

SYLLABUS
LINUX OPERATING SYSTEM
IT-113

INSTRUCTOR INFORMATION

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Office Hours: Available by appointment

COURSE DESCRIPTION

This course provides the study of industry standards and practices involved in wiring a computer network, including media and protocol specifications, connection topologies, installation, testing and troubleshooting.

MAJOR INSTRUCTIONAL AREAS

1. Technology and Components of Data Cabling
2. Cabling Specifications and Standards
3. Various Network Media and Connectors
4. Cabling-System Design and Installation
5. Cabling-System Testing, Troubleshooting, and Tips

COURSE OBJECTIVES

1. Explain how the electrical characteristics of transmission media affect data transmission.
2. Differentiate between the active and passive components used in a local area network (LAN).
3. Identify the various components used for cabling.
4. Identify the differences between a horizontal and a backbone wire network.
5. Connect cables to information outlets (I/Os) and patch panels.
6. Connect unshielded twisted-pair (UTP) and coaxial cables to connectors.
7. Document the installation process.
8. Manage faulty cables.
9. Differentiate between distributed network architecture (DNA) and centralized network architecture (CNA).
10. Identify the various components of a cable layout for a small network on a single floor, on multiple floors, and across buildings.
11. Create network diagrams and project schedules using Microsoft Visio.
12. Identify the various components required to connect a LAN to a WAN.

REQUIRED TEXT

Barnett, David, David Groth, and Jim McBee. Cabling: The Complete Guide to Network Wiring. 3rd ed. Alameda, CA: Sybex Inc., 2004.

COURSE REQUIREMENTS

1. Attendance and Participation: Regular attendance and participation are essential for satisfactory progress in this course.
2. Completed Assignments: Each student is responsible for completing all assignments on time.
3. Team Participation (if applicable): Each student is responsible for participating in team assignments and for completing the delegated task. Each team member must honestly evaluate the contributions by all members of their respective teams.

EVALUATION PROCEDURES

Components of your final grade are outlined in the requirements above. Letter grades will be assigned as follows:

	<u>Grading Scale</u>
Exercises 15%	A (90% - 100%)
Labs..... 25%	B+ (85% - 89%)
Quizzes..... 15%	B (80% - 84%)
Project 20%	C+ (75% - 79%)
Final Exam 25%	C (70% - 74%)
	D+ (65% - 69%)
TOTAL..... 100%	D (60% - 64%)
	F (0% - 59%)

TENTATIVE SCHEDULE

All the concepts will be covered in the class; therefore, the specified readings are merely for your reference. For all units, except unit 1: It is recommended that you complete the readings before attending the class.

Unit 1 Introduction to Data Cabling

Chapter 1, "Introduction to Data Cabling," pp. 3–59
Project: Introduction
Lab: 1-1

Unit 2 Transmission Media Used on a LAN

Chapter 2, "Cabling Specifications and Standards," pp. 61–113
Exercise: 1
Exercise: 2
Lab: 2-1

Unit 3 Cabling, Cabling Systems, and Infrastructure Constraints

Chapter 3, "Choosing the Correct Cabling," pp. 115–147
Chapter 4, "Cable System and Infrastructure Constraints," pp. 151–176
Quiz: 1
Exercise: 3
Lab: 3-1

Unit 4 Cabling System Components and Tools of the Trade

Chapter 5, "Cabling System Components," pp. 177–200
Chapter 6, "Tools of the Trade," pp. 203–232
Exercise: 4
Lab: 4-1

Unit 5 Copper Cable Media

Chapter 7, "Copper Cable Media," pp. 237–276
Quiz: 2
Exercise: 5
Lab: 5-1

Unit 6 Wall Plates and Connectors

Chapter 8, "Wall Plates," pp. 279–298
Chapter 9, "Connectors," pp. 299–323
Exercise: 6
Lab: 6-1

Unit 7 Fiber-Optic and Unbounded (Wireless) Media

Chapter 10, "Fiber-Optic Media," pp. 325–348

Chapter 11, "Unbounded (Wireless) Media," pp. 349–371

Quiz: 3

Exercise: 7

Lab: 7-1

Unit 8 System Design and Installation

Chapter 12, "Cabling-System Design and Installation," pp. 375–410

Lab: 8-1

Unit 9 Cable-Connector Installation and Cable System Testing and Troubleshooting

Chapter 13, "Cable-Connector Installation," pp. 411–443

Chapter 14, "Cable-System Testing and Troubleshooting," pp. 445–479

Exercise: 9

Lab: 9-1

Unit 10 Cabling @ Work: Experience from the Field

Chapter 16, "Cabling @ Work: Experience from the Field," pp. 509–525

Quiz: 4

Project: Case Study

Unit 11 Review and Final Examination