Cybersecurity Programming

Course Number:	CYB 210	**Phone:**	419-267-1231
Class Days/Time:	W: 4:00pm – 5:15pm	**Office:**	E1102B
Class Room:		**email:**	mkwiatkowski@northweststate.edu
Instructor:	Mike Kwiatkowski, CCNA, CEH, CHFI	**Office Hours:**	M: 1pm – 3pm T: 9:30pm – 11am W: 1pm – 3pm R: 9:30am – 11am
Last Day to withdraw:	See website @northweststate.edu		

Purpose:

This course uses Python to introduce the student to security scripting. The course and text uses interesting problems to introduce concepts in scripting and aspects of the Python language. The primary focus of the course is to use scripting to complete tasks which are made easier with automation tools. Of course some of these tasks will focus on cyber security issues, but some will also be tasks meant to encourage the student to think out of the box for interesting solutions to a problem. The student will also learn the usefulness of scripting versus a large programming solution to solve small concise tasks.

Required Textbooks:

Introduction to Scripting: National Cyberwatch Center Edition by Bradley Miller and David Ranum

NOTE: The text is NOT available from the campus bookstore. It must be purchased from www.vitalsource.com

Upon successful completion of this course students will have the ability to:

- Write scripting solutions in Python
- Develop command line style Python scripts
- Use scripts to automate repetitive tasks
- Use prebuilt libraries to enhance an organizations security stance
- Create solutions to unique security problems

Course Requirements:

Grade Makeup:		**Grading**	
Exams	40%	A	90-100
Hands Assignments on	55%	B	80-89
Assignments		C	70-79
Participation	5%	D	60-69

Grade

As described in the table above, your grade consists of three parts. Each part is detailed in the following paragraphs. Your ongoing grade will be available in Sakai

Assignments

Your grades for "Assignments" will consist of the assigned material as described in Sakai. All assignments will be due as listed in Sakai with a week grace period for late material. The instructor has the right to reduce your grade by 50% on any late work.

Exams

There will be two exams in the semester. They will be delivered through Sakai and in class. The first exam will be roughly at mid-term and the second during Finals week. The exams will be a mix of knowledge and skills based questions.

Class Participation.

The student is expected to actively participate in all scheduled activities and is responsible for completing assignments on time. This involves checking the course website and/or class e-mail often, at least daily. While it is understood some absences are unavoidable, missing class sessions seriously impairs the student's ability to learn course material. Studies have shown that students learn best and retain knowledge longer when exposed to new material in frequent short doses. "Cramming" for tests and quizzes is counter-productive for meaningful learning. Please stay current with textbook and classroom study.

Out of respect for others in class, please silence or turn off cell phones and music players. Also, workstation computers are not to be used during lectures unless permitted by the instructor.

Late Assignments

As mentioned in the Assignments section, on-time completion of these assignments is important. All assignments are due at the beginning of class. An assignment turned in after they are due will

be docked up to 50% at the instructor's discretion. No assignment will accepted later than one week after it was due.

Attendance Policy

It would be in your best interest to attend the class. We will be performing labs during class time and anything covered in the lab will be fair game for quizzes and tests. It will be your responsibility to obtain class notes and assignments for the missed class. Quizzes and exams will not be made up unless forced through extenuating circumstances and arrangements are made through me. For each unexcused class missed 25 points will be deducted from your total of 100 Attendance points.

Academic Honesty, ADA and other Topics not in this Syllabus

Please refer to the NSCC student handbook for matters not covered in this syllabus. You will find the student handbook at the following URL:

http://www.northweststate.edu/current_students/pdfs/StudentHandbook.pdf

Technical Skills and Etiquette\

All students should have basic computer skills in order to successfully complete this class. You are expected to be able to send and receive email with attachments, download files, create documents and save them in various formats, post assignments to Sakai, use online forums, and navigate Sakai and other online resources.

Etiquette guidelines:

- Be respectful and professional with your comments to your peers and instructors
- Do not use all caps when responding online. It may appear as if you are yelling.
- Avoid text shorthand (ie. SMH, FWIW)
- Spell check your submissions before posting.
- Think about how the message will come across before you press send. Many times we do not realize how a message may be interpreted.
- Be resourceful, and try to find the answers to your questions in the course syllabus and materials before emailing our instructor. This will allow the instructor to dedicate more time and energy to helping with problems that don't have an easy answer.

COVID-19 Requirements

Just like safety equipment at work and other situations masks are part of the safety equipment while we are under COVID-19 restrictions. All students are required to wear a face covering at all times while on campus. Any face covering most follow the following specifications:

- It must cover from above the nose to below the chin

- Cannot be just a face shield. A face shield may be used in conjunction with a mask, but a mask must still be worn
- Please speak slowly and clearly.
    - We are all in this together and want to hear what you have to say!
- Even with a mask, please maintain six feet social distancing
- If you have a condition that all prevents you from wearing a mask, please bring the paperwork to campus within the first week and register with the ADA office
- Have patience!

Further Comments…

The instructor reserves the right to amend or adjust this syllabus if necessary. If changes are required, they will be announced in class. It is the responsibility of the student to be in attendance to record changes.

Course Schedule

Week of	Topic	Assignment
8/19	Syllabus and Introduction	Chapter 1
8/24	Functions and more	• Chapter 2
8/31	Strings and ciphering	• Chapter 3
9/7	Lists	• Chapter 4
9/14	Loops and files	• Chapter 5
9/21	More loops and parameters	• Chapter 6
9/28	Mining for data	• Chapter 7
10/5	Mid-term exam	• Mid-term exam
10/12	Cryptoanalysis	• Chapter 8
10/19	Recursion	• Chapter 9
10/26	Object-oriented Python	• Chapter 10
11/2	Simulations	• Chapter 11
11/9	Inheritance	• Chapter 12
11/16	Event-driven programming	• Chapter 13
11/23	Special topics in security	•
11/30	Special topics in security	•
12/7		FINAL EXAM