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TECHNICAL INFRASTRUCTURE PLAN | STANDARD 6

**Last Evaluation**

1/3/2024

**Executive Staff Approval**

1/29/2024

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## 1. Plan Purpose

The Technical Infrastructure Plan exists to provide the chain of command for Technology related services, and to ensure continuous improvement of infrastructure leading to secure technology resources.

## 2. Plan Statement

Mountainland Technical College (MTECH) provides current technology resources for students, instructors and staff. The Technology Department has responsibility for the security of these resources and is provided budgetary support for needed personnel, equipment, and supplies to aid in continuous updating and improvement.

## 3. Scope of Services

Secure technical infrastructure at MTECH supports the teaching and administration work of the college, and is critical to daily student and employee work that requires use of the network, email, the MTECH website, NorthStar (student information system or SIS), Canvas (the learning management system or LMS), administrative and accounting functions, etc.

## 4. Major Activities

Major Activities of the Technology Department are:

- 4.1 Providing Network Security against threats
- 4.2 Supporting use of technology for students and employees
- 4.3 Updating security software and upgrade equipment

- 4.4 Ensuring technology resource security for distance education
- 4.5 Providing for the confidentiality, integrity and availability of institutional data and network systems.
- 4.6 Annually approving software programs for system use

## **5. Budgetary Resources**

- 5.1 Technology equipment and supplies for campus upkeep and distance education needs are included in the annual operations budget and are provided at each campus. MTECH receives operations and maintenance funding appropriation through the State Legislature.
- 5.2 The Executive Staff meets weekly and makes decisions regarding technical infrastructure at the campuses, as needed.
- 5.3 Emergency purchases or repairs are handled through the Associate Vice President of Facilities, Associate Vice President of Technology/Chief Information Officer (CIO), or Vice President of Administrative Services, depending on the resource level required.

## **6. Evaluations of the Plan**

- 6.1 The MTECH Technical Infrastructure Plan is evaluated and revised (if necessary) on an annual basis.
- 6.2 Once the plan has been reviewed, it is approved through the Executive Staff and is shared with faculty and staff.
- 6.3 The MTECH Technical Infrastructure Plan is fully developed and in use across all campuses. It is available to employees and students at [www.mtec.edu](http://www.mtec.edu).

## **7. Stakeholders**

Stakeholders affected by this plan may include students, faculty and staff. Secondary stakeholders include community partners and the Utah System of Higher Education (USHE).

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## **8. Personnel**

- 8.1 The Vice President of Administrative Services oversees the Technology Department at MTECH.
- 8.2 The Associate Vice President of Technology/CIO operates the Technology Department on a daily basis and is responsible for ensuring the operation, security, and safety of infrastructure and distance education.

- 8.3 The Associate Vice President of Technology works with the Director of Technology, Director of Cyber Security, Network Engineer, Active Directory Administrator, Technology Specialists and Help Desk Technicians to maintain the network, install added equipment, make repairs, troubleshoot network disturbances, and upgrade equipment.
- 8.4 The Associate Vice President of Technology collaborates with the Office of Teaching & Learning Manager and the Webmaster to ensure the safety of the MTECH website and the Canvas learning management system.
- 8.5 They also collaborate with the Testing Manager to ensure the security of testing services.
- 8.6 Finally, they collaborate with Student Services, Financial Aid and the Student Information Specialists to ensure the privacy, safety and security of MTECH data.

## **9. Adequacy, Improvement, and Protection of Technical Infrastructure including Computer System and Network Reliability**

- 9.1 Network Security
  - 9.1.1 All MTECH data is housed in a secure data center located at the Lehi campus location. Access to the data center is controlled by proximity card and is under 24hr video surveillance. Access is granted at the user level and regulated by position, time of day, and specific need.
  - 9.1.2 All MTECH data is stored on multiple Storage Area Networks (SANs) utilizing physical and virtual servers and protected by multiple levels of firewall from inside to out. Data from the user level is accessed utilizing the individual's network login and password, granting rights based on department and need for access.
  - 9.1.3 The Utah Education and Telehealth Network (UETN) handles the fiber link to the MTECH Lehi Main Campus with the wide area network (WAN) connection. UETN is under contract with MTECH, and that contract is re-bid every five years.
  - 9.1.4 UETN also maintains the routing of the connection to all MTECH Campuses.
  - 9.1.5 UETN provides educational level filtering of web traffic for MTECH.
  - 9.1.6 MTECH maintains virus software. Contracts are re-bid yearly, after an analysis of trends and products.
  - 9.1.7 MTECH's firewall is replaced approximately every 5 years. The firewall is updated at minimum every day, sometimes several times a day depending on threats.
  - 9.1.8 MTECH has a multi-layered backup routine. A snapshot of all MTECH servers is captured nightly, including email data. Additionally, all data is backed up multiple times a day. File changes are captured

every 30 minutes and housed on-site. All data is mirrored nightly two times, and a quick reference copy is stored on-site, while an archived copy is stored at a secure remote location.

## 9.2 Network Upgrades

- 9.2.1 Network Switches are upgraded on a rotation of 5 years or as necessary to maintain the performance of the equipment.
- 9.2.2 The network core is upgraded every 3 to 4 years or as necessary to maintain the integrity of the equipment.
- 9.2.3 Americom provides a warranty of installed network cable at the MTECH Campuses. Any repairs are provided through warranty service. Any other cable not covered by warranty is replaced as needed for upgrade or repair. The Facilities Department assists with running the cable.
- 9.2.4 Wi-Fi is upgraded on an as-needed basis, depending on the number of users in an area. This is done as a line item on the annual budget.

## **10. Ongoing Operations and Maintenance of Technical Infrastructure**

### 10.1 Equipment Upgrades

- 10.1.1 The infrastructure is maintained by cycling out old hardware, using the regular equipment budget.
- 10.1.2 Computers are generally evaluated on a 36-month basis to determine their condition, and if needed, are upgraded or replaced. This varies, with technology intensive programs receiving new computers in a shorter rotation.

## **11. Distance Education Infrastructure and Security**

- 11.1 Distance education data is stored either on-premises in MTECH's secure data center or in the service provider's Cloud environment. MTECH's secure data center is backed up through MTECH's multi-layered back up routine. All contracted Cloud service providers are evaluated for secure backup procedures.
- 11.2 The Canvas learning management system is a Cloud-based software as a service (SAAS), used for Distance Education program management. It is username and password protected, and is stored offsite. MTECH uses Canvas under contract with Instructure.

- 11.3 Testing for Hybrid Distance Education is done in the MTECH Testing Centers. These centers provide proctors, camera surveillance, and remote viewing of student screens.
  - 11.3.1 The testing centers are secure, and students must show ID to enter.
  - 11.3.2 Lockers are available for personal effects to avoid cheating.
  - 11.3.3 Computers have a lockdown browser, which locks the student to their present test and does not allow browsing of other sites.
  - 11.3.4 Cameras provide security, as well as back up footage to substantiate cheating charges, if needed.

## 12. Evaluation History

Last Evaluation	Executive Staff Approval
The Technical Infrastructure Plan was adopted in 2023 and replaced the Physical Facilities, Technical Infrastructure and Distance Education Plan, which was retired in 2022.	
5/9/2023	5/15/2023
7/6/2023	7/25/2023
1/3/2024	1/29/2024