barbed tape and concertina
- identify various installation techniques of barbed tape and barbed tape obstacles
- define expanded metal fabric
- define diamonds as it relates to expanded metal fabric
- state a given number of advantages and disadvantages of expanded metal fabric

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

Part III: Locks

The most common and oldest security device is the lock. This part will teach the student the fundamentals of a lock and its components. It will also introduce them to electric locking devices and keying systems

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- identify the four main components of a mechanical lock
- name the four styles of mechanical locks
- describe the two main parts of a pin tumbler lock
- identify the five methods of defeating a lock
- describe a master key system
- identify the two major types of lock configurations
- state and describe the five lock functions
- define fail safe and fail secure
- identify and describe the five electrical lock types

Part IV: Alarms

One of the most common security methods used is alarm or intrusion systems. This part will instruct the student in the types of components, their operation and how to integrate those components into an effective protection plan.

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- identify the three areas of protection in which alarm sensors are used
- describe a passive infrared detector
- be familiar with some installation issues
- describe a glass break detector
- be familiar with some installation issues
- identify four electro-mechanical sensor devices
- describe a photo electric detection device
- name six fire detectors
- be familiar with the annunciation of alarm sensors
- name a given number of other alarm system components
- state the three methods of alarm termination

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

Part V: Access Control

This part allows the student to identify the purpose of an access control system and its components. Identifying the functions of an access control system and its purpose along with the common entry point configurations give the student a solid base in this topic.

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- name the four reasons an access control system are installed
- state the six techniques of controlling access
- describe a computerized access control front end device(s)
- describe a reader interface module
- list and describe the five types of reader technology
- state the functions of a computerized access control system
- list and describe five common entry point configurations

Part VI: CCTV

CCTV is a major tool used in securing facilities. This part will allow the student to become knowledgeable in the components of a CCTV system and the use of those components in a security application

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- define CCTV
- name five purposes of CCTV in security
- list and describe the ten main components of a CCTV system

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

Part VII: Communication

Part VII discusses common communication methods used by security operations. Ranging from radios to phones to written and verbal communications.

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- Name five communication methods used in security
- Name the parts of a portable radio
- Be familiar with the use of a portable radio
- Be familiar with the use of cordless phones, cellular, satellite and written/verbal communication devices in security

Part VIII: Identification & Administration Systems

This section deals with identification programs and other administrative systems and programs commonly used in a security operation. Although not always directly effecting the security of a facility, these programs contribute to the overall security effectiveness.

Elements of the Performance

Upon successful completion of this course, the student will demonstrate the ability to:

- state the purpose of an identification program
- name three methods of capturing images for identification purposes
- be familiar with administration systems commonly utilized in security operations

III. TOPICS:

1.

V. EVALUATION PROCESS/GRADING SYSTEM:

The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.	

VI. SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1204 or call Extension 493, 717, or 491 so that support services can be arranged for you.

Retention of course outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student Rights and Responsibilities*. Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.