

NETWORK/SYSTEMS ADMINISTRATION

Center of Applied Technology North

Instructor: Robin Mearman

Syllabus – 2015 - 2016 Level I



Parents, please read the following with your student and sign.

Course Description:

1. As a student in this two year program you will learn the technical skills to install and use application and systems software, troubleshoot and maintain computer workstations, work with multiple operating systems, setup and configure network hardware and software, install and configure the TCP/IP protocol on workstations and servers, troubleshoot and maintain a network server and workstation, work in a team setting, and more. Motivated students can apply the knowledge presented in this program to prepare for the IC3, A+ certification, Network+ certification, and Microsoft Certified Applications Specialist certification. Earning the IC3 certification signifies to prospective employers that the candidate possesses the knowledge required for basic internet and computing core areas. Earning the A+ and/or Network+ certification signifies to prospective employers that the candidate possesses the knowledge needed to configure and operate a variety of computer hardware/software and networking products. Microsoft Certified Applications Specialist certification signifies to prospective employers that the candidate possesses the knowledge required to become a specialist with Microsoft Office Suite 2010 products. Emphasis is placed on the A+ exam.
2. Your instructor believes that **YOU** control how much you learn. I will provide you with many opportunities to discover and reinforce the curriculum concepts. If you pay attention, **READ, STUDY, and TRY** your best, you will be successful in this class and learn a lot about computers and networking. Your instructor does not give you a grade, you earn your grade. She is your coach during the intense preparation for your future.

Prerequisites:

Teacher recommendation and Keyboarding (Q65000) is an asset. It is expected that the student will have a basic knowledge of the use of a microcomputer. A basic understanding of the Windows interface is also expected. In particular the student should know how to use Windows Explorer to manipulate (copy, delete, move, etc.) files. If you do not have this basic knowledge, please let the instructor know so that you can be tutored individually.

Required Supplies, Clothing and Fees:

1. Pencils or Pens
2. 3 inch binder and notebook paper (binder will be used for 2 years)
3. Certification fees at the time of the certification
 - A+ - 2 tests \$89.00 each (required)
 - Net+ - 1 test \$137.00 each (optional)
4. SkillsUSA Registration fee: approximately \$20 per year (recommended)

Content Outline:

Level I – Main Focus A+ Certification

- The Art of the Tech
 - How Computers Work
 - Dealing With Customers
 - Troubleshooting Methodology
- Ports and Connectors
 - Legacy Multifunction Ports
 - Standard Single-Function Ports
 - Modern Multi-Function Ports
- Maintenance and Safety Precautions
 - Cleaning and Maintenance Procedures
 - Component Protection and Storage
 - Electrostatic Discharge Precaution
 - Safety and Environmental Issues
 - Special Disposal Procedures and Environmental Protection Guidelines
- Motherboards, Power Supplies, and Cases
 - Motherboards
 - Power Supplies
 - Cases
- CPUs
 - CPU Technology
 - Installing CPUs
 - Troubleshooting CPUs
- RAM
 - RAM Overview
 - Handling and Installing RAM
 - Troubleshooting RAM Errors
- BIOS and CMOS
 - Boot Process and POST
 - System ROM
 - System BIOS and CMOS Setup Utility
- Hard Drives
 - Hard Drive Technologies
 - Installing Hard Drives
 - Partitioning and Formatting
 - Protecting Data with RAID
 - Maintaining and Troubleshooting Hard Drives
- Removable Media
 - Floppy Drives
 - Flash Memory
 - Optical Drives
 - Tape Drives
 - External Drives
- Peripherals and Specialty PCs
 - Input Devices
 - Adapter Cards
 - Output Devices
 - Specialty PCs

