IT Fundamentals
Syllabus

Bob Jones High School
650 Hughes Road
Madison, AL 35758

Teacher: *Bill McIlwain*
Email: wemcilwain@madisoncity.k12.al.us

Phone: (256) 772-2547

I.   *Course Description:*   IT Fundamentals is designed for the students to gain the knowledge to identify and explain the basic hardware and software components of a computer, as well as recognize network components and protocols, and common security threats and vulnerabilities.

Before taking this course, students should have a basic understanding of computers, including the following skills:

- Installing and running programs.
- Using basic productivity software including word processing applications.
- Saving files created by common applications.
- Browsing the Internet.

II.   *Course Objectives:*   By the time students have completed this course, they should be able to do the following:

- Set up a new computer
- Identify system requirements when purchasing a new computer
- Understand the technology and specifications used to describe computer components, and make informed choices about which device characteristics are required for the situation.
- Install or upgrade the operating system.
- Manage external devices.
- Identify basic security threats.
- Troubleshoot common computer problems that can be resolved without replacing internal components.
- Recognize basic networking topologies and protocols.
- Connect to a small home network.
- Understand different software application types.
- Explore the different types of programming languages.
- Explore database concepts and structures.

In addition, this course will help prepare the student to pursue the IT Fundamentals + and A + CompTIA certification exams.

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III.   ***Classroom***
Expectations:

Classroom Rules
<u>*Students will:*</u>
- Be respectful of the teacher, each other, and all classroom property.
- Participate in classroom discussion and group work.
- Use appropriate language at all times.
- Not bring food, drink, or gum into the classroom.
- Bring all materials to class.
- Be in class on time, seated, and dressed appropriately.
- Keep your chair at your computer unless you have permission to move.
- Pay attention during lectures and class discussions with monitors OFF.
- Do not get on the Internet until your work is complete.
- If you break a rule or conduct yourself in a manner that disrupts instruction or is disrespectful, you will be disciplined according to the severity of the crime. Action taken will include but not be limited to verbal warning, parent phone call, parent conference, and/or discipline referral.

*Other rules may be added if deemed appropriate.

Classroom Consequences
If classroom rules are violated, the following consequences will be administered:
1. Warning.
2. Detention.
3. Detention and parental contact.
4. If you continuously choose to not follow classroom rules, then an administrator will be contacted as well as a parent conference.

Student accommodations:
Requests for accommodations for this course or any school event are welcomed from students and parents.

Student Laptop utilization:
- Student laptops should not be hard wired to the network or have print capabilities.
- Use of discs, flash drives, jump drives, or other USB devices will not be allowed on Madison City laptops.
- Neither the teacher, nor the school is responsible for broken, stolen, or lost laptops.
- Laptops and other electronic devices will be used at the individual discretion of the teacher.

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IV.   *Grading Policy:*   Test grades will account for 70% of the course grade, with the remaining 30% being determined by quiz/daily grades.

The grading scale is as follows: A (90-100), B (80-89), C (70-79), D (65-69), and F (below 65).

Grades will be a reflection of mastery of the standards. Make sure all absences are excused as class work can be made up and graded for excused absences only. The Final Exam counts for 1/5 of final grade.

V.   *Make-up Test Policy:*   If you are absent, it is your responsibility to discuss the missed assignments and/or lecture with the teacher. All work missed on the day(s) of the excused absence(s) must be made up within three school days after returning to school. **It is also your responsibility to turn this work in to me by the third day.** If you do not turn in the work within **3 days** then it will become a zero. If you missed a test or quiz, we will need to schedule a day at either 7:30am or 3:30pm for you to take the make-up test. If you need additional laptop time to complete assignments or tutoring, please see me to arrange a time.

VI.   *Materials and Supplies Needed:*   3 Ring Binder, Loose Leaf Paper, Pencil/Pen, brain.
Note taking is strongly encouraged!
*Other materials for IT Fundamentals curriculum will be added on an as needed basis.

VII.   *Text and other Required reading:*

➢ **TestOut.com** online training and labs: **PC Pro**
(Students will have access to the PC Pro license for a year after activation)

➢ **CompTIA IT Fundamentals Study Guide** by Quentin Docter

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	18 – TENTATIVE WEEK PLAN*
Week 1	**Unit 1: Core Hardware Components** IT Fundamentals introduction, IT job search, Safety quiz, Open TestOut account
Week 2	Binary, Troubleshooting procedures, PC tools and maintenance
Week 3	Motherboards, Processors, Random Access Memory
Week 4	BIOS, Expansion cards, Video & Audio cards
Week 5	**Unit 2: Peripheral Devices & Connectors** Device connectors, Display devices
Week 6	Driver management, Printing devices
Week 7	**Unit 4: Software Applications & Operating Systems** Operating system functions & OS Versions, Linux, Windows, MAC
Week 8	Application Design Concepts, Common Application Types
Week 9	**Unit 5: Software Development & Database Concepts** Programming logic, Compiled languages, Assembly Language, Interpreted & Query Languages,
Week 10	Purpose of a Database, Relational & Non-Relational Databases, Database Access Methods
Week 11	**Unit 6: Network Concepts & Technologies** Network devices, Basic Network connections, Network topologies, Ethernet, IP addressing
Week 12	Explore different wireless connections, Creating a SOHO network, Wireless security
Week 13	Internet of Things, Securing the Internet of Everything
Week 14	**Unit 7: Security & Threats** Physical Security, Password policies, Best practices, Authentication
Week 15	Malware, Social Engineering, Stuxnet,
Week 16	Cryptography, Historic Ciphers, Business Continuity
Week 17	Prepare for Certification Exam
Week 18	**Finals**

* The syllabus serves as a guide for both the teacher and student; however, during the term it may become necessary to make additions, deletions, or substitutions. For any necessary changes, adequate notice will be provided to the students.

