

**NEOSHO COUNTY COMMUNITY COLLEGE
MASTER COURSE SYLLABUS**

COURSE IDENTIFICATION

Course Code/Number: ETEC 275

Course Title: Computer and Network Security

Division: Applied Science (AS) Liberal Arts (LA) Workforce Development (WD)
 Health Care (HC) Lifetime Learning (LL) Nursing Developmental

Credit Hour(s): Three (3)

Effective Date: Fall 2013

Assessment Goal Per Outcome: 70%

COURSE DESCRIPTION

This course will provide an introduction to the many aspects of computer and data network security, and information assurance. The course will examine the rationale and necessity for securing computer systems and data networks, as well as methodologies for implementing security, security policies, best current practices, testing security, and incident response. Course concepts are reinforced by demonstrations and research assignments.

MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES

CSIS 130 Introduction to Computer Information Systems or
CSIS 100 Microcomputer Business Applications

TEXTS

The official list of textbooks and materials for this course is found on *myNeosho*.

<http://www.neosho.edu/ProspectiveStudents/Registration/CourseSyllabi.aspx>

GENERAL EDUCATION OUTCOMES

1. Practice Responsible Citizenship through:
 - identifying rights and responsibilities of citizenship,
 - identifying how human values and perceptions affect and are affected by social diversity,
 - identifying and interpreting artistic expression.
2. Live a healthy lifestyle (physical, intellectual, social) through:
 - listing factors associated with a healthy lifestyle and lifetime fitness,
 - identifying the importance of lifetime learning,
 - demonstrating self-discipline, respect for others, and the ability to work collaboratively as a team.
3. Communicate effectively through:
 - developing effective written communication skills,
 - developing effective oral communication and listening skills.
4. Think analytically through:
 - utilizing quantitative information in problem solving,
 - utilizing the principles of systematic inquiry,
 - utilizing various information resources including technology for research and data collection.

COURSE OUTCOMES/COMPETENCIES (as Required)

Upon completion of this course, students will be able to:

Outcome 1:

Identify the major components of computer and network security, and information assurance.

Competencies:

- Learn importance of Installing Firewalls
- *Learn importance of Installing Proxy servers*
- Assess Vulnerability

Outcome 2:

Explain the importance of security policies and user awareness to the "secure" operation of a network and the positive impact on an organization.

Competencies:

- *Detect Intrusions*
- *Take Appropriate Countermeasures*

Outcome 3:

Describe the security vulnerabilities of common operating systems and data protocols, as well as countermeasures and other ways to mitigate the vulnerabilities.

Competencies:

- *Define Viruses*
- *Define Spyware*
- *Define Trojan horses*

Outcome 4:

Articulate a security strategy for a given networking environment.

Competencies:

- *Assess Vulnerability*
- *Installed Firewalls*
- *Installed Proxy servers*

Outcome 5:

Identify ways in which to keep current on security events and notices.

Competencies:

- *Monitor listservs*
- *Read white papers*
- *Webinars*

Outcome 6:

Describe the ethical and legal considerations associated with "attacking" computer systems and networks.

Competencies:

- *Identify types of hackers*
- *Define ethical hacking*

Outcome 7:

Demonstrate the use of active directory in network security.

Competencies:

- *Group policy management*
- *Users management*
- *Server management*

MINIMUM COURSE CONTENT

The following topics must be included in this course. Additional topics may also be included.

The main objective of this course is to provide the student with an understanding of the importance of security when implementing computers, servers, and networks. The course will cover a large set of topics, including:

- I. Principles of computer security - Passwords, biometrics, identification
- II. Basic cryptography and certificates
- III. Authentication
- IV. Secure network protocols (Kerberos, SSL)
- V. Program security
 - A. Bug exploits

- B. Malicious code: viruses, worms, Trojan horses, and more
- VI. Attacks and defenses on computer systems
 - A. Firewalls
 - B. Intrusion detection
 - C. Proxy servers
 - D. Vulnerability assessment
 - E. Countermeasures
- VII. Operating system security (Windows XP/Vista)
- VIII. TCP/IP security
- IX. Virtual private networks
- X. Ethical and legal issues in computer security

STUDENT REQUIREMENTS AND METHOD OF EVALUATION

INSTRUCTIONAL METHODS

- 1. Explanation by the instructor of important concepts through online PowerPoints and handouts.
- 2. Class discussion of course material through Forums and Chats.
- 3. Using microcomputers to solve specific application problems.
- 4. Several forms of instructional media and class activities to show computer applications.

