



## MASTER COURSE OUTLINE

A. CPRO2115 Offensive Security

B. COURSE DESCRIPTION:

The course combines an ethical hacking methodology with the hands-on application of security tools to better help students secure their systems. Students are introduced to common countermeasures that effectively reduce and/or mitigate attacks.

Prerequisites: All preceding CPRO courses in degree/certificate or instructor approval for individuals pursuing professional development.

**(3 Cr - 3 lect, 0 lab, 0 other)**

C. **\*\*Core theme:** Critical Thinking

D. MAJOR CONTENT AREAS:

At the completion of this course students will have knowledge and skills in:

- Penetration Testing Professional Certifications
- Hacking Techniques and Technologies
- Physical Security
- Wireless Security
- Web and Database Security
- Reconnaissance/Open Source Intelligence Gathering
- Scanning
- Securing Ports, Services, and Applications
- Enumeration
- Vulnerability Assessment
- Exploitation Methods
- Social Engineering
- Defensive Technologies and Countermeasures
- Incident Response
- Post-Exploitation Assessment and Remediation

E. GOAL TYPES, OBJECTIVES, AND OUTCOMES:

<u>GOAL</u>	<u>OBJECTIVES</u> Students will be able to:	<u>OUTCOMES</u> The student will successfully:
** <u>Critical Thinking</u>	imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which can give alternative meanings or solutions to given situations or problems.	1. identify and analyze hacking techniques and technologies, then use this information to develop security policies and strategies to mitigate the identified threats to the information infrastructure

<u>CS</u>	demonstrate knowledge and expertise in hacking techniques and technologies	1. profile hackers and cyber criminals, describe the history of hacking, explain the evolution of hacking and why information systems and people are vulnerable to manipulation and exploitation.
<u>CS</u>	demonstrate knowledge and expertise in physical security.	1. define the role of physical security, identify and implement basic equipment and physical security controls.
<u>CS</u>	demonstrate knowledge and expertise in reconnaissance and intelligence gathering.	1. Describe the information gathering process, perform information gathering using common techniques and technologies in a controlled laboratory environment.
<u>CS</u>	demonstrate knowledge and expertise in malware, viruses, worms, Trojans, spyware, adware, scareware, and hostageware	1. describe common types of malware, threats posed by malware, and techniques to detect, remove, and mitigate malware.
<u>CS</u>	demonstrate knowledge and expertise in incident response / post-exploitation assessment and remediation	1. describe methods and technologies used to detect and identify security compromises, develop and execute an incident response plan to resolve identified security issues.
<u>CS</u>	demonstrate knowledge and expertise in social engineering	1. describe methods and techniques used to implement social engineering attacks, develop and implement policies and best practices to mitigate social engineering attacks.
<u>CS</u>	demonstrate business and interpersonal skills.	2. collaborate with classmates to develop security policies and share information security techniques and strategies.

F. SPECIAL INFORMATION:

This course requires Internet access, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact their instructor or the Student Success Center at the beginning of the semester.

G. COURSE CODING INFORMATION: Course Code T / Class Maximum 30; Letter Grade.

Revision date:

AASC Approval date: 12/13/16

<b>*Riverland Community College Disciplines</b>	<b>MnTC Goal Number</b>
Communication	<b>1</b>
Natural Sciences	<b>3</b>

Mathematics/Logical Reasoning	<b>4</b>
History and the Social & Behavioral Sciences	<b>5</b>
Humanities and Fine Arts	<b>6</b>

<b>**Riverland Community College Core Themes</b>	<b>MnTC Goal Number</b>
Critical Thinking	<b>2</b>
Human Diversity	<b>7</b>
Global Perspective	<b>8</b>
Ethical and Civic Responsibility	<b>9</b>
People and the Environment	<b>10</b>

\*These five MnTC Goals have been identified as Riverland Community College Disciplines.

\*\* These five MnTC Goals have been identified as Riverland Community College Core Themes.

\*\*\*The Minnesota Transfer Curriculum “10 Goal Areas of Emphasis” are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.