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**Lesson Plan**

Networks

MODULE 15

This **lesson plan** was written for the Florida Public School System DIGITAL INFORMATION TECHNOLOGY (8207310) course. Funded by the Cyber/IT Pathways Program, Cyber Florida, and the Florida Department of Education.

**Digital Information Technology (8207310)**

This Lesson Plan is designed to aid high-quality instruction through the identification of components that support learning and teaching. Each section of this Lesson Plan is modeled after 2022-2023 CTE Standards and Benchmarks for Digital Information Technology (8207310) as published by the Florida Department of Education Student Performance Standards.

Networks

# Module Overview

This module introduces students to the concept of computer networks. This includes an understanding of how the Internet works, the infrastructure required to support its functions, and the importance of secure computer networks.

## DIT Textbook Chapter Overview

The *Computer Networks* chapter in the accompanying DIT textbook supports the conceptual understanding of the content covered in this module*.*

## CTE Standard and Benchmark

**Standard 11.0:** Demonstrate competence using computer networks, internet, and online databases to facilitate collaborative or individual learning and communication. The student will be able to:

* **11.01** Demonstrate how to connect to the Internet and identify and describe web terminology, addresses and how browsers work.
* **11.02** Demonstrate proficiency using basic features of GUI (Graphical User Interface) browsers, including: bookmarks, basic configurations, e-mail configurations, and address books.
* **11.03** Describe appropriate browser security configurations.
* **11.07** Differentiate between different domain extensions (e.g., .com, .org, .gov, .edu, etc.).

# Continuity

Students will have read all content included in the *Computer Networks* chapterto prepare for the lessons included in this module.

Table 1 Continuity

| **Standard** | **Recommended Previous Lesson/Knowledge** | **This Lesson** | **Recommended Upcoming Lessons** |
| --- | --- | --- | --- |
| 11.0 and 11.01 | Students should read the *Computer Networks* chapter. | Students will watch a video which describes the University of South Florida Network Infrastructure. | Students will use the knowledge from this lesson to learn future DIT modules. |
| 11.01, 11.02, and 11.03 | Students should read the *Computer Networks*. Students should be familiar with how to use an Internet browser. | Students will explore and understand Internet browser configurations. | Students will use the knowledge from this lesson to learn future DIT modules. |
| 11.07 | Students should read the *Computer Networks* chapter. Students should know how to navigate to a webpage on the Internet using a browser. | Students will complete the *Computer Networks* chapter case in the accompanying textbook titled, *WHOIS Arianna’s Domain*. Students will identify domain names and extensions using a WHOIS query. | Students will use the knowledge from this lesson to learn future DIT modules. |

# Student Learning Outcomes

**Standard 11.0, 11.01**

Students will demonstrate how to connect to the Internet and identify and describe web terminology, addresses and how browsers work.

**Standard 11.02**

Students will demonstrate proficiency using basic features of GUI (Graphical User Interface) browsers, including bookmarks, basic configurations, e-mail configurations, and address books.

**Standard 11.03**

Describe appropriate browser security configurations.

**Standard 11.07** Differentiate between different domain extensions (e.g., .com, .org, .gov, .edu, etc.).

# Materials Needed

**Standard 11.0, 11.01, 11.02, and 11.03**

Students will need access to the Internet and an Internet browser.

**Standard 11.07**

Chapter case scenario is provided at the end of the *Computer Networks* chapter of the DIT textbook.

# Use of Space

Activities will require a classroom space that includes computing devices. If the space does not have computing devices, the teacher can consider the use of student personal devices (ex. smart phones, tablets, laptops). If the student does not have a computing device, the teacher can consider using a device for class demonstration purposes. For instance, the teacher could use their own school-supplied or personal computing device to demonstrate to all students. Consideration should also be given to where furniture and students are placed within the classroom to accommodate diverse needs.

# Prepare for the Lesson

Table 2 shows how the teacher and students should prepare for this lesson.

Table 2 Preparations

| **Teacher** | **Student** | **Assessment/Assignment** |
| --- | --- | --- |
| The teacher should read the *Computer Networks* chapter*.*  The teacher should be familiar with Internet browsers.  The teacher should consider if a computing device should be used for instruction if computer devices are not available for all students.  The teacher should read the chapter case and consider how to receive feedback from the students. | The student should read the *Computer Networks* chapter and study all terms.  Additionally, the student should read the case at the end of the chapter. | Standard 11.01, 11.02, and 11.03: Browser Security Configuration Activity.  Standard: 11.0 and 11.01: In-class viewing of USF IT video will be used to explore and understand how an enterprise network infrastructure operates in a complex university environment.  Worksheets will assess the student’s ability to perform the activities in class.  The teacher will review the chapter case in class. The teacher will conduct a verbal discussion to solicit student responses and participation. Students will be assessed on the chapter case based on their written responses to the chapter case questions and in-class discussion.  An answer key and/or rubric is provided for all student activities. |

# Activities

Table 3 shows the student workload effort for each activity in this module.

Table 3 Student Activities and Workload

| **Activity** | **Description** | **Estimated Student Completion Time** | **DIT Standard Alignment** |
| --- | --- | --- | --- |
| Browser Security Configurations | Student explores Internet browser configurations. | 45 minutes in-class activity | 11.01, 11.02, and 11.03 |
| Information Technology Infrastructure | Student explores how an enterprise network infrastructure operates in a complex university environment. | 45 minutes in-class activity | 11.01 |
| Chapter Case: WHOIS Arianna’s Domain | Student reviews the case from the *Computer Networks* chapter and answers critical thinking questions. | 45 minutes in-class activity | 11.07 |

# Assessments

The teacher will evaluate the student’s performance in identifying browser security configurations and understanding of the USF network infrastructure by measuring the accuracy of the student’s documentation.

Additionally, the teacher will evaluate the student’s critical thinking ability as they identify network domains in the case scenario. The teacher will use the assessment for formative purposes and will provide feedback on the accuracy of the student’s response and on means to promote student success.

The teacher will score assignments on a scale of 1-4 measuring the level of understanding the student is able to communicate about the subject.

# Accommodations

Please adhere to the [Florida Department of Education (2018) Accommodations Assisting Students with Disability Guidelines](https://www.fldoe.org/core/fileparse.php/7690/urlt/0070069-accomm-educator.pdf).

To reduce anxiety while completing activities, provide students with support while completing their assignments and sufficient time to complete their assignments in class.

Students can be encouraged to work with a peer to identify appropriate responses for the chapter cases.