



## FOUNDATIONS OF CYBERSECURITY

2022-2023 COURSE SYLLABUS

INSTRUCTOR: PETE BARCENEZ

CYBERDAWGS

CODE CLUB

**WELCOME!** to the **Foundations of Cybersecurity** course. This is the 1<sup>st</sup> of four courses in the IT/Cyber Security Pathway. It is often very exciting for students to enroll in a technology course. Most students really love computers, while others are very afraid of computers. I will do my best to help everyone succeed in this course. One of the most beneficial outcomes of this course is the possibility of employment or a career in the high demand high wage market of IT, especially the Cyber Security Market. The other benefit is that most students get better at using computers as a tool to solve problems.

### INSTRUCTOR

Contact	Conference period	Tutoring hours	Prerequisite courses
Google phone (210) 920-4301 Email: pbarcenez1@saisd.net	3rd (1:05-2:40 am) "A" Day only	4:25pm - 5:15pm Mon/Wed <i>Or by appointment</i>	none

### TUTORING

Students are welcome to stay for tutoring afterschool. I am available from 4:25-5:15 pm on Monday and Wednesday. Please have student email or talk to me to schedule an appointment. I will confirm with the parent.

### SUPPLIES

Classroom	Electronic	(2) most important supplies
<ul style="list-style-type: none"> <li>Pen and Pencils to write with</li> <li>A composition book for notes</li> <li>½" to 1" binder with pocket folders</li> </ul>	<ul style="list-style-type: none"> <li>A personal device or chrome book from library</li> <li>Personal earbuds/headphones</li> <li>No USB drives or DVD's from home</li> </ul>	The most important supplies your child can bring are these: <ol style="list-style-type: none"> <li><b>EFFORT</b></li> <li><b>GOOD ATTITUDE</b></li> </ol>

### COURSE CURRICULUM

In the Foundations of Cybersecurity course, students will develop the knowledge and skills needed to explore fundamental concepts related to the ethics, law, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will review and explore security policies designed to mitigate risks. The skills obtained in this course prepare students for additional study in cybersecurity.

### COURSE OUTLINE

Python Programming	Basic ITF+ Domains	TEA Standards for Foundations of Cybersecurity	
Beginning in Computer Science	IT Concepts and Terminology	Employability & Employment	Cybersecurity skills
Number Calculations and Data	Infrastructure	Academic Knowledge in IT	Malicious software
Making Decisions	Applications and Software	Ethics and Law	Digital forensics
Repetitions and loops	Software Development	Ethical vs. Malicious Hacking	Cryptography
Functions, Arrays, 2D Arrays	Database Fundamentals	Cyberterrorism	Risk Assessment
Graphics and the Internet	Security	Digital Citizenship	Threats and computer risks

### PURPOSE

The purpose of the Foundations of Cybersecurity course is to introduce students to new computer literacy skills and to increase their knowledge of the practical processes for problem-solving in the IT field. My personal purpose in this course is to make students better at using computers as tools to accomplish their work as students. By broadening



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their digital workflow and capacity as a student of technology, they will have opportunities to explore entry-level employment and gain industry certifications that will lead to careers in the field of Cybersecurity and I.T..

### ELECTRONIC CURRICULUM

	This is the first course in the Texas Education Agency's cybersecurity pathway. This course is designed to give students an introduction into cybersecurity concepts and principles. In this semester, students will cover the following materials: Cyberspace, Law, ethics, threats, attacks, vulnerabilities, and networking fundamentals.
	This course is designed to offer an introduction to computer science. Students will learn the basics of computer programming along with the basics of computer science. This course covers the basic building blocks of programming along with other central elements of computer science
	The primary language for the course is Python. The course will consist of video lectures, daily programming exercises, longer coding assignments, regular quizzes, projects, and exams. One major element of the content is the Code-Along videos. In these videos, students are asked to follow along with the instructor as they code.

### INSTRUCTIONAL METHODS

The recommended methods of Instruction for this course will be a combination of lecture, discussion, and demonstrations, followed by applied skills activities. Students are expected to prepare for lectures and discussions by reading and viewing the assigned videos and notes. The instructor can then present content by lecture and discussion regarding theories, principles and concepts relating to the topic. This is followed by demonstrations of the various skills that will be developed. Students are then given practical application activities. Once all activities, and/or projects have been completed, students will then be evaluated on completed works.

