**Computer Networking I**

2021-2022 Course Syllabus

Instructor: Deborah Minassian, M.Ed.

Location: Room 257

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**Course Description:**

The goal of this course is to introduce the student to computer hardware and software, Windows, Linux, and MAC OS, networking concepts, mobile devices, IT security, and troubleshooting. The online course materials will assist the student in developing the skills necessary to work as a technician in the field of IT. This is a lecture and hands-on, lab course that stresses professionalism, and collaboration in a team environment. This is a Running Start program, students have the opportunity to earn 6 college credits.

**Classroom materials:**

Cisco Academy: <https://www.netacad.com>

**Goals and Objectives of this course:**

Upon completion of the IT Essentials v7.0 and Linux Essentials courses, students will be able to perform the following tasks:

● Select the appropriate computer components to build, repair, or upgrade personal computers.

● Install and configure components to build, repair, or upgrade personal computers.

● Perform troubleshooting on personal computers.

● Explain how computers communicate on a network.

● Configure devices to communicate on a network.

● Explain how to troubleshoot laptops and other mobile devices.

● Install a printer to meet requirements.

● Describe virtualization and cloud computing.

● Install Windows and Linux operating systems.

● Perform management and maintenance of Windows operating systems.

● Explain how to configure, secure, and troubleshoot mobile, MacOS, and Linux operating systems.

● Implement basic host, data, and network security.

● Explain the roles and responsibilities of the IT Professional.

● Understand how Linux is used and the basics of the command line.

● Apply skills using Linux virtual machine with step-by-step and hands-on lab activities.

● Build foundational knowledge for progressively mastering Linux commands.

● Understand the importance of using scripts in computer networking.

**Certificates and Certifications attainable under this program:**

**Certificates:**

Upon successful completion of IT Essentials and Linux Essentials, you will receive a certificate of completion and a digital badge from Cisco Systems and NDG. Certificates are not certifications, however, they demonstrate an understanding of specific material that is important to many employers.

**Certifications:**

CompTIA Fundamentals

CompTIA A+

Linux Essentials

This course prepares you for these certifications. Certifications are conducted off-site at an independent testing site. These exams have a fee. I have practice exams and study materials if you are interested in pursuing any of these nationally recognized certifications.

**Assessments:**

Graded assignments, testing, projects, and hands-on are evaluated as follows: Formative or Summative. Formative assessments determine how well you are grasping the concepts presented. This could be a vocabulary quiz on new terms introduced, or demonstration on your knowledge of how to change a CMOS battery. Summative assessments determine how well you have learned the concepts of the chapter(s). Summative assessments would include the Chapter exams, collaborative projects, or mastery of skills such as building a PC.

**Late work:**

The Computer Networking Program is an Honors-level, Running Start program. What that means is that you can earn college credit and, if you desire, attempt several certifications. In keeping with the expectation that comes with earning college credit, you will submit all work on time.

**Formative assessments and other non-summative categories:**

Instructor will grade these assessments within one week after the due date. Students can re-submit work, **once**, within 5 days after receiving the initial grade. Work is due on the due date, unless negotiated in advance with the instructor. Work submitted late will receive the following score: Grace period of three days after due date; students will lose 10 points each day. On the third day, the highest score you will receive is a 70. Work turned in after three days will receive a grade of 50. If you are struggling with an assignment, please ask for help, attend flex, or arrange time on Wednesday afternoon.

Summative assessments are due on the date assigned. Mid-term and Final Exams are expected to be taken on the day they are assigned. Students that are unable to take an exam on the scheduled day are expected to make arrangements with the teacher, in advance.

The details of grading is as follows:

**Formative: 20%**

* Soft skills, professionalism, conduct
* Quizzes
* Labs
* Competency – demonstration of a particular skill

**Summative: 80%**

* Chapter Exams
* Projects
* Labs
* Competency – demonstration of combined set of skills

**Student Expectations: Whether we are in the classroom or online**

* Arrive on time, be prepared, ready to work, and learn.
* Professionalism. Dress, manners, and attitude. No hats or hoods, please.
* Attendance: In order to do well in this class, you need to be present and able to participate. Students who know in advance of a tardy or absence, should discuss with the teacher.
* Follow all safety rules at ALL times.
* Complete all assignments and assessments.
* Be respectful of one another.
* Raise your hand when asking or answering questions.
* Equipment, peripherals, devices, components and tools are in the classroom for all students to use. The removing any equipment, peripherals, devices, components or tools without permission, is considered grounds for removal from the program.
* **Use of personal technology (smart phones, cell phones, iPods, iPads or similar) are at the teacher’s discretion only. Personal technology devices are out of sight and silenced.**

**Office Hours:**

I am here to help you succeed. Please check the white board in our classroom for weekly office hours or touch base with me in person to arrange a mutually convenient time.

**Course Outline:**

**Course Outline Semester 1**

**Quarter 1: Quarter 2:**

|  |  |
| --- | --- |
| * Course overview | * Networking Concepts |
| * Introduction to the PC Hardware | * Applied Networking |
| * PC Assembly | * Laptops and Other Mobile Devices |
| * Advanced Computer Hardware * Preventative Maintenance and Troubleshooting | * Printers * Virtualization and Cloud Computing |

**Course Outline Semester 2**

**Quarter 3: Quarter 4:**

|  |  |
| --- | --- |
| * Windows Installation | * Introduction to Linux OS |
| * Windows Configuration | * Command Line Skills |
| * Mobile, Linux, and macOS Operating Systems | * Navigating the Filesystem |
| * Security * The IT Professional | * Basic Scripting * Networking, System and User Security * Users, Groups, Ownership and Permissions |

|  |  |  |
| --- | --- | --- |
| Week (Estimation) | Lecture Topics | Assignments |
| 1 | Course Overview, Build Accounts  Syllabus  Introduction to Personal Computer Hardware | Chapter 1  Quiz, Labs  Chapter Test |
| 2 | PC Assembly | Chapter 2  Quiz, Labs  Chapter Test |
| 3 | Advanced Computer Hardware | Chapter 3  Quiz, Labs  Chapter Test |
| 4 | Preventive Maintenance and Troubleshooting | Chapter 4  Quiz, Labs  Chapter Test |
| 5 | Networking Concepts | Chapter 5  Quiz, Labs  Chapter Test |
| 6 | Applied Networking | Chapter 6  Quiz, Labs  Chapter Test |
| 7 | Laptops and Other Mobile Devices | Chapter 7  Quiz, Labs  Chapter Test |
| 8 | Printers | Chapter 8  Quiz, Labs  Chapter Test |
| 9 | Virtualization and Cloud Computing | Chapter 9  Quiz, Labs  Chapter Test |
| 10 | Windows Installation | Chapter 10  Quiz, Labs  Chapter Test |
| 11 | Windows Configuration | Chapter 11  Quiz, Labs  Chapter Test |
| 12 | Mobile, Linux, and macOS Operating Systems | Chapter 12  Quiz, Labs  Chapter Test |
| 13 | Security | Chapter 13  Quiz, Labs  Chapter Test |
| 14 | The IT Professional | Chapter 14  Quiz, Labs  Chapter Test |

\*Linux essentials course will be presented after the completion of IT Essentials. Both courses are Running Start eligible.