# IT Essentials v8 Syllabus

**Course Title:** IT Essentials (ITE 8.0)
**Instructor:** TJ Houston
**Email/Office Hours:** tj@tjhouston.com / Upon Request
**Meeting Times:** Virtual

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## Course Description

This course introduces the fundamentals of computer hardware and software, networking, mobile devices, security, and troubleshooting. It is aligned with the CompTIA IT Fundamentals (ITF+) and A+ certification objectives. Students will gain hands-on experience assembling computers, installing operating systems, and maintaining devices while also learning workplace and professional skills.

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## Course Objectives

By the end of the course, students will be able to:

1. **Explain IT careers and certifications** and the importance of safety and professionalism.

2. **Identify, install, and configure computer components** (motherboards, CPUs, memory, storage, and power).

3. **Install, configure, and troubleshoot operating systems** (Windows, Linux, macOS, and mobile OS).

4. **Describe networking concepts and connectivity** including IP addressing, Wi-Fi, and network troubleshooting.

5. **Apply security best practices** for devices, data, and users.

6. **Demonstrate fundamental IT support and troubleshooting skills.**

7. **Prepare for CompTIA A+ certification** by covering industry-recognized domains.

# Required Materials

- Cisco Networking Academy access (IT Essentials 8.0)

- Lab kit with PC components, cables, and tools

- Notebook or digital note-taking device

- Internet access

# Course Outline

### Unit 1: Introduction to the IT Profession

- IT careers, certifications, and safety

- Lab: Lab safety procedures

### Unit 2: Computer Assembly & Hardware

- Motherboards, CPUs, RAM, power supplies

- Lab: PC disassembly/reassembly

### Unit 3: Advanced Hardware

- Storage, peripheral devices, printers, mobile devices

- Lab: Install storage devices & printers

### Unit 4: Operating Systems

- Windows, Linux, and macOS features

- File management and virtualization

- Lab: Install Windows and Linux

## Unit 5: Networking Concepts

- Network types, topologies, IP addressing, Wi-Fi

- Lab: Configure TCP/IP and ping devices

## Unit 6: Security

- Threats, vulnerabilities, authentication, encryption

- Lab: Configure security settings and firewall rules

## Unit 7: Troubleshooting Methodology

- Steps in troubleshooting

- Lab: Diagnose and fix common PC issues

## Unit 8: IT Professional Skills

- Customer service, communication, professionalism

- Lab: Role-play IT support scenarios

## Capstone Project

- Build, configure, and troubleshoot a complete PC system

- Present findings and demonstrate troubleshooting process

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# Assessments

- **Labs & Hands-On Activities** – 40%

- **Quizzes & Module Exams** – 25%

- **Capstone Project** – 20%

- **Final Exam (Cumulative)** – 15%

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# Grading Scale

- A: 90–100%

- B: 80–89%

- C: 70–79%

- D: 60–69%

- F: <60%

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# Certifications & Pathways

This course prepares students for:

- CompTIA ITF+

- CompTIA A+ (recommended after completion)

- Future pathways in Networking, Cybersecurity, and Cloud