

COURSE TITLE: NETWORKING FUNDAMENTALS COURSE (11.46100)

INSTRUCTORS: Mr. Don Welch welchdo@boe.richmond.k12.ga.us

OFFICE HOURS/TUTORING: Weekdays from 2:05pm to 3:05pm (Parent / Student)

PATHWAY: Information Technology Career Cluster

PREREQUISITES:

Networking Fundamentals is the second course in the Networking pathway in the Cybersecurity pathway. Students enrolled in this course should have successfully completed Introduction to Digital Technology/Introduction to Hardware Technology.

COURSE DESCRIPTION:

How do computers communicate? How are you connected? Start with a building block of knowledge of networks, local area networks, IP Addresses, subnetting, and data routes from a LAN to WAN. This course is designed to provide students with the background necessary to understand local area networks and their technologies. Students will learn the processes involved in designing, implementing, upgrading, managing, and otherwise working with networks and network technologies. Various forms of technologies will be used to expose students to resources, software, and applications of networking. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready.

COURSE STANDARDS (Approximately one standard per two-week period)

- IT-NF-1 Demonstrate employability skills required by business and industry.
- IT-NF-2 Review and update personal online career portfolio.
- IT-NF-3 Identify the fundamental principles of networking, local area networks, network topologies and access methods, Ethernet architecture, and the client-server and peer-to-peer networking models.
- IT-NF-4 Identify the layers of the OSI (Open Systems Interconnection) Model and define the communications sub-network.
- IT-NF-5 Identify wired networks, media types and wireless networks.
- IT-NF-6 Explore Internet Protocol IPv4 and IPv6 and emerging protocols in industry.
- IT-NF-7 Demonstrate how to work with the basic and advanced command prompts.
- IT-NF-8 Demonstrate how to set up common networking services and define Name Resolution Techniques.
- IT-NF-9 Explore the concepts of Wide Area Networks, describe routing, and define common WAN technologies and connections.
- IT-NF-10 Explore network infrastructures and network security.
- IT-NF-11 Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.

Calendar of Instruction:

August 2022

8 - 12 IT-NF-3

15 - 19 IT-NF-3

22 - 26 IT-NF-4

29 – 9/2 IT-NF-4

Sept 2022

6 - 9 (4 days, 5th is Labor) IT-NF-5

12 - 16 IT-NF-5

19 - 23 IT-NF-6

26 - 30 IT-NF-6

October 2022

3 - 5 & 7th (Break on 6th) IT-NF-7

12 – 14 IT-NF-7

17 - 21 IT-NF-8

24 - 28 IT-NF-8

November 2022

10/31 – 4 IT-NF-9

7 – 10 IT-NF-9

14 - 18 IT-NF-10

28 – 12/4 IT-NF-10

Dec 2022

7 – 10 Reviews and Make-Ups

14 - 18 Final Exam

Standards IT-NF-1, IT-NF-2, and IT-NF-11 all refer to Employability Skills, Career Portfolio, and Career Technical Student Organizations will be ongoing, emphasized and incorporated into our lessons as the topics relate to them. Because they are ongoing throughout the semester, we will not specify a particular block of our calendar of instruction to these standards.

Employability:

Employability skills are integrated into activities, tasks, and projects throughout this course. Students will be expected to behave professionally and treat the classroom as a business workplace, using the employability standards to demonstrate the skills required by business and industry. Part of the grade for this course is directly related to the students maintaining this professionalism and courteous social behaviors. Seating assignments (being where you should be at work) and restricting cell phone use to appropriate times and activities will be considered part of the preparation for real world employability skills.

EXPECTATIONS and REQUIREMENTS

In order to foster an environment of professionalism and to practice employability skills, this class will be conducted as though it were a business.

- Recognize that personal phone calls and text messaging on the job would be restricted, similarly please refrain from doing these in class.
- Enjoy the use of computers and laptops for classroom activity, but please realize that recreational activities may be distracting.
- Understand the value of your peers, participate as a team player.
- Solve problems and accept challenges.
- Respect the space and belongings of other students.

Assessment: The grading scale used will cover the entire semester, with progress reports every six weeks. All grades will be updated using the online grading system, Infinite Campus. In-class grade updates will be provided at the instructor's discretion. Students are responsible to keep track of grades and assignments. The online tool used in this course will be Canvas, NetAcad, Test Out, Ucertify and others as needed following or during assessments which will track the student's assignments and classwork.

