ISO STANDARD IMPLEMENTATION AND TECHNOLOGY CONSOLIDATION

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Senior Consultant, Vantage Technology Consulting Group

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Campus Orientation
Initiative and Project Orientation
Project Purpose

ISO Standard Implementation and Technology Consolidation

- Develop a mature, effective, high-performance Information Technology division

- ITS will be guided by industry best practices and the requirements of the ISO 27002 information security standard

- Ensure all IT environments are ISO 27002 compliant and prepared for compliance audit.
ISO 27002

ISO/IEC 27002:2013

- Part of a family of standards for information security management designed to help organizations in protecting the confidentiality, integrity, and availability of university information and technology assets
- Used extensively at higher education institutions
- All Chancellors in UNC system agreed (2012) to use the ISO 27002 as the framework for information security policies
Vantage Technology Consulting Group role

*Cathy Bates, Senior Consultant*

- Provide higher education specific expertise and experience
  - 30 years experience in higher education
  - Former CISO and CIO

- Collaborative leadership with state and national organizations
  - UNC Information Technology Security Council
  - Higher Education Information Security Council (EDUCAUSE)
  - GRC Board, Conference Committees
Vantage Technology Consulting Group role

Jon Young, Senior Consultant

- Provide higher education specific expertise and experience
  - 22 years experience leading IT departments through change
  - Consulting services with many higher education clients

- Technical depth and leadership in national organizations
  - SANS Global Information Assurance Certification in Security Leadership
  - SANS GIAC Advisory Board Member
  - INFRAGARD
Vantage Technology Consulting Group role

Technology Consulting for Colleges and Universities

Purpose | Driven | Technology | Thinking

- Independent Technology Consulting firm
- Higher education, healthcare, public, corporate and commercial sectors
- Formed in 2001
- Offices in Los Angeles, Boston, San Francisco and New York
PROJECT PHASES
## Project Phases

<table>
<thead>
<tr>
<th>PHASE</th>
<th>SCOPE</th>
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<tbody>
<tr>
<td><strong>ISO Standard</strong></td>
<td>Information security governance, policies, standards, and baseline procedures within ISO framework</td>
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</table>
| **Information Security Management** | Implement standards and procedures within ISO framework:  
• Infrastructure and network security  
• enterprise-wide contingency plans  
• security education program           |
| **Compliance**             | • IT risk assessment  
• network monitoring and vulnerability scanning program                                                                                |
Post Implementation Program

Compliance

ISO Standard

Program Management
Overall Timeline and Effort

2018 and ongoing to meet growing audit and compliance concerns

- Major Impact: Technology teams across the University
- Periodic Impact: Administrators and Campus Users
  - Governance
  - Education and awareness
  - Business Processes
PHASE 1: ISO STANDARD
Information Security Governance

Advisory Council

- Develop information security plan, including policies and standards, initiatives and services
- Evaluate and advise on risks
- Identify awareness and training needs
Information Security Governance

Security Incident Response Team

- Central response and management of incidents
- Security advisory distribution and information sharing
- Technical consulting, operations, remediation
Policies, Standards, Baseline Procedures

- **Policies**
  - Why do I need to do this?
  - Review 3-5 years

- **Standards**
  - What is required?
  - Review 2-4 years

- **Procedures**
  - How do I do it?
  - Review 1-3 Years
ISO Standard – Example Policies

- Asset Responsibility
  - Responsibility, inventory, ownership, acceptable use and return

- Information Classification
  - Classification, labeling, and handling

- Media Handling
  - Management, transfer and disposal

- User Access
  - Registration and de-registration, access provisioning, management of privileged access, review of access privileges
ISO Standard – Example Operating Standards

- Application Administration
- Mobile Device Management
- Server Management
- Software Development Methodology
ISO Standard – Example Procedures

- Application Administration Standard
  - Account Provisioning
  - Account Termination
  - Authentication
  - Access Approval
  - Access Privilege Assignment
  - Access Privilege Review
  - Access Privilege Change
ISO Standard Timeline

- Governance: Jan-March
- Policies: Jan-April
- Standards: Feb-April
- Procedures: May-August
PHASE 2: INFORMATION SECURITY MANAGEMENT
Information Security Management

Vulnerability Scanning

- **Inventory**: Which systems, where are they, who owns them?
  - Registration and inventory management for critical devices

