



INFORMATION SECURITY PROCEDURES

Maintaining the Security of Information throughout its Lifecycle

All Users (faculty, students, staff, temporary employees, contractors, outside vendors, and visitors to campus) must determine:

- (1) Whether they have access to information or data that constitutes the University's "Sensitive Information," as defined above, and
- (2) Whether they have responsibility for "Mission-Critical Resources" as defined above.

Anyone who has access to Sensitive Information or responsibility for Mission-Critical Resources **must** read, understand, and adhere to the following Procedures.

Definitions

Peer-to-Peer (P2P) Applications: P2P applications or file sharing technology, for Information Security purposes, is any application used for distributed communication that employs technology or communicates over the network in a way that is not under the complete control of the University at all times. P2P applications are tools used to facilitate communication or the transfer of information.

Vulnerability Scans: Scans using established scanners to detect vulnerabilities specific to database management systems, operating system and common application flaws and weaknesses (including missing system patches and misconfigurations), and web-based applications.

Procedures

All University-owned or managed systems and information/data are assets of the University. The security of these systems and information/data must be maintained according to these Procedures and the Information Security Standards. The required controls may be physical and/or software based.

1. The Creation, Transmission, Use, Maintenance, and Disposal of Sensitive Information

A. Creation of Sensitive Information

When creating Sensitive Information, the Steward of that information is required to adhere to the Sensitive Information protection standards outlined in the Information Security Standards document. Any system storing or processing



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Sensitive Information must be documented and tracked by the Information

Security Liaison in accordance with the Security Liaison Policy. Information must be documented and shared, upon request, with the Information Security Office.

Sensitive Information must at all times be protected against possible unauthorized access. Responsibility for Sensitive Information may be delegated by the Dean, Division Head, or their designee. Any delegation of responsibility must be clearly identified in writing as such. Stewards and Custodian(s) of Sensitive Information must be documented and tracked at all times by the Information Security Liaison.

B. Transmission of Sensitive Information

- The transmission of Sensitive Information, by email or otherwise, must be done with great attention to protecting the privacy of the information. Protected Health Information and Personal Identifying Information must be transmitted in accordance with the requirements outlined in the [Policy on Identity Theft Compliance \(Red Flag Rules\)](#) and any applicable federal and state law.
- Sensitive Information must **never** be handled through Instant Messaging (IM) or Peer-to-Peer (P2P) files having software or devices. In addition, P2P software is not allowed to be installed on systems that store or process Sensitive Information.
- When storing Sensitive Information on a shared-network location, network share must adhere to all standards outlined in the Information Security Standards. For network shares, the Steward specifies the security controls and access rights. The Custodian implements the security controls and access rights in accordance with the Steward's specifications and consistent with the Information Security Standards. Consumer/Users will access Sensitive Information in accordance with University Policies and any applicable regulatory framework.
- Any defective electronic device or media transferred to a third party for replacement or repair must be preceded by a properly executed and signed Business Associate Agreement (if protected health information is involved) or a similarly binding document to safeguard the University's Sensitive Information.

C. The Use and Maintenance of Sensitive Information



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- The storage of Sensitive Information on external devices must follow the standards outlined in the Information Security Standards document.
- Sensitive Information must not be stored on mobile devices or disposable media devices except in accordance with the [Information Security Standards](#).
- Additionally, PHI and PII may only be stored on laptops, smartphones/PDAs, and other mobile devices if encrypted. This will limit the danger of unauthorized access in the event that devices storing Sensitive Information, including PHI or PII, are lost or stolen. (See Section 4 of this document for further information.)
- Any computing devices, such as workstations or servers, must be physically secured, password-protected, and encrypted, if required by the Information Security Standards.
- Adequate control mechanisms, such as privacy screens, must be in use when displaying Sensitive Information in areas accessible to unauthorized persons and when displaying Sensitive Information on frequently-viewed devices.
- Any publication of Sensitive Information must be in accordance with University Policies and any applicable federal and state law. In addition, any such publication must have the advance written approval of the respective Dean or Division Head with consultation, as necessary, with the Office of University Counsel. Sensitive Information must not be uploaded to or posted on any web site, including web sites maintained by the University, unless it is protected in a way that permits the Sensitive Information to be accessed and seen only by those individuals authorized to access and see it.
- Restoring Sensitive Information from backup devices must be in accordance with Section 7 of this Policy on Backup & Recovery.
- Verbal communication of Sensitive Information must be in accordance with federal and state law. When verbally communicating Sensitive Information to other authorized personnel, individuals must be aware of their surroundings to prevent unauthorized disclosure of Sensitive Information.
- Any other use of Sensitive Information, whether in duplicate or original form, must be in accordance with University Policy, including [Policy on Identity Theft Compliance \(Red Flag Rules\)](#).