EVALUATION and GRADING

Please refer to the school-wide grading policy action plan.

Minor Grades (60%) Include daily tasks, activities, and quizzes.

Major Grades (40%) unit tests, projects, and simulations.

Classwork: Classwork will be assigned daily. Students will have adequate time to complete all assignments during the class.

For assignments turned in past the due date:

- **1st Time: Verbal warning**
- **2nd Time: Parental phone call**
- **3rd Time: Face to face meeting with the parents**

Chapter Tests/Quizzes

There will be tests given in class at their scheduled time to assess student learning. Students will be given ample time to take these tests. Quizzes are closed notes, taken in-class, or given as a pop quiz.

Skill-Based Assessments:

Skill-based assessments/assignments will be given to be worked on during class. This will assess students' technical knowledge of curriculum material presented from each chapter.

Final Exam:

Students will be given a comprehensive exam at the end of the semester. The exam will cover all topics and activities/labs taught during class. The Final exam is a closed book/notes exam. The final exam will be in class. If the student is to miss the final examinations, the student must inform the teacher prior to the exam date/time and supply an official excuse.

Cheating:

It is expected that students will conduct themselves with integrity. If you cheat or assist others in cheating, you violate a trust. Cheating includes, but is not limited to, the following:

- copy files or lend your storage device to another student
- copy answers on exams or glance at nearby exams
- turn in assignments that have been used in other classes
- use technology to search for answers online, unless otherwise instructed for that quiz/test.

Best Practices for Success:

- Pay attention in class – assignments are explained in detail and usually with an example.
- Take notes during lecture.
- Review assignments with others before submitting to ensure clarity
- If you do not have access to technology at home please notify the teacher, this way it is logged for future homework assignments.
- Be resourceful and take initiative.
- Try to stay organized – being on time and prepared is a great start.

Cell Phone and Headphones Policy:

- Phones will be silenced and put away during class.
- Only use your devices for classroom activities, if found using your cell phone without permission, you are in violation of this policy.
- Headphones will only be allowed at the teacher's discretion.

Food and Drink Policy: Students may not eat or drink in the classroom.

Expectations: Be prepared; Be on time; Be respectful. In a word: Professionalism.

- Students will enter the classroom with instructor at the door. Students will review and know where the fire drills and emergency procedures are posted (on exit door).
- The teacher will take role during the induction activity/exercise to allow students a chance to prepare for the lesson.
- Students are highly encouraged to go to the restroom before class begins. Once class starts, students are not permitted to leave during the first and last 15 minutes of class (School policy) lecture unless in an emergency.

Disciplinary Consequences:

1st Offense – Student will receive a verbal warning from the instructor of an unnecessary occurrence/incident, act or classroom disruption.

2nd Offense – Student will be reminded of the 1st offense and the parent / guardian will be contacted to request a parent/teacher conference. The incident will be recorded in the student's record in Infinite Campus and the parent / guardian will be contacted.

3rd Offense – Teacher, student and parent will have a conference with the administration to discuss further actions.

Materials/Supplies: Each student should have access to their free cloud storage(OneDrive), a class notebook, and pens/pencils.

- Be prepared, review posted class material on promethean board.
- Students are required to bring a daily journal/notebook and pencil/pen to class.
- Students study guides are online and available daily. Each student can review the study guides before class.
- Students are required to bring a flash drive to save classwork or save their classwork to OneDrive.

Absent: You must complete all assignments. Expect to take exams as soon as you return to class (prepare during absence). All assignments are available online and the students will have access to classwork via the Internet.

Tardiness: The student must have a tardy pass to enter the classroom.

Messages: The student has the responsibility to ensure he or she reads all messages and documents posted or distributed. We will be using minimum paper for this class and most of our communications will be electronic "online".

Tutoring/Remediation: Individual and group tutoring is available during class time and my office hours where needed. If a situation requiring further tutoring outside of that time is necessary due to hospitalization or other extreme circumstances, I will set aside limited time for virtual or after school instruction.

Pro tip about remediation: Students can always go back to make up missing assignments, but these things pile up and can become overwhelming quickly. Do not rely on this as a strategy. It is best to be on time.

Please sign and return this page to Mr. Welch

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I have received a copy of the syllabus for the course listed above and understand that all students registered for the class will be responsible for adhering to the structure and expectations laid out in the document.

Student Signature: _____ **Date:** _____

Parent/Guardian Signature: _____ **Date:** _____