1. **COURSE TITLE\*: Ethical Hacking**
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*:** CYBR 2220
3. **PREREQUISITE(S)\*: CYBR 1121 COREQUISITE(S)\*: None**
4. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
5. **CREDIT HOURS\*: 3 LECTURE HOURS\*: 3**

**LABORATORY HOURS\*: (contact hours) OBSERVATION HOURS\*:**

1. **FACULTY CONTACT INFORMATION: *(Course Syllabus – Individual Instructor Specific)***
2. **COURSE DESCRIPTION\*:**

This course is designed for students who want to develop penetration testing skills to enable them to identify information-system vulnerabilities and effective remediation techniques for those vulnerabilities. This course is also designed for individuals who are preparing to take the CompTIA PenTest+ certification exam PT0-001, or who plan to use PenTest+ as the foundation for more advanced security certifications or career roles.

1. **LEARNING OUTCOMES\*:**
   * 1. Plan and scope penetration tests.
     2. Conduct passive reconnaissance.
     3. Perform non-technical tests to gather information.
     4. Conduct active reconnaissance.
     5. Analyze vulnerabilities.
     6. Penetrate networks.
     7. Exploit host-based vulnerabilities.
     8. Test applications.
     9. Complete post-exploit tasks.
     10. Analyze and report pen test results.
2. **ADOPTED TEXT(S)\*:**

Hands-on Ethical Hacking and Network Defense with MindTap, 4th edition, Robert S. Wilson, Michael T. Simpson, and Nicholas Antill, 2021 Cengage Learning.

ISBN: 978-0-357-50981-4

**9a: SUPPLEMENTAL TEXTS APPROVED BY FULL TIME DEPARTMENTAL FACULTY (INSTRUCTOR MUST NOTIFY THE BOOKSTORE BEFORE THE TEXTBOOK ORDERING DEADLINE DATE PRIOR TO ADOPTION) \*\*\*.**

1. **OTHER REQUIRED MATERIALS: (SEE APPENDIX C FOR TECHNOLOGY REQUEST FORM.)\*\***
2. **GRADING SCALE\*\*\*:**

Grading will follow the policy in the catalog. The scale is as follows:

A: 90 – 100

B: 80 – 89

C: 70 – 79

D: 60 – 69

F: 0 – 59

1. **GRADING PROCEDURES OR ASSESSMENTS: *(Course Syllabus – Individual Instructor Specific)***

|  |  |  |
| --- | --- | --- |
| *Category* | ***EXAMPLE ONLY***  *Total Points* | *% of Grade* |
| Chapter Assignments (10x30) | 300 | 30% |
| Quizzes (10x20) | 200 | 20% |
| Unit Exams (3x100) | 300 | 30% |
| Assignments (5x10) | 50 | 5% |
| Annual Report Project (100) | 100 | 10% |
| Attendance | 50 | 5% |
| Total | 1000 | 100% |

1. **COURSE METHODOLOGY: *(Course Syllabus – Individual Instructor Specific)***

May include but not limited to: Lectures, independent and group projects, in-class and home assignments, tests, quizzes and lab exercises. This course must be offered on campus. Attendance is required.

1. **COURSE OUTLINE: *(Course Syllabus – Individual Instructor Specific)***

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Topics | Chapters | Learning Objectives |
| 1 | Ethical Hacking Overview | 1 | 1 |
| 2 | TCP/IP Concepts Review | 2 | 2 |
| 3 | Network and Computer Attacks |  |  |
| 4 | Footprinting and Social Engineering | 3 | 3 |
| 5 | Port Scanning | 4 | 4 |
| 6 | Enumeration | 5 | 5 |
| 7 | Programming for Security Professionals | 6 | 6 |
| 8 | Desktop and Server OS Vulnerabilities |  |  |
| 9 | Embedded Operating Systems | 7 | 7 |
| 10 | Hacking Web Servers | 8 | 8 |
| 11 | Hacking Wireless Networks | 9 | 9 |
| 12 | Cryptography |  |  |
| 13 | Network Protection Systems | 10 | 10 |
| 14 | Hands-On Ethical Hacking | 11 | 11 |
| 15 | Final Exam Prep |  |  |
| 16 | Final Exam |  |  |

**15. SPECIFIC MANAGEMENT REQUIREMENTS\*\*\*: None**

**16. FERPA:\***

Students need to understand that their work may be seen by others. Others may see your work when being distributed, during group project work, or if it is chosen for demonstration purposes. Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**17. ACCOMMODATIONS: \***

Students requesting accommodations may contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431, X 2604.

Students seeking a religious accommodation for absences permitted under Ohio’s Testing Your Faith Act must provide the instructor and the Academic Affairs office with written notice of the specific dates for which the student requires an accommodation and must do so no later than fourteen (14) days after the first day of instruction or fourteen (14) days before the dates of absence, whichever comes first. For more information about Religious Accommodations, contact Ryan Hall, Accessibility Coordinator at [rhall21@sscc.edu](mailto:rhall21@sscc.edu) or 937-393-3431 X 2604.

**18. OTHER INFORMATION\*\*\*:**

**SYLLABUS TEMPLATE KEY**

**\*** Item cannot be altered from that which is included in the master syllabus approved by the Curriculum Committee.

**\*\*** Any alteration or addition must be approved by the Curriculum Committee

**\*\*\*** Item should begin with language as approved in the master syllabus but may be added to at the discretion of the faculty member.