D. The Permanent Deletion and Destruction of Sensitive Information

The destruction of Sensitive Information must be in accordance with the University record retention schedules and consistent with the standards defined in the FSU Campus Standards for Electronic Media Disposal. Any department intending to surplus devices that process or store electronic information, such as computers,



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servers, smartphones/PDAs, and certain copiers, must, in accordance with the FSU Campus Standards for Electronic Media Disposal, first destroy the electronic information by wiping, then keep the devices physically secure until the devices are in the possession of University Surplus personnel. In addition:

- Hard copy (paper and microfilm/fiche) documents containing Sensitive Information must be disposed of by shredding.
- All forms of media used to store electronic data (e.g., floppy disks, hard drives, CD-ROMs, optical disks) must be permanently deleted or destroyed in accordance with the FSU Campus Standards for Electronic Media Disposal. Any physical destruction must be performed by University Surplus.

2. Software Used for University Business Purposes

Any software used to conduct University business must comply with all Information Security policies and standards. Software used for business purposes should, in most cases, be owned by the University and reside on University-owned systems or devices. In the cases where one or the other of these is not the case, but University business is conducted, all policies and standards must still be followed.

3. Access Controls

Physical and electronic access to Sensitive Information and computing resources must be controlled. Access controls must be defined by the Steward and implemented by the Custodian of the Sensitive Information. For further consultation or questions regarding the appropriate access controls, contact the Executive Director and Information Security Officer.

Mechanisms to control access to Mission-Critical Devices and Sensitive Information include (but are not limited to) the following methods:

A. Authorization

Access controls should be appropriate to the sensitivity of the data as outlined in the Information Security Standards. For consultation on the appropriateness of access controls, contact the Office of the Chief Information Officer.

B. Identification/Authentication

Unique user identification (user id) and authentication is required for all systems



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that store, process or access Sensitive Information. Consumer/Users will be held accountable for all actions performed on the system with their user identification. For more detailed information, see the [General User Password Guidelines](#).

At least one of the following authentication methods must be implemented as outlined in the [Information Security Standards](#):

- Passwords conforming to the [FSU User Password Guidelines](#),
- Biometric identification technology as approved by the Executive Director and Information Security Officer, and/or
- Multi-factor authentication issued in conjunction with private information (e.g.,

a smart card combined with a password).

Consistent with the FSU [User Password Guidelines](#) and, to the greatest extent technically possible, an automatic timeout re-authentication must be required after a certain period of inactivity. The maximum period of inactivity is 30 minutes unless the User(s) has a business reason for a longer period, as approved by the Office of Information Technology and Telecommunications Services (ITTS).

Where physical security controls cannot ensure that access to a system that stores or processes Sensitive Information is restricted to a single authorized individual, the Consumer/User must lock the system when leaving it unattended for an extended period of time to prevent unauthorized access and ensure accountability.

C. Remote Access

Sensitive Information that is stored or accessed remotely must maintain the same level of protections as information stored and accessed within the University network. For detailed standards, consult the [Information Security Standards](#) and the [Policy on Identity Theft Compliance \(Red Flag Rules\)](#).

