CANADORE
college

COURSE NAME:	CST313 Ethical Hacking

Credit Value:	4
Total Course Hours:	56
Prerequisite Course(s):	CST246
Corequisite Course(s):	None

COURSE DESCRIPTION

This course prepares students to identify, assess, and fix security vulnerabilities present within information systems by exploring tools and methodologies used by ethical hackers. It discusses what an ethical hacker is, and how they contribute to the security posture of an organization.

LAND ACKNOWLEDGEMENT

Canadore College resides on the traditional territory of the Anishinaabeg and within lands protected by the Robinson Huron Treaty of 1850. This land is occupied by the people of Nipissing First Nation, Treaty #10 in the Robinson Huron Treaty of 1850 since time immemorial.

PLAR INFORMATION

This course is eligible for Prior Learning Assessment and Recognition. Students are advised to discuss options with their program coordinator.

COURSE LEARNING OUTCOMES

Upon completion of this course, the student will have reliably demonstrated the ability to:

1.0 Ethical Hacking Fundamentals

    1.1 Analyzing the effects of hacking

    1.2 Outlining the methods of hackers

    1.3 Functions of an Ethical Hacker

2.0 Techniques to Scan and Attack a Network

    2.1 Footprinting and Reconnaissance

    2.2 Scanning networks

    2.3 Examining enumeration techniques

3.0 Analyzing System and Network Risks and Weakness to Apply Security Countermeasures

    3.1 System Hacking

    3.2 Trojans and Backdoors

    3.3 Viruses, Worms and Sniffers

    3.4 Social Engineering

    3.5 Denial of Service

4.0 Finding, Accessing and Preventing Network Infrastructure Gaps in Security

    4.1 Hacking Web Apps and Wireless Networks

    4.2 Hijacking sessions, and web servers

    4.3 Evading IDS, Firewalls and honeypots

    4.4 Buffer overflow and cryptography

5.0 Performing Penetration Testing

    5.1 Perform security audits

5.2 Perform security and vulnerability assessments

5.3 Security report writing

GENERAL EDUCATION

This is not a General Education course.

PROGRAM OUTCOMES

This course contributes to the following Ministry of Colleges and Universities approved program learning outcomes (PLO):

Computer Systems Networking-Technology Advanced Diploma

1. Identify, analyze, design, develop, implement, verify and document the requirements for a computing environment.

2. Diagnose, troubleshoot, document and monitor technical problems using appropriate methodologies and tools.

3. Analyze, design, implement and maintain secure computing environments.

4. Analyze, develop and maintain robust computing system solutions through validation testing and industry best practices.

5. Communicate and collaborate with team members and stakeholders to ensure effective working relationship.

8. Adhere to ethical, social media, legal, regulatory and economic requirements and/or principles in the development and management of the computing solutions and systems.

9. Investigate emerging trends to respond to technical challenges.

12. Apply principles of digital and analog circuits to design, implement, and troubleshoot computing devices, including embedded components and systems.

14. Develop, test and maintain software applications for systems integration.

EXTERNAL COURSE ACCREDITATIONS AND CONDITIONS

There are no external accreditations or conditions identified for this course.

COURSE EVALUATION

Labs/Assignments- 40%
Quizzes /Tests   - 35%
Final Assessment - 25%

PROGRAM SPECIFIC GRADING

Per College Grading System

GRADING SYSTEM

A+:	90-100%	B+:	77-79%	C+:	65-69%	D:	50-54%	S - Satisfactory
A:	85-89%	B:	73-76%	C:	60-64%	F:	0-49%	I - Incomplete
A-:	80-84%	B-:	70-72%	D+:	55-59%			F- Repeat Course, included in GPA
								FS- Failure Supplemental
								FR- Repeat course, excluded from GPA

*For a complete chart of grades and descriptions, please see the Grading Policy.

LEARNING RESOURCES

No textbooks have been identified for this course.

Other Resources:
REQUIRED
Please see Specific Course Content for any required text.

There is a Practice lab environment that will need to be purchased. . .but more details in class. (As of August 2020, price is $129)

Resources listed on the course outline support the achievement of learning outcomes, and may be used throughout the course to varying degrees depending on the instructor's teaching methodology and the nature of the resource.

Technology requirements - https://www.canadorecollege.ca/BYOD

The Harris Learning Library's staff can help you find resources to support your learning - www.eclibrary.ca

LEARNING ACTIVITIES

4 hrs/wk combined lecture and lab

DELIVERY MODE

This course may be delivered, in whole or in part, in a number of modalities, including in class, online, hybrid, in a synchronous or asynchronous manner or a combination thereof, as per accreditation and/or regulatory standards where appropriate.

RECORDING GUIDELINES

This class may be recorded by faculty of the College. Faculty will inform students when recording of the class commences and ceases. 'Recorded' means that the audio-visual and chat portions of the class will be recorded and then be stored on the College or vendor provider server. They will be made available to students, but only for the express and sole use of those registered in this course. If you have any questions or concerns about this recording, please contact your instructor or the College's privacy officer at privacy.officer@canadorecollege.ca. Full recording guidelines can be found at: https://cdn.agilitycms.com/canadore-college/academic-centre-of-excellence/Canadore%20Recording%20Guidelines.pdf

ACADEMIC POLICIES

Canadore College is committed to the highest standards of academic integrity, and expects students to adhere to these standards as part of the learning process in all environments. The College's Academic Integrity policy seeks to ensure that all students understand their rights and responsibilities in upholding academic integrity and that students receive an accurate and fair assessment of their work. Please review the Academic Integrity policy (A-18) and other academic policies found on our website: https://www.canadorecollege.ca/about/policies.

COLLEGE POLICIES

•   Protecting human rights in support of a respectful college community

For college policies please see: http://www.canadorecollege.ca/about-us/college-policies.

STUDENT SUCCESS SERVICES - Your Success Matters!

Student Success Services provides student-focused services to facilitate students' success in their studies. Staff provide support by reducing and/or removing educational–related barriers through individualized accommodations and supports to students with disabilities.

Please visit our webpage to learn more: https://www.canadorecollege.ca/support/student-success-services or look for our events on social media.

To connect with Student Success Services email studentsuccessnow@canadorecollege.ca or call 705.474.7600 ext 5205.

FIRST PEOPLES' CENTRE:

A culturally safe environment offering CONFIDENTIAL student focused services, drop in or make an appointment to access:

•   One on one counselling
•   Elder in residence program
•   Peer tutoring
•   Peer mentorship
•   Lunch & learn workshops on study skills, self-care, life skills
•   Learning Resource Centre

Drop by our offices at C254 College Drive, E101 Commerce Court or call 705 474 7600 Ext. 5961 College Drive / 5647 Commerce Court.

https://www.canadorecollege.ca/experience/indigenous-student-experience

WAIVER OF RESPONSIBILITY

Every attempt is made to ensure the accuracy of this information as of the date of publication. The college reserves the right to modify, change, add, or delete content.

HISTORICAL COURSE OUTLINES

Students use course outlines to support their learning. Students are responsible for retaining course outlines for future use in applications for transfer of credit to other educational institutions.