STUDENT REQUIREMENTS

The final grade in this course will be determined by homework assignments, lab exercises, major exams, and the final exam using the following percentages.

Labs	40%
Tests	40%
Final Exam	20%

GRADING SCALE

- 90 - 100% = A
- 80 - 89% = B
- 70 - 79% = C
- 60 - 69% = D
- 0 - 59% = F

ASSESSMENT OF STUDENT GAIN

The purpose of assessing student learning at Neosho County Community College is to ensure the educational purposes of the institution are met and appropriate changes are made in program development and classroom instruction to allow for student success.

Pre-assessment ideally begins during the advisement and enrollment process prior to the beginning of the course where the advisor and student determine through the interview process the level of

placement for the student. During the period of the first two weeks of a normal semester, each student will be observed and/or interviewed and initial papers produced will be examined to determine needed competency development throughout the course. Post-assessment to determine gain in competency will be measured at the end of each unit of study.

Attendance Policy

1. NCCC values interactive learning which promotes student engagement in the learning process. To be actively engaged, the student must be present in the learning environment.
2. Unless students are participating in a school activity or are excused by the instructor, they are expected to attend class. If a student's absences exceed one-eighth of the total course duration, (which equates to one hundred (100) minutes per credit hour in a face-to-face class) the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the registrar's office will send a letter to the student, stating that he or she has been dropped. A student may petition the chief academic officer for reinstatement by submitting a letter stating valid reasons for the absences within one week of the registrar's notification. If the student is reinstated into the class, the instructor and the registrar will be notified. Please refer to the Student Handbook/Academic Policies for more information
3. Absences that occur due to students participating in official college activities are excused except in those cases where outside bodies, such as the State Board of Nursing, have requirements for minimum class minutes for each student. Students who are excused will be given reasonable opportunity to make up any missed work or receive substitute assignments from the instructor and should not be penalized for the absence. Proper procedure should be followed in notifying faculty in advance of the student's planned participation in the event. Ultimately it is the student's responsibility to notify the instructor in advance of the planned absence.

ACADEMIC INTEGRITY

NCCC expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

ELECTRONIC DEVICE POLICY

Student cell phones and other personal electronic devices not being used for class activities must not be accessed during class times unless the instructor chooses to waive this policy.

NOTE

Information and statements in this document are subject to change at the discretion of NCCC. Students will be notified of changes and where to find the most current approved documents.

ACCOMMODATIONS

If you are a student with a disability who may need accommodation(s), in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, please notify the Dean of Student Services in the Student Services Office, Sanders Hall, 620-432-0304, on the Chanute Campus, or the Dean for the Ottawa and Online Campuses, 785-248-2798, on the Ottawa Campus as soon as possible. You will need to bring your documentation for review in order to determine reasonable accommodations, and then we can assist you in arranging any necessary accommodations.

NON-DISCRIMINATION POLICY

The following link provides information related to the non-discrimination policy of NCCC, including persons with disabilities. Students are urged to review this policy.

<http://www.neosho.edu/Departments/NonDiscrimination.aspx>

SEXUAL MISCONDUCT POLICY (TITLE IX)

At NCCC, it is the responsibility of an instructor to help create a safe learning environment in the classroom, including both physical and virtual classrooms. All instructors are considered mandatory reporters at NCCC, therefore any information regarding sexual misconduct that is shared by a student in one-on-one meetings with the instructor must be reported to appropriate personnel at the College. Instructors will keep the information private to the greatest extent possible, but it is not confidential. Generally, climate surveys, classroom writing assignments or discussions, human subjects research, or events such as Take Back the Night events do not provide notice that must be reported to the Coordinator by employees, unless the reporting party clearly indicates that they wish a report to be made.

The following link provides information related to the sexual misconduct policy of NCCC, including resources, reporting options, and student rights. Students are urged to review this policy.

<http://www.neosho.edu/TitleIX.aspx>

COURSE NOTES