D. Physical Access

Access to areas in which Sensitive Information is stored must be controlled by a Custodian of that Sensitive Information. Only authorized personnel may access secure areas and only when there is a legitimate business need. The following physical controls must be in place:

Mission-Critical computer systems and the infrastructure required to support them must be installed in an access-controlled area. The area in and around the computer facility



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must afford protection against fire, water damage, and other environmental hazards, such as power outages and extreme temperature situations.

Likewise, servers on which Sensitive Information is stored must be kept in a secure area to protect against unauthorized access. Logs should be maintained to record entries and exits from the secure area.

Computing Devices that contain or have access to Sensitive Information, including any mobile devices, must be secured against use, including viewing, by unauthorized individuals. In particular, workstations and mobile devices must be positioned to minimize unauthorized viewing of Sensitive Information. Physical safeguards, such as locating workstations in controlled-access areas or installing covers or enclosures, should be employed to preclude passerby access to Sensitive Information.

Sensitive Information must not be stored on mobile devices or disposable media devices

without compliance with the Information Security Standards. In addition, Sensitive Information must never be stored on mobile devices or disposable media unless those devices have been issued and are property of, or managed by, FSU and storing FSU's Sensitive Information on a mobile device is required to fulfill an important business need.

On rare occasions and only with written approval of the Dean or Department Head and pursuant to a written contract with an outside third party, mobile devices belonging to UNC business partners or vendors may be used to store or access FSU's Sensitive Information, as long as the non-UNC third party contractually accepts the responsibility for maintaining the security of the University's Sensitive Information in accordance with all the Information Security Standards.

E. Emergency Access to Mission-Critical Devices and Data

Each University business unit is required to establish procedures to provide emergency access to Mission-Critical Devices and applications in the event that the assigned Custodians or Stewards are unavailable, or when operating in an emergency.

F. Audit Controls

Detailed audit logs that document electronic access to Sensitive Information should be kept for the duration specified in any applicable records retention policy, but generally not less than 90 days. Logs should be periodically reviewed or alerts set on logged information to detect any unauthorized access. The University requires that audit processes be implemented to examine logged information in order to identify



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questionable data-access activities, investigate weaknesses, and assess the security program. breaches, respond to potential

4. Data Transfer/Printing

A. Electronic Data Transfers

Technical security mechanisms must be employed to guard against unauthorized access to Sensitive Information that is transmitted over a communications network. When transmitting Sensitive Information to third parties, such as outside vendors, a signed contractual or formal business agreement with the third party, approved by the Office of University Counsel, must be in place that ensures the protection of Sensitive Information and clarifies the liability for any data compromise or security breach. Downloading and uploading Sensitive Information between systems must be strictly controlled. Protected Health Information or Personal Identifying Information may only be transferred in accordance with [the University's Identity Theft Compliance \(Red Flag Rules\)](#).

B. Printing and Faxing

Sensitive Information must not be copied, printed, or stored in a manner that would leave it vulnerable to unauthorized access.

5. Storage of Sensitive Information on Other Media

The physical security of Sensitive Information stored on any external media (e.g., diskette, CD-ROM, portable storage, memory stick) must be maintained at all times. Sensitive Information stored on external media must be protected from unauthorized access consistent with the standards described herein and in the Information Security Standards. External media and mobile computing devices containing Sensitive Information must never be left unattended in unsecured areas.

As described in the Information Security Standards, Sensitive Information must never be stored on mobile computing devices (e.g., laptops, personal digital assistants (PDA), smart phones, tablet PCs) unless approved in writing by the head of the Division (e.g. Dean or Vice Chancellor) and unless these devices are University owned or managed and maintained in compliance with the Information Security Standards. These provisions apply to any systems or devices regardless of whether the devices are owned or managed by the University or personally-owned.

6. Incident Management



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Each University business unit that manages its own or subcontracts its information technology is required to establish and maintain an up-to-date incident management plan as described in the Incident Management Policy. ITTS reserves the right to remove a user's network access in order to mitigate the risk to the FSU network during an Information Security Incident. Network access will be removed for users if their continued access of FSU network resources has the potential to impact the security and availability of the FSU campus network and information technology resources.

