

Computer Technician I

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In this comprehensive course, we will delve into the intricate world of computer systems, equipping you with the essential knowledge and hands-on skills required to diagnose, troubleshoot, and mend a wide array of hardware and software issues. Whether you're a tech enthusiast aiming to master the art of computer restoration or an aspiring IT professional seeking to bolster your skill set, this course offers a structured and immersive learning experience. This class will be divided into two parts, the curriculum of TestOut IT Fundamentals Pro and hands-on training repairing Chromebooks and other equipment for staff and students at WRHS. Upon successful completion of this class, students will have the opportunity to move on to Computer Technician II and III where they will study for and take industry certification exams such as CompTia.

The TestOut IT Fundamentals Pro course was designed for students who are interested in Information Technology but have limited technical knowledge of computing systems. Students learn foundational concepts related to computer hardware and software, networking, databases, programming, Information Systems, and data security. In addition to instructional videos and textual content, the course includes over 100 hands-on labs to reinforce the concepts students are learning. The course also introduces students to a wide range of IT careers. It covers all objectives necessary to pass the TestOut IT Fundamentals Pro exam as well as the CompTIA IT Fundamentals (FC0-U61) exam.

The course is divided into eleven main chapters.

Table 1: Overview of Chapters

CHAPTER	OVERVIEW
1. Course Overview	This chapter begins by defining three overlapping disciplines: Information Technology, Information Systems, and Computer Science. After an in-depth discussion of the learning objectives for the course, the chapter continues with a survey of ethical issues associated with computer technology. As students explore technology concepts throughout the course, it's important to revisit the ethical principles covered in this first chapter.

2. Information Technology Basics	This chapter introduces the basic components of a computer system and provides a brief history of computer technology. It then describes how computers translate physical signals into digital information. The chapter concludes with a brief look at common careers in digital media.
3. Computer Hardware	This chapter describes the purpose of computer hardware, including internal components such as the processor, memory, motherboard, input and output devices, and storage. Using hardware simulators, students practice installing and troubleshooting various system components. The chapter concludes with a brief look at common careers in computer hardware.
4. Computer Software	This chapter discusses the purpose and features of computer software. Students learn the difference between system and application software, how computer software interacts with hardware, and how to troubleshoot common software problems. Simulated labs give students practice configuring operating systems, viewing BIOS settings, managing files, and using Microsoft Office applications. The chapter concludes with a brief look at common careers in system support.
5. Internet Technologies	This chapter describes internet technologies such as the world wide web, email, cloud computing, social media, and the Internet of Things (IoT). It explains the importance of protecting online identities, practicing proper email etiquette, and avoiding plagiarism when conducting online research. Students practice configuring web browsers, copying files to the cloud, responding to email messages, and configuring smart devices. The chapter concludes with a brief look at common careers in designing and configuring internet technologies.
6. Networking	This chapter introduces concepts and best practices associated with computer networking. It describes devices, standards, and protocols used in both wired and wireless networking. Students practice installing and configuring network devices, setting up secure internet connections, and troubleshooting network connection problems. The chapter concludes with a brief look at common computer networking careers.
7. Databases	This chapter describes the purposes and functionality of database systems. It introduces database design techniques, data access methods, and the challenges and opportunities associated with Big Data. Students practice configuring database objects, writing SQL commands, and designing tables within a database management system. The chapter concludes with a brief look at common careers associated with database systems.

8. Programming	This chapter provides a basic overview of computer programming. It introduces programming languages, logic, and development paradigms. Students use JavaScript to define variables, arrays, and functions; execute simple looping and branching logic; and add functionality to a web page. In addition to simple JavaScript programming, students use HTML and CSS to format web page content. The chapter concludes with a brief look at common careers in computer programming.
9. Information Systems	This chapter describes the role of Information Systems in business. It introduces the importance of data analytics, business intelligence, systems analysis and design, project management, and protecting intellectual property. Students use Microsoft Excel and Access to perform simple data analysis. The chapter concludes with a brief look at common careers in Information Systems.
10. Cybersecurity	This chapter introduces various strategies and tools for responding to data security threats. It describes how system administrators use authentication, data encryption, device security, and business continuity plans to protect valuable information. Students practice recognizing social engineering exploits, configuring access control, encrypting files, configuring device security, and implementing fault tolerance. The chapter concludes with a brief look at common careers in cybersecurity.
11. IT Career Preparation	This chapter summarizes various career paths in Information Technology. It discusses future trends in IT and explores how college programs and certifications help students prepare for IT careers. The chapter concludes with helpful tips on finding and preparing for IT jobs.

Resources/Software that may be used:

- Microsoft Office 365
- Google
- CompTia

Methodology

This class is mainly hands-on using computers and technology equipment. Students will also be presenting or sharing projects with the class.

Course Schedule

The course schedule is in Schoology. Schedules are posted weekly and adjusted as needed for the class.

Methods of Assessment/Grading Policy:

FORMATIVE: Daily Work 10%

SUMMATIVE: Summative Assessments/Quizzes/Projects 90%

- **Summative assessments will make up the majority of the grade. 90% of grade**
 - Retakes/reassessments/revisions are not penalized by point deductions or averaging multiple attempts.
 - **Because they indicate mastery of standards, missing summative assessments will be marked zero, and parents will be contacted when zeros are put in the electronic gradebook.**
 - Students have up to one week to complete missing summative or revise assessments unless other arrangements are made with the teacher.
 - A summative assessment may be taken or completed one additional time.
 - **RETAKES**
 - 75% of formative work must be completed to be eligible (3 of every 4 assignments)
 - 1st test taken or scheduled on or before initial exam date with the exception of sickness and/or emergencies
 - Student must consult with the teacher and schedule retake outside of class time.
 - If a student skips a class to avoid the summative assessment, they will not be eligible for a retake.
- **Formative: Evidence of formative assessment needs to be present in gradebook 10% of grade**
 - **Formative assignments that are not turned in will be marked missing and receive a 0 in the gradebook.**
 - Assignments shall be directly correlated to standards found on approved curriculum maps. (i.e. no 'Syllabus' for points)
 - Late formative work can not be penalized by point reduction and must be accepted up until the end of the unit.
 - Teachers shall establish reasonable time frames for the completion of formative retakes/revisions/reassessments during the unit of study. Some exceptions may apply in extenuating circumstances.