- Printers
 - Types of Printers
 - Installing Printers
 - Troubleshooting Printers
 - Maintenance
- Portable Computers
 - Upgrading and Repairing Laptop Computers
 - Portable PC Features
 - Maintaining and Troubleshooting Portables
- Mobile Devices
 - Features and Capabilities of Smartphones and Tablets
 - Configuring Mobile Devices
 - Securing Mobile Devices
- Operating System Fundamentals
 - Characteristics of the Operating System
 - Common Operating System Functions
 - Operating System Interfaces
 - Common Microsoft Windows Features
- Windows in Detail
 - Essential Tech Utilities
 - Windows Structure
 - Booting Windows
 - Windows Versions and Editions
- Installing and Upgrading Windows
 - Preparing for Installation or Upgrade
 - Installing and Upgrading Windows XP, Vista and 7
 - Installing Windows into a Virtual Machine
 - Troubleshooting Installations and Upgrades
- Maintaining, Optimizing, and Troubleshooting
 - Maintaining Windows
 - Optimizing Windows
- Troubleshooting Windows
 - Troubleshooting Windows Boot Problems
 - Troubleshooting Windows GUI Problems
 - Troubleshooting Windows Application Problems
- Networking
 - Networking Components for the PC
 - Types of Networks
 - Network Cabling Standards
 - Network Operating Systems
 - Installing and Configuring a LAN
 - Troubleshooting Networks
- Wireless Networking
 - Wireless Networking Basics
 - Wireless Networking Standards
 - Configuring, Connecting, and Troubleshooting Wireless Networking
- The Internet
 - Connecting to the Internet
 - Internet Software Tools

- Securing Computers
 - Analyzing Security Threats
 - Security Concepts and Technologies
 - Protect Computer from Network Threats

Grading Process Information

1. Grading Scale

A (90-100%) - Outstanding level of achievement

B (80-89%) - High level of achievement

C (70-79%) - Satisfactory level of achievement

D (60-69%) - Low level of achievement

E (59% -50) - Failure

0 – If student does not attempt the work

2. Category Weights

Level I

50% - Summative Assessments

~ Chapter Tests

~ Projects/Labs

25% - Formative Assessments

~ Classwork

~ Quizzes

15% - Work Habits

~ Work Habits Assessment Form (2 per marking period)

10% - Quarterly Assessment

3. Due Dates / Late Work

All assignments will have a due date. Assignments submitted after the due date will be penalized on a sliding scale basis (* see below). The outside date for late work to be submitted shall be five school days from the original due date.

** Sliding scale – Minus ten points for each day after due date to the minimum of fifty points which the student makes a good faith effort to meet the basic requirements determined by the Instructor prior to the assignment given, if not, a zero will be given to the student for the assignment.*

4. Re-teach & Re-Assess

Students shall have one additional opportunity to improve their score on a qualifying assessment, activity, or assignment which demonstrates knowledge of course content, skills, and standards. To qualify, students must have completed and submitted the original assessment, activity, or assignment by the due date and must have participated in the teacher-facilitated reteaching (during class or after school on Tues. – Thurs. as available) within five school days following the return of the original graded work. Within ten school days of receiving the returned original graded work, students must complete and submit the new assessment, activity, or assignment. The higher grade shall be the grade of record.

Work **eligible** for re-assessment: Tests/Quizzes, Projects, and Classwork

Work **not eligible** for re-assessment: Work Habits, Quarterly Assessment, Practical, and Final Exams

5. Minimum Grades

A minimum grade of 50% will be assigned to assignments or assessments for which the student made a good faith effort, as determined by the teacher, to meet the basic requirements. If a student does no work on an assignment or assessment, the teacher will assign a grade of zero.

6. Group Work Grades

On occasion, students will be asked to work in small groups on a variety of assignments. In those cases, each student will be individually assessed and assigned a grade that reflects their own level of success in meeting the outcomes for that particular assignment.

7. Academic Integrity

A student who exhibits academic dishonesty, as determined by the teacher and administrator will receive a zero on the particular assessment/assignment in question. Violations of the Academic Integrity Policy and Regulation may result in disciplinary action. Consequences for violations may vary according to the severity of the violation and shall follow the progressive interventions and discipline as outlined in the Student Code of Conduct.

Assessment Information

There will be a minimum of nine separate assignments or assessments, an average of one grade per week, for course content, skills, and mastery.

Parent Notification Information

1. Types of Parent Notification

- a. Phone calls (I can be reached at 410-969-3100 ex: 229)
- b. E-mail (my email address is rmearman@aacps.org) (best mode for quick response)
- c. Parent/Teacher conferences
- d. Grades can be accessed online through ParentConnect
- e. AACPS Blackboard – All curriculum and most assignments are posted on Blackboard. Each student has an account to Blackboard for 24 hour access to course materials. Most tests are available on Blackboard and students may review their results.

