

STATE OF NORTH CAROLINA

OFFICE OF THE STATE AUDITOR

BETH A. WOOD, CPA

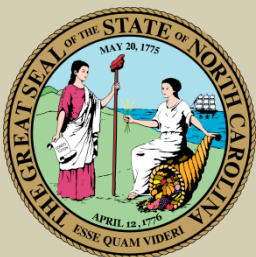


UNIVERSITY OF NORTH CAROLINA CHAPEL HILL

INFORMATION TECHNOLOGY GENERAL CONTROLS

INFORMATION SYSTEMS AUDIT

NOVEMBER 2017



NC  **OSA**
The Taxpayers' Watchdog

EXECUTIVE SUMMARY

PURPOSE

The objective of this audit was to assess the information technology general controls maintained by the University of North Carolina at Chapel Hill (UNC-CH). These controls are pursuant to the common information security framework adopted by the University of North Carolina system campuses.

BACKGROUND

The University of North Carolina Information Technology Security Council recommended adoption of ISO 27002:2013 Information Technology - Security Techniques – Code of Practice for Information Security Controls as the common security framework baseline for University of North Carolina system campuses. UNC-CH formally adopted the ISO 27002 security framework on February 29, 2012.

KEY FINDINGS

The results of the audit disclosed security deficiencies considered reportable under generally accepted government auditing standards. These deficiencies are reported to UNC-CH by separate letter in accordance with these standards. These items should be kept confidential as provided by *North Carolina General Statute 132-6.1(c)*.

UNC-CH agreed with our findings and recommendations.

The key findings and recommendations may not be inclusive of all findings and recommendations in the report.

STATE OF NORTH CAROLINA
Office of the State Auditor



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State Auditor

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AUDITOR'S TRANSMITTAL

The Honorable Roy Cooper, Governor
Members of the North Carolina General Assembly
Board of Trustees, University of North Carolina Chapel Hill
Dr. Carol Folt, Chancellor, University of North Carolina Chapel Hill

Ladies and Gentlemen:

We are pleased to submit this information systems audit report titled University of North Carolina at Chapel Hill Information Technology General Controls.

The objective of this audit was to assess the information technology general controls maintained by the University of North Carolina at Chapel Hill (UNC-CH) pursuant to the common information security framework adopted by the University of North Carolina system campuses.

The Office of the State Auditor performed this audit by authority of Article 5A of Chapter 147 of the *North Carolina General Statutes* and conducted it in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States.

The results of our audit disclosed findings considered reportable under generally accepted government auditing standards. Due to their sensitivity, findings were reported to UNC-CH by a separate letter in accordance with these standards and should be kept confidential as provided in *North Carolina General Statute 132-6.1(c)*.

We express our appreciation to the management and staff of the University of North Carolina at Chapel Hill for the courtesy, cooperation, and assistance provided us during the audit.

Respectfully submitted,

A handwritten signature in cursive script that reads 'Beth A. Wood'.

Beth A. Wood, CPA
State Auditor

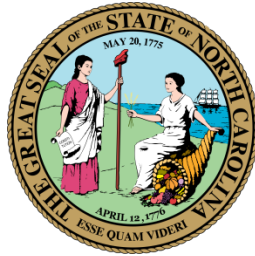


Beth A. Wood, CPA
State Auditor

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Article 5A, Chapter 147 of the North Carolina General Statutes, gives the Auditor broad powers to examine all books, records, files, papers, documents, and financial affairs of every state agency and any organization that receives public funding. The Auditor also has the power to summon people to produce records and to answer questions under oath.



BACKGROUND

University of North Carolina – Chapel Hill

The University of North Carolina – Chapel Hill (UNC-CH) is one of 17 constituent institutions that make up the University of North Carolina System.

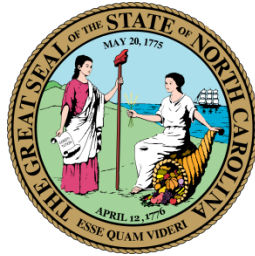
UNC-CH operates in a decentralized information technology environment.

UNC-CH's Information Technology Services (ITS) provides information technology services to administrators, staff, and students of the university and is responsible for centralized information technology management. ITS is headed by the Chief Information Officer (CIO), who reports directly to the Provost and serves on the Chancellor's Cabinet. ITS is comprised of eight areas:

- Communication Technologies
- Enterprise Applications
- Finance & Administration
- Information Security
- IT Infrastructure & Operations
- Research Computing
- Teaching & Learning
- User Support & Engagement

Some Schools within the University also maintain their own data centers and/or their own applications (e.g. School of Medicine, School of Dentistry, and Kenan-Flagler School of Business).

The University of North Carolina Information Technology Security Council recommended the adoption of ISO 27002;2013 Information Technology - Security Techniques - Code of Practice for Information Security Controls as the common security framework baseline for University of North Carolina system campuses. UNC-CH formally adopted the ISO 27002 security framework on February 29, 2012.



OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this audit was to assess the information technology general controls maintained by the University of North Carolina at Chapel Hill (UNC-CH) pursuant to the common information security framework adopted by the University of North Carolina system campuses.

The scope of our audit included IT general controls administered and maintained by UNC-CH's Information Technology Services (ITS); the School of Medicine, the School of Dentistry, and the Kenan-Flagler School of Business.

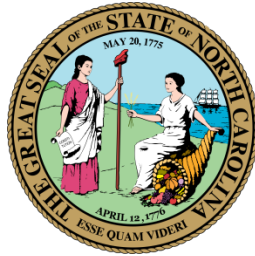
The following IT general controls categories were included in the audit:

- IT governance
- Security management
- Access controls
- Change/configuration management
- Segregation of duties
- Contingency management including disaster recovery

To accomplish our audit objectives, auditors gained an understanding of UNC-CH's policies and procedures, interviewed key administrators and other personnel in ITS and the various Schools, examined system configurations, examined system controls, reviewed appropriate technical literature, and reviewed computer-generated reports. Whenever sampling was used, auditors applied a non-statistical approach. Therefore, results could not be projected to the population. This approach was determined to adequately support the audit conclusions. The audit covered the period from July 1, 2016 to December 31, 2016. Fieldwork was conducted from February through May 2017.

In addition to using guidance contained in ISO 27002 as a basis for evaluating controls, auditors applied guidance contained in frameworks such as ISACA's *COBIT 5 (Control Objectives for Information and Related Technology)*. *COBIT 5* is a comprehensive framework that helps enterprises in achieving their objectives for the governance and management of enterprise information and technology assets.

We conducted this information systems audit in accordance with generally accepted government auditing standards (GAGAS). Those performance audit standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



FINDINGS, RECOMMENDATIONS, AND RESPONSE

The audit found issues considered reportable under generally accepted government auditing standards. These issues are reported to the University by a separate letter in accordance with these standards. These items should be kept confidential as provided by *North Carolina General Statute 132-6.1(c)*.

UNC-CH agreed with our findings and recommendations.

ORDERING INFORMATION

COPIES OF THIS REPORT MAY BE OBTAINED BY CONTACTING:

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<https://itunes.apple.com/us/app/nc-state-auditor-hotline/id567315745>

For additional information contact:
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This audit was conducted in 3,668 hours at an approximate cost of \$ 377,804.