- **Scanning**: Scanning tool with templates to look for standard system and application vulnerabilities and security patches
  - Scanning Program for ISO, PCI, other compliance needs

- **Remediation**: Understanding and fixing vulnerabilities
  - Management of reports, remediation, clean scan, cycle of scans
# Information Security Management

*Initial Projects, Remediation Projects, Strategic Projects*

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<tbody>
<tr>
<td><strong>Initial</strong></td>
<td>Known infrastructure issues such as upgrades, enterprise practices, security practices</td>
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<tr>
<td><strong>Remediation</strong></td>
<td>Issues documented during vulnerability scanning and information security assessments for all environments</td>
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<tr>
<td><strong>Strategic</strong></td>
<td>Projects to manage security objectives, shrink security footprint, address security architecture with IT infrastructure</td>
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Information Security Management

Security Education Program

- Faculty, Staff, Student
- Technical Roles
- Specialized Users
- International Travel
- Phishing Alerts
- Identity Theft
- Wireless Security
- Online Reputation
# Information Security Management

*Contingency Planning*

## SCOPE

<table>
<thead>
<tr>
<th>Campus-wide emergency response</th>
<th>Business &amp; Finance / ITS</th>
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<tbody>
<tr>
<td>Disaster recovery plans</td>
<td>All IT environments</td>
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<tr>
<td>Business continuity plans</td>
<td>All departments</td>
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</table>
A program is an organizational effort defined to meet an overarching goal.

A program includes all the collective:

» **Vision, Goals, Strategy, Governance**
» **Planning, Projects and**
» **Daily Operations**

necessary to meet the program mission.
Information Security Management

**IT Security Management Program Strategy**

- Makes sense of the competing compliance pressures
- Coordinates initiatives to highlight direction and vision
- Aligns overall costs and benefits against other institutional goals
# Information Security Management

## Timeline

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<th>Project</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
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<tbody>
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<td>Vulnerability Scanning</td>
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<td>Initial and Remediation Projects</td>
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<td>Strategic Projects</td>
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PHASE 3: COMPLIANCE
Compliance

Information Security Assessment

- Complete an Information Security risk assessment
  - HEISC maturity assessment tool (based on ISO standard)
  - For **every department** managing IT services
  - All assessments require work plans – could require lots of coordination
  - Performed annually
  - Results are prioritized by risk and become part of the IT Risk Assessment
Compliance

Information Security Risk Assessment
Compliance

*IT Risk Assessment*

- **IT risk** is the potential for an **unplanned, negative outcome**.
- **IT risk** is a **business risk** consisting of IT-related events that could affect an institution's **ability to achieve its mission** and key objectives.
- **IT risk management** refers to the process of **identifying, assessing, prioritizing, and addressing the major IT risks** associated with an institution's key objectives.

https://er.educause.edu/articles/2015/2/understanding-it-grc-in-higher-education-it-risk
Compliance

**IT Risk Assessment**

- IT Risk Assessment is a portion of university’s Enterprise Risk Management program
  - Follow university risk management processes

- High level divisional review of mission and key objectives, identifying IT risks that could affect ability to achieve those objectives
  - Collaboration between IT, ERM program and business function owners
  - Utilize EDUCAUSE IT Risk Register with risk categories such as compliance, financial, IT lifecycle, operational, reputational and strategic risks
Compliance

*IT Risk Assessment*

- Higher levels risks require action:
  - Reduce to acceptable level (mitigation)
  - Transfer the risk
  - Assume (accept) the risk

- Annual IT Risk Assessment (including Information Security Risk Assessment) due to UNC-GA annually
Information Security and IT Risk Assessment Timelines

- **Policies**: Jan-April
- **Standards**: Feb-April
- **Information Security Assessments**: April-TBD
- **IT Risk Assessment**: TBD
TECHNOLOGY CONSOLIDATION
Why Consolidate?

- Protect the University, improve security and reduce risk
- Ensure consistent compliance
- Limit redundant IT management, risk assessment and support efforts
- Leverage resources to meet demands for support and coordinate technology deployment
- Provide efficient, professional technology management
Next Steps

- Complete technology assets inventory
- Meet with units to review assets and discuss needs and opportunities
- Identify and implement consolidation projects
  - Complete prior to risk assessments and next audit
Questions?