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**ISEC 2025****Vulnerabilities and Exploits****Course Weight:** 90.00**Course Description**

Cyber security is the protection of IT systems from damage or threats as well as disruption and misdirection of services. This course will provide learners with an understanding of the main concepts and principles of cybersecurity including ATV (assets, threats and vulnerabilities) and CIA (confidentiality, integrity and availability). Learners will explore the common vulnerabilities in computer and network systems and understand current defenses. The methodology hackers use to exploit these systems will also be examined.

**Rationale**

Assets and the threats to those assets alone do not create risk. For risk to exist there must also be vulnerabilities in those assets. Vulnerabilities exist in software, hardware and in the operating environment of all systems. A practicing security professional must have a deep understanding of these vulnerabilities. This course will introduce learners to example vulnerabilities and the exploits that are used to capitalize on them. Awareness of these vulnerabilities will better enable the learner to develop risk management strategies.

**Prerequisite(s):**

NETW 1015 (Network Security), OSYS 1020 (Operating Systems Security), PROG 1015 (Programming for Security), ISEC 1005 (Cyber Crime Survey)

**Corequisite(s):**

None

**Learning Outcomes**

Learners are required to successfully complete each course outcome. In keeping with NSCC's approach to portfolio learning, learners will have demonstrated the ability to:

1. Describe the role played by vulnerabilities and exploits in the ATV model of risk management and in the CIA operational objectives.
2. Describe known exploits and techniques used by adversaries to capitalize on specific vulnerabilities.
3. Participate in the development of risk management strategies in response to specific vulnerabilities.
4. Prepare and deliver professional quality reports and presentations.

**Grading**

The pass for this course is 60%.

**Required Supplies**

See instructor for details.

**Other Course Notes**

It is the responsibility of the student to review and understand all Nova Scotia Community College policies, most specifically the Student Code of Conduct, Academic Integrity, Student Appeals, Use of Copyright Materials, and Academic Accommodation policies.

Policies directly applicable to students are referenced in the student handbook. The policies and procedures can be found on the College website: [http://nsc.ca/current\\_students](http://nsc.ca/current_students)

If you have questions about policies and/or procedures, you are encouraged to ask Faculty, your Academic Chair or Staff at Student Services.

**Workplan**

A workplan for this course is attached and will be reviewed by your faculty member (s) within the first week of class study.