2. To allow for timely, potentially corrective action, prompt communication with a parent/guardian will occur if:

- a. A student is in danger of failing or
- b. A student is in danger of dropping the equivalent of 2 or more letter grades at any point during the marking period.

Additional Information:

Texts:

1. Texts:

- Mike Meyers' Certification Passport – CompTIA A+ Certification

Sample of Teaching Methods:

1. Lectures: Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured, outside material relevant to topics being covered.
2. Demonstrations: Some of the class time will be used to demonstrate the practical use of the software, utilities, and various procedures. Students are encouraged to carefully observe the demonstrations, take notes, and also to go through the tutorial material in the textbook or help files, if available.
3. Assignments: Problems, labs, projects, case studies, review questions, and readings will be periodically assigned to help support and supplement material found in the text. These assignments may require the application of prior knowledge and research to complete.
4. Quizzes: Occasional scheduled or unscheduled quizzes will be given to help ensure students stay up with assigned material.
5. Tests: Several tests will be given. Some tests will be “hands on”, in that you will be given information and required to produce the required result. There will also be written tests. These tests will be timed so it is important that the student not only know the skills but also know them well enough to move quickly through the test. When the time for the test has passed, students will be required to turn in what they have completed at that point.
6. Internet: Some material will be available on the Internet. Class notes in the form of PowerPoint presentations, instructional material, and student assignments will be posted on the class Edmodo site or on the class intranet.
7. Notebooks: The students will be required to keep a binder notebook. The notebook will be collected at scheduled and unscheduled times.
8. Portfolio: Portfolios are purposeful collections of student’s work that illustrate students’ efforts, progress, and achievements. These collections are intended to display the individual nature and quality of student’s work and progress over time. Students and the instructor will work together to design and evaluate the Portfolios.

Course Policies:

Missed Classes: If a student is absent, they should bring a note to the instructor from the parent/guardian stating the student’s name, date of the absence, reason for the absence, and it should also include the parent’s/guardian’s signature.

At the secondary level, a student who misses six or more days of school in a semester is considered “excessively absent.” **Excessive absence may result in the denial of credit for the semester.** For further information refer to Attendance in the AACPS Student handbook. You must make up all missed days in a semester. ALL absences (legal or illegal) will be reflected in the Work Habits grade even if the time was made up.

Class Disruptions: Disruptive actions and excessive noise during theory and labs will result in a conference with your instructor, Referral to the office and/or parent notification, Parent Conference, Exclusion from class (time-out), Detention, and/or an Essay. Classroom disruptions will be reflected in the Work Habits grade.

Need for Assistance: If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it, or which will require academic accommodations, please notify me as soon as possible. Extra help is available through Student Support Services at CATN.

Posting of Grades: Periodically (Level I – Bi-weekly, Level II - weekly), your instructor will post spreadsheets by student id stating your current grade in the course. The interim progress report (received halfway through the quarter) will need to be signed by your parent/guardian if you have obtained an unsatisfactory grade.

Class Rules

You are working with expensive equipment and furniture. You are therefore, required to take care of all equipment, furniture, books, etc. in this lab. You are also expected to conduct yourself in a manner conducive to a classroom/business environment. The care and respect that you show for these things and this school are very important to your grades and to your future at CATN. Failure to comply with any rules may result in suspension from this class and/or from this school.

1. Respect yourself.
2. Respect others.
3. Respect property.

Computer Rules

In this course, you may be exposed to computer procedures that students are not allowed to perform on computers in the school system that are outside of the Network/Systems Administration computer lab. It is important that you observe the rules regarding computer use at CATN and your home school. At the home school, the student should **NEVER** repair computers that are attached to the Anne Arundel County Public Schools Wide Area Network and never without the permission of a school official. **NEVER** duplicate/burn any CDs unless instructed to do so.

Anne Arundel County Public Schools Security Violation Categories

See the Student Handbook for current Computer Misuse Consequences.

Parents and students, please sign below, detach page, and return to instructor.

Parent signature: _____ Date: _____

Please print legibly: Contact Info (Email or phone): _____

Alternate: _____

Student signature: _____ Date: _____

Student printed name: _____

***Network/Systems Administration
Center of Applied Technology North
Level I***

