# STATE OF NORTH CAROLINA

## OFFICE OF THE STATE AUDITOR
### BETH A. WOOD, CPA

# UNIVERSITY OF NORTH CAROLINA CHARLOTTE

## INFORMATION TECHNOLOGY GENERAL CONTROLS

### INFORMATION SYSTEMS AUDIT

### JULY 2017

# EXECUTIVE SUMMARY

## PURPOSE

The objective of this information systems audit at the University of North Carolina Charlotte (UNCC) was to assess the general and business process application controls that UNCC maintained. 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 the adoption of ISO 27002 Information Technology – Security Techniques – Code of Practice for Information Security Controls as the common security framework baseline for University of North Carolina system campuses. UNCC formally adopted the ISO 27002 security framework on December 22, 2011.

## KEY FINDINGS

The results of the audit disclosed security deficiencies considered reportable under generally accepted government auditing standards. These deficiencies are reported to UNCC 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).*

UNCC agreed with our findings and recommendations.

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

# AUDITOR'S TRANSMITTAL

The Honorable Roy Cooper, Governor
Members of the North Carolina General Assembly
Board of Trustees, University of North Carolina Charlotte
Dr. Philip L. Dubois, Chancellor, University of North Carolina Charlotte

Ladies and Gentlemen:

We are pleased to submit this information systems audit report titled University of North Carolina Charlotte (