MINNESOTA TECH FOR SUCCESS

MTFS-GRS CAS Program Leadership Team Contacts

Training Navigator

Pete Everett
Email: peverett@techforsuccess.org
Phone: (612) 383-2400 ext. 108

Data & Programs Coordinator

Chad Phaengdara
Email: cphaengdara@techforsuccess.org

Instructor

Esther Kearney
Email: ekearney@techforsuccess.org

Warehouse Associate

Jason Bittner
Email: jbittner@techforsuccess.org
Phone: (406) 370-3145

Truck Driver & Warehouse Associate

Erik Nordwall
Email: enordwall@techforsuccess.org

Production Manager, Instructor

Dan Carter
Email: dcarter@techforsuccess.org

Executive Director

Tammy Gillard
Email: tgillard@techforsuccess.org

Minnesota Tech for Success - Zero Tolerance Policy

MTFS is committed to providing a safe, respectful, and productive environment for all students, faculty, staff, and visitors. As part of this commitment, MTFS's Zero Tolerance Policy strictly prohibits:

- Discrimination and harassment
- Violence and Threats
- Substance Abuse
- Academic Dishonestly
- Cyberbullying and Misuse of Technology

All members of the MTFS community are expected to familiarize themselves with and follow this policy.

MTFS-GRS CAS Classroom & Warehouse Etiquette

- Practice good hygiene
- Wear appropriate closed toe shoes (no sandals), and other safety equipment when necessary
- Treat equipment, products, and tools with care
- Keep workspaces safe, clean and organized
- Clear aisles and pathways clear of obstructions for safe and efficient movement
- Report all safety hazards to team members and leadership
- Communicate effectively and work as a team
- Respect all company policies and procedures
- Respect, help, and support one another
- Ask questions and ask for help
- Be punctual and accountable

MTFS-GRS CAS IT Exploration Program

IT Exploration Program (ITE) Objective: To cover essential IT concepts, including hardware, software, security, and networking; basics of cloud computing, database management, and troubleshooting with students through hands-on experience.

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

➢ *Week 1-2 Introduction to IT* — *October 9th, 23rd*

- What is IT, and why it's important: Students will learn about the meaning and significance of Information Technology.
- 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.
- Warehouse Production: Introduction to Intake, what do they do Tools & Knowledge

➢ *Week 3-4: Hardware Fundamentals* — *October 30th | November 13th*

- 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.
- Warehouse Production: Intro to Intake, what do they do Tools & Knowledge

➢ ***Week 5-7: Software and Operating Systems*** ***November 20th | December 4th, 11th***

- 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.

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

➢ ***Week 8-10: Networking Basics*** ***December 18th | January 8th, 15th***

- 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.
- Warehouse production – comparison of backend work vs frond-end work - scrapping; what comes into the warehouse

➢ ***Week 11-12: IT Security*** ***January 22nd, 29th***

- 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.
- Warehouse production – comparison of backend work vs frond-end work - scrapping; what comes into the warehouse

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

➢ ***Week 13-15: Cloud Computing*** ***February 5th, 12th, 19th***

- 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.
- Warehouse production – server & database

➢ ***Week 16-18: Database Management and Troubleshooting*** ***February 26th | March 5th, 12th***

- 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.
- Warehouse production – warehouse preparatory for warehouse machines and computers

❖ **ITE Module 4: Hands-on Experience and Equipment Refurbishing (Weeks 19-24)**

➢ ***Week 19-21: Hands-on Practical Skills*** ***March 26th, April 9th, 16th***

- 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.
- Day and life of a technician – basics, role, characteristics, responsibilities, testing production & builds – Tier 1 - 3

➢ ***Week 22-24: IT Equipment Refurbishing Project*** ***April 23rd, 30th | May 7th***

- 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.

MTFS-GRS CAS IT Developer Program

IT Developer Program (ITD) Objective: To develop a foundational knowledge and hands-on experience with coding & programming concepts that apply to web design, applications, and video game development**.**

❖ **ITD Module 1: Front End Web Development (Weeks 1-12)**

➢ ***Week 1-8: Web design – HTML & CSS October 9th, 23rd, 30th | November 13th, 20th | December 4th, 11th, 18th***

- Overview of Web Design
- Structuring Content with Semantic HTML, using media queries
- CSS Layout Techniques including Box Model and Layout
- Responsive Web Design - Layout Design with CSS Flexbox

➢ ***Week 9-12: JavaScript*** ***January 8th, 15th, 22nd, 29th***

- JavaScript and significance in Web Design
- Syntax, HTML integration, writing & running JS code
- Logic and Control Flow
- Document Object Model (DOM), Web Design with jQuery

❖ **ITD Module 2: Videogame Development & Design (Weeks 13-24)**

➢ ***Week 13-15: Introduction to Game Development & Design*** ***February 5th, 12th, 19th***

- Overview of Game development, pipeline, and team roles
- UX/UI, game engines, Python and Java Installation
- Python: Variables, data types, and basic operators
- Control structures: loops, conditionals, and functions and modularity
- Ven diagraming and storyboarding

➢ ***Week 16-24: Game Design*** ***February 26th |March 5th, 12th, 26th | April 9th, 16th, 23rd, 30th | May 7th***

- Java: Variables, data types, operators; control flow: loops, conditionals; classes and objects
- Game loops & timers, physics & collision detection, sprites, animations, assets
- Level design, audio & sound, AI, menu, management, debugging
- Final presentations and evaluations: Students showcase their web design and videogame development projects and receive feedback, applying what they've learned throughout the course to a practical project.

****Materials: ****

♦ Student website and online resources: https//mntechlearn.org, MDN Web Docs, W3Schools

♦ Code Editor: Visual Studio Code

♦ Design: Figma, Lucid Chart

♦ Repo: GitHub

♦ Practical labs and activities with IT equipment

♦ Troubleshooting tools and diagnostic equipment