MINNESOTA TECH FOR SUCCESS

Training Navigator

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STUDENT SYLLABUS

MISSION: To engage and teach essential IT concepts, including hardware, software, security, and networking to students. Students will also learn about the basics of cloud computing, database management, and troubleshooting through hands-on experience.

❖ **Module 1: Introduction to IT Basics (Weeks 1-7)**

➢ *Week 1-2 – With Pete*   *Nov. 8th & 15th*

- What is IT, and why it's important: Students will learn about the meaning and significance of

- Information Technology (IT) in the modern world, including its role in various industries and everyday life.

- Various IT career options: An overview of the different career paths in IT, helping students explore potential future roles.

- Introduction to fundamental IT concepts: Introduction to basic IT terms and concepts to build a foundational understanding of the subject.

➢ *Week 3-4: Hardware Fundamentals – Chad*   *Nov. 29th & Dec. 6th*

- Understanding computer hardware: Students will learn about the various physical components of computers, such as the CPU, RAM, hard drive, and more.

- Identifying different hardware components: Practical exercises to help students recognize and differentiate between hardware components commonly found in computers.

- How to troubleshoot common hardware issues: Introduction to identifying and addressing common hardware problems, like a malfunctioning keyboard or monitor.

➢ *Week 5-7: Software and Operating Systems – With Chad*   *Dec. 13th, 20th, & Jan. 10th*

- What is software? Explanation of software, its role in computing, and the various types of software, including applications and operating systems.

- Basics of operating systems: Students will be introduced to the fundamental functions of operating systems and how they interact with hardware.

- How to install and use software: A practical guide on how to install and use software applications on a computer.

- Simple software troubleshooting: Basic troubleshooting steps for software-related issues, such as resolving software crashes.

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❖ **Module 2: Networking and Security (Weeks 8-12)**

➢ *Week 8-10: Networking Basics – With Peter & Chad*   *Jan.17th, 24th, & 31st*

- Introduction to networking: Explanation of what computer networks are and their importance in connecting devices and sharing resources.

- Types of networks and their uses: An overview of different network types, including LANs and WANs, and their practical applications.

- Common network devices and setups: Introduction to common network hardware, like routers and switches, and how they are used in network configurations.

- Basic network problem-solving: Guidance on identifying and addressing simple network issues, like connectivity problems.

➢ *Week 11-12: IT Security – With Peter & Chad*   *Feb. 7th & 14th*

- Why IT security is important: Discussion on the significance of IT security in protecting data and privacy.

- Everyday security threats: Identification of common security threats such as viruses, malware, and phishing.

- Simple steps to keep your data secure: Introduction to basic security practices, including password management and data backup.

- Basics of encryption: An overview of encryption and its role in securing data during transmission and storage.

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❖ **Module 3: Advanced IT Concepts (Weeks 13-18)**

➢ *Week 13-15: Cloud Computing – With Chad*   *Feb. 21st , 28th , & Mar. 6th*

- What is cloud computing? Explanation of cloud computing, its advantages, and how it's used to store data and run applications remotely.

- Everyday uses of the cloud: Examples of common cloud-based services like email, file storage, and streaming.

- How to use cloud services: Practical guidance on accessing and using cloud services.

- Introduction to major cloud providers: Overview of major cloud service providers such as Amazon Web Services (AWS) and Microsoft Azure.

➢ *Week 16-18: Database Management and Troubleshooting – With Chad*   *Mar. 13th, 27th, & Apr. 3rd*

- What are databases? Introduction to databases, explaining their purpose in organizing and managing data.

- Different types of databases: Overview of relational and non-relational (NoSQL) databases and their use cases.

- How databases are used: Explanation of how databases are used in various applications and industries.

- Solving common database issues: Guidance on identifying and addressing common database-related problems.

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❖ **Module 4: Hands-on Experience and Equipment Refurbishing (Weeks 19-25)**

➢ *Week 19-21: Hands-on Practical Skills – With Peter*   *Apr. 17th, 24th, & May 1st*

- Assembling and disassembling IT equipment: Practical exercises in assembling and disassembling computer hardware to understand how devices work.

- Cleaning and maintaining tech devices: Guidance on keeping technology equipment clean and well maintained.

- Finding and fixing simple hardware problems: Hands-on experience in identifying and resolving basic hardware issues.

- Setting up a basic network: A practical introduction to configuring and connecting devices in a simple network.

➢ *Week 22-25: IT Equipment Refurbishing Project – With Peter*   *May 8th, 15th, 22nd, & 29th*

- Hands-on group project: refurbish IT equipment: Students work collaboratively on a real-world IT equipment refurbishing project, applying the knowledge and skills they've acquired.

- Working together to document the refurbishing process: Documentation of the steps and processes involved in refurbishing IT equipment.

- Final presentations and evaluations: Students present their refurbished equipment and receive feedback, applying what they've learned throughout the course to a practical project.

**Materials: **

♦ Student website and online resources.

♦ Practical labs with IT equipment.

♦ Troubleshooting tools and diagnostic equipment.