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COMPUTER ASSIGNMENTS

•   Each student will be assigned to a computer in the first of week class. You may **NOT** change computers without permission from me and you may **NOT** let another student access your computer. Even if your computer is not working correctly, you must inform me and you will be reassigned until the problem is fixed.

•   If any inappropriate activity or vandalism occurs at your assigned computer during that class period, it will be presumed that **YOU** are responsible.

•   If, at the beginning of class, you discover a problem with your computer, you must immediately let me know. Otherwise, **YOU** will be held responsible.

RULES FOR USE OF LAB COMPUTERS

•   Any computer vandalism (software and/or hardware) will result in a loss of computer privileges for an indefinite period of time and a discipline referral will be issued.

•   When you are allowed to access the Internet, any viewing, printing, or downloading "inappropriate" material from the Internet will result in a loss of computer privileges for an indefinite period of time and a discipline referral will be issued. You are allowed to access the Internet **ONLY** after all your work is completed. If this is not the case, you will be given a warning or detention.

•   In the past, certain offenses that have been deemed by the administration and/or technical staff as harmful to the system network or as a potential security risk have resulted in removal of the responsible student(s) from the class and from ever accessing a computer at Bob Jones again.

•   If you are not sure about what is considered inappropriate, check with me **BEFORE** you act!

•   **ALL RULES AND POLICIES STATED IN THE BJHS STUDENT HANDBOOK REGARDING COMPUTER USE WILL BE STRICTLY ENFORCED.**

•   The academic misconduct policy of the school will be followed in this course.

•   The attendance policy of the school will be followed for this course.

•   All requests for accommodations, for this course or any school event, are welcomed from students and parents.

•   Any student who receives a failing grade during this course is urged to discuss this with the teacher.

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Dear Parent/Guardian,

      I look forward to having a great semester! I want to help make this a successful and enjoyable class. I feel fortunate to have your student in my class this semester and hope that you will contact me should you have any concerns about the progress of your student or any aspect of the instruction. With your student, please read the attached syllabus and policies, then sign and date this signature page and have your student return this form to me in class. Please provide a current email address and phone number at which I can contact you should the need arise. Please feel free to contact me at school with any concerns.

Thank you,

Mr. Bill McIlwain
wemcilwain@madisoncity.k12.al.us

My child and I have read and discussed the classroom syllabus and agree with all policies. Please fill out and return this page only with the correct information to Mr. McIlwain.

Student Name (Print) _____   Date_____

Student Signature_____   Date_____

Parent/Guardian Name (Print)_____   Date_____

Parent/Guardian Signature_____   Date_____

Email address_____(w) _____ (h)

Phone number_____(w) _____(h) _____(c)

Please provide me with any important information about your child that I will need to know:

_____

_____

_____

_____

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Addendum to Class Syllabus

1. Put away and silent cell phones & electronic devices

*Electronic devices and accessories (CD players, Ipods, handheld games, mini-TVs or personal DVD players, cell phones, ear buds, personal laptops, pagers, ear etc.) should not be on the desks or used unless otherwise directed. It has been proven that trying to utilize these devices (unless otherwise specified by the teacher) while in class can lead to failing the course. You must pay attention at all times to be successful in the class.

2. Do not get up out of your seat unless you are directed to by the teacher.

3. Please be on time! If you are late to class you could get detention.

4. Do your best work & turn it in on time! As I coach my runners...”It’s easier to keep up than catch up!”
*Remember that the work that you turn-in is a reflection of your effort on the assignment. Think about the following expectations when you are preparing an assignment that I will review:

*Write your full name, date and school on all assignments. All work must be neatly done and legible in order to receive credit. If you print, capitalize properly (do not write using all capital letters).

*Never turn any assignments in with the "fringes" from spiral notebooks on the paper or I will not accept that assignment. Likewise, assignments that are bunched up, crinkled, illegible, sloppy, or contain stains or holes are unacceptable.

*ALL MAJOR ASSIGNMENTS, RESEARCH PAPERS, ESSAYS & PROJECTS MUST BE TYPED. Final draft format for typewritten work is as follows: 12-point font, double-spaced, 1” margins, and use a “normal font” such as Arial, Comic Sans, Times New Roman, etc. (nothing too difficult to read and a font that prints using capital and lower-case letters).

Student signature_____ Date_____

Parent/Guardian signature_____ Date_____