In addition, the Information Security Office has the right to take over IT management for any University business unit that consistently fails to address serious vulnerabilities or information security incidents within a reasonable time in order to bring the business unit's IT operations into compliance with these Procedures and the Information Security Standards.

7. Vulnerability Management

ITTS security and systems staff will perform routine vulnerability scans. Any detected vulnerabilities must be remediated within 72 hours.

8. Backup & Recovery

Custodians of information/data must ensure that the systems and information for which they are responsible are recoverable within a reasonable time period. Each University business unit operating Mission-Critical Resources is required to develop and maintain a plan for responding to a system emergency and to Information Security Incidents. These plans must include performing backups, preparing critical facilities that can be used to facilitate continuity of operations in the event of an emergency, and recovering from a disaster, as described in the Information Security Standards.

- Backup media must be encrypted and protected as described in the Information Security Standards. A disaster recovery plan must be developed and documented in coordination with the University Risk Management Office. This includes the development and documentation of an emergency mode operation plan.
- Backup data/media must be periodically stored in a secure off-site location and remain protected as described in the Information Security Standards. Off-site storage locations should be compliant with the commercial standards for environmental controls.
- Any secure backup that requires the transmission of Protected Health Information or Personal Identifying Information must be performed in compliance with the [Identity Theft Compliance \(Red Flag Rules\)](#).



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Information Security Standards

Policy Statement

All University-owned or managed systems and information/data are assets of the University. These provisions apply to any systems or devices that store or process University-owned data regardless of whether the devices are owned or managed by the University or personally owned. Additionally, the encryption sections of this standard set forth the requirements for encrypting stored Protected Health Information (PHI) or Personal Identifying Information (PII) on Fayetteville State University computing resources.

The security of these systems and information/data must be maintained according to the following Standards, which complement and supplement the Information Security Procedures.

Basic minimum requirements apply to all institutional information/data and systems and devices. More extensive requirements apply to Sensitive Information, particularly PHI and PII, and Mission-Critical Resources, as defined above.

All University faculty, students, staff, temporary employees, contractors, outside vendors and visitors to campus ("Users") accessing the Fayetteville State University (FSU) network or UNC information through computing devices owned by or managed through FSU or through permission granted by FSU must read and adhere to these Standards.

Information Security Standards for Sensitive Information and Mission-Critical Resources

The following Standards apply to servers, workstations, laptops, and smartphones/PDAs that **do** store or process Sensitive Information or that **are** considered Mission Critical.

Please contact the ITTS (910) 672-1477 with any questions about these standards.

Standards Are Cumulative



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The Standards (requirements) described in the subsequent tables are cumulative, i.e., for a given device more than one of the subsequent tables may apply. For example, if a windows server is storing sensitive information in a database, the server would be subject to the requirements for a windows server with sensitive information and the database application standards.

- ITTS provides IPS services

In the following table a “required” standard is indicated by an ‘X’ and “recommended” standard is indicated by a ‘R’

Standards for Applications and Servers storing or processing Sensitive Information



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Security Controls	Servers				
	Main Frame	Web Apps	DB Apps	Windows	Unix/Linux
Internet Filtering		X	X	X	X
Campus Filtering (from other UNC-CH hosts) [vlan or		X	X	X	X
Host-Based Firewall	X	X		R	R
Intrusion Prevention System*	X	X	X	X	X
Managed and Monitored Malware Protection				X	R
Detailed Auditing for Access to all Sensitive Files	X	X	X	X	X
Remote Copy of System Event Logs		X	X	X	X
24/7 Monitoring	X	X	X	X	X
Monthly Operating System Vulnerability Scans				X	X
Monthly Web Vulnerability Scans		X			
Monthly Database Vulnerability Scans			X		
Password Policy Enforcement	X	X	X	X	X
Two-Factor Authentication	R	R	R	R	R
Full-Disk Encryption					
Sensitive Field Encryption	R		X		
Encryption (File/Folder or Partition for all sensitive				R	R
Least Functionality	X	X	X	X	X
Least Privilege	X	X	X	X	X
Secure Backup (Encryption Recommended)	X	X	X	X	X
Incident Management Plan	X	X	X	X	X
Secure Physical Access	X	X	X	X	X
Patch Management (Automated Recommended)	X	X	X	X	X
VPN Software Installed					
Formal Administrator Security Training	X	X	X	X	X
Basic Security Awareness Training for End Users	X	X	X	X	X
Warning banner for services requiring authentication	X	X	X	X	X