### ASSIGNMENTS

It is the goal of this class to be paperless in as many areas as possible. That means that electronic assignments will be posted on the CANVAS Learning management system where students will be able to download the assignment and its instructions. Turning in completed works will involve upload files from the local PC to a student's cloud storage or the hosting sites electronic storage. There will be some assignments intended for pen and paper such as journaling and creative discovery applications where students can brainstorm, share and discuss new ideas, a premium grade will be reserved for students who are able to leverage their visual capabilities through drawings, sketches, sketchnotes

### ASSESSMENTS

Methods of assessment will be derived from the following, online objective tests, pre and post objective tests, classwork, and computer assignments. Each student will take a baseline exam of the CompTIA ITF+ and demonstrate growth on the end-of-year exam. Formative assessments will be utilized to determine areas to remediate.



EVALUATION

Grade Distribution	Grading Scale	Late Work	Make up Work	Work Corrections
60% Daily Assignments	A= 90-100% B= 80-89% C= 75-79%	Students will be able to submit late work without penalty, but the highest grade that can be earned is an 85.	A student is allowed two instructional days for each day missed during which make up work may be permitted, or they can schedule a make-up assessment	Students can correct work that is below an 85. At other times, work will be handed back to students to complete at a higher level.
40% Assessments	D= 70-74% F= 69%-50%			

COMPUTER USE

Computers are to be used for educational purposes only. To use a computer, the students must agree to follow the computer usage agreement as well as the SAISD Student Acceptable Use Policy for the Electronic Communications Systems. If they break the agreement, the student will be given an alternate assignment that is related to the topic being covered in class. Using a computer in the lab is a privilege, I will ask that all students please take care of the equipment assigned to them.

CLASSROOM RULES	COMPUTER LAB RULES
<ul style="list-style-type: none"> <li>Respect is given to you in this class, you keep that respect by earning it. Show respect to teacher, peers.</li> <li>Cell phones are permitted in the lab while working on a project, a distracting phone will become confiscated</li> <li>Students will not use computers as personal devices for entertainment. You will be asked to log out.</li> <li>Please ask for a pass to leave the room</li> <li>Please keep conversations to a minimum, side conversations should stop when teacher is talking</li> </ul>	<ul style="list-style-type: none"> <li>No food or open container drinks in the lab, - gum, potato chips or snacks while using computers in the lab</li> <li>Please do not relocate furniture in the classroom or move any</li> <li>Do not swap any devices such as keyboards or mice</li> <li>Do not use USB devices in the lab</li> <li>Please use your own earbuds in class, do not share</li> </ul>

Rule Violations

There are some instances for which removal from class and an immediate referral are non-negotiable, as outlined in the campus handbook. If these instances occur, the teacher will work with administration at an appropriate time to resolve the situation. These situations may include, but are not limited to physical aggression and engaging in unsafe behavior, minor insubordination and other infractions will be handled using the following steps:

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Warning	Private conversation	Parent phone call	After school detention	Parent student teacher conf.	Office referral



**INTERNET ACCESS POLICY**

When accessing a school district computer, do not expect any privacy during use. Use of the school’s network constitutes consent to monitoring, retrieval and disclosure of any information stored with the network for any purpose including criminal prosecution.

**PARENT COMMUNICATION**

Parents, teachers, and students work together to promote learning. It is important to me to communicate with you on a regular basis concerning your child’s progress in learning required concepts and standards. I will either email, text, or call when appropriate. Please feel free to email me at any time. My email is listed on the top section of this syllabus.

To further promote efficient communications to the home, I would ask that you fill in the required information regarding your preferred contact methods.

Parent/Guardian 1 name	Lives with student	Cell phone	e-mail
	<input type="checkbox"/> YES <input type="checkbox"/> NO	( ) _____ - _____	

Parent/Guardian 2 name	Lives with student	Cell phone	e-mail
	<input type="checkbox"/> YES <input type="checkbox"/> NO	( ) _____ - _____	

PARENT/GUARDIAN 1 -- I PREFER TO BE CONTACTED BY:     PHONE  TEXT                       EMAIL  
PARENT/GUARDIAN 2 -- I PREFER TO BE CONTACTED BY:     PHONE  TEXT                       EMAIL

**PARENT ACKNOWLEDGEMENT OF SYLLABUS**

- I have received the Foundations of Cybersecurity syllabus.
- I am aware of the class subject and the topics that my child will be learning.
- I have been made aware of how my child’s classwork will be graded.
- I have been made aware of what the procedures are for making up missed work.
- I have been made aware of the responsibility my child has for reviewing work where they have received a low grade.
- I have reviewed the classroom management procedures, expectations, rules, and consequences for the course.
- I understand that for my child to be successful, the teacher, the student, and the parent all must do their part.
- I will support the teacher’s efforts with my child to maintain an environment conducive to learning.

Student Name: \_\_\_\_\_ Student Signature: \_\_\_\_\_

Parent/Guardian 1: \_\_\_\_\_ Student Signature: \_\_\_\_\_

Parent/Guardian 2: \_\_\_\_\_ Student Signature: \_\_\_\_\_