Standards for Workstations, Laptops and Smartphones/PDAs Storing or Processing Sensitive Information

In the following table a “required” standard is indicated by an ‘X’ and “recommended” standard is indicated by a ‘R’



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Security Controls	Windows	Unix/ Linux/ Mac	Windows	Unix/ Linux/ Mac	
Internet Filtering	R	R	R	R	
Campus Filtering (From other FSU Hosts)					
Host based firewall	X	X	X	X	
Intrusion Prevention System	X	X	R	R	
Managed and monitored malware protection	X	R	X	R	R
Detailed Auditing for Access to all sensitive data files	X	X	X	X	
Remote copy of system event logs					
24/7 monitoring	R	R			
Monthly OS vulnerability scans					
Monthly web vulnerability scans					
Password policy enforcement	X	X	X	X	X
Two-factor authentication	R	R	R	R	R
Full-disk encryption					
Encryption (File/Folder/Partition) of all sensitive data					
Least functionality	X	X	X	X	X
Least Privilege	X	X	X	X	
Secure Back-up (Encryption recommended)	R	R	R	R	
Incident Management Plan	X	X	X	X	X
Secure Physical Access	X	X	X	X	X
Patch Management (Automated recommended)	X	X	X	X	X
VPN Software Installed			X	X	
Formal Administrator Security Training					
Basic Security Awareness for end users	X	X	X	X	X
Warning Banner for Services Requiring Authentication					



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In the following table, a “required” standard is indicated by an ‘X’, and a “recommended” standard is indicated by an ‘R’

Standards for Portable Media Devices Storing or Processing Sensitive Information

	Media		
	Tape Backup	CD/DVD	USB
Security Controls			
Internet Filtering			
Campus Filtering (from other UNC-C H hosts) [vlan or fw]			
Host-Based Firewall			
Intrusion Prevention System*			
Managed and Monitored Malware Protection			
Detailed Auditing for Access to all Sensitive Files			
Remote Copy of System Event Logs			
24/7 Monitoring	X		
Monthly Operating System Vulnerability Scans			
Monthly Web Vulnerability Scans			
Monthly Database Vulnerability Scans			
Password Policy Enforcement			
Two-Factor Authentication			
Least Functionality			
Least Privilege			
Secure Backup (Encryption Recommended)	X		
Incident Management Plan	X	X	X
Secure Physical Access	X	X	X
Patch Management (Automated Recommended)			
VPN Software Installed			
Formal Administrator Security Training	X		
Basic Security Awareness for End Users		X	X
Warning Banner for Services Requiring Authentication			



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Encryption Standards for Workstations, Laptops and Smartphones/PDAs Storing

	Tape Backup	Media	
		CD/DVD	USB
Security Controls			
Full-Disk Encryption			
Sensitive Field Encryption			
Encryption (File/Folder or Partion for all PHI or PII)	X	X	X

or Processing PHI or PII

In the following table a “required” standard is indicated by an ‘X’ and “recommended” standard is indicated by a ‘R’

Encryption Standards for Portable Media Devices Storing or Processing PHI or PII

In the following table, a “required” standard is indicated by an “X”, and a “recommended” standard is indicated by an “R”.

Security Controls	Work Stations		Laptops		PDAs
	Windows	Unix/ Linux/ Mac	Windows	Unix/ Linux/ Mac	
Full-disk encryption			X	R	R
Sensitive Field Encryption					R
Encryption (File/Folder/Partition) of all PHI & PII data	R	R	R	X	X



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Standards for Applications and Devices Considered Mission Critical

Devices such as workstations, smartphones, or PDAs are **not** included in the Mission Critical standards table since Mission Critical data should not be stored on any workstations or portable media devices.

In the following table, a “required” standard is indicated by an “X”, and a “recommended” standard is indicated by an “R”.

	Server				
	Mainframe	Web Applications	Database Applications	Windows	Unix/Linux/Mac
Security Controls					
Internet Filtering		X	X	X	X
Campus Filtering (from other UNCFSU hosts) [vlan or fw]		X	X	X	X
Host-Based Firewall	X	X	R	R	R
Intrusion Prevention System*	X	X	X	X	X
Managed and Monitored Malware Protection				X	R
Local System Event Logs	X	X	X	X	X
Remote Copy of System Event Logs		X	X	X	X
24/7 Monitoring	X	X	X	X	X
Monthly Operating System Vulnerability Scans				X	X
Monthly Web Vulnerability Scans		X			
Monthly Database Vulnerability Scans			X		
Password Policy Enforcement	X	X	X	X	X
Two-Factor Authentication	R	R	R	R	R
Network Access Control					
Least Functionality	X	X	X	X	X
Least Privilege	X	X	X	X	X
Secure Backup (Encryption Recommended)	X	X	X	X	X
Incident Management Plan	X	X	X	X	X
Secure Physical Access	X	X	X	X	X
Patch Management (Automated Recommended)	X	X	X	X	X
VPN Software Installed					
Formal Administrator Security Training	X	X	X	X	X
Basic Security Awareness for End Users	X	X	X	X	X
Warning Banner for Services Requiring Authentication	X	X	X	X	X
Cujo Entry				X	X



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Minimum Standards for Non-Mission Critical Servers that Do Not Store Sensitive Information

The following tables describe the minimum security requirements for a server or any other device listed below to be connected to the FSU network. Unless one of the preceding standards apply regarding storage of Sensitive Information or Mission Critical status, any device connecting to the FSU network must meet, at a minimum, the following requirements

	Windows	Unix/Linux/Mac
Security Controls		
Host-Based Firewall	R	R
Intrusion Prevention System*	X	X
Managed and Monitored Malware Protection	X	R
Detailed Auditing for Access	X	X
Password Policy Enforcement	X	X
Least Functionality	X	X
Least Privilege	X	X
Secure Backup (Encryption Recommended)	X	X
Incident Management Plan	X	X
Secure Physical Access	X	X
Patch Management (Automated Recommended)	X	X
Formal Administrator Security Training	R	R
Basic Security Awareness for Administrators	X	X
Warning Banner for Services Requiring Authentication	X	X

before connecting to the network.

In the following table, a “required” standard is indicated by an “X”, and a “recommended” standard is indicated by an “R”.



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Minimum Standards for Non-Mission Critical Workstation, Laptop and Smartphone/PDA that Do Not Store Sensitive Information

In the following table, a “required” standard is indicated by an “X”, and a

	Workstation		Laptop		PDA
	Windows	Unix/Linux/Mac	Windows	Unix/Linux/Mac	
Security Controls					
Host-Based Firewall	R	R	R	R	
Intrusion Prevention System*	X	X	R	R	
Managed and Monitored Malware Protection	X	R	X	R	R
Detailed Auditing for Access	R	R	R	R	
Password Policy Enforcement	X	X	X	X	X
Backup	R	R	R	R	
Incident Management Plan	X	X	X	X	X
Secure Physical Access	R	R	R	R	R
Patch Management (Automated Recommended)	X	X	X	X	X
VPN Software Installed for off-campus remote access			R	R	
Basic Security Awareness for End Users	R	R	R	R	R

“recommended” standard is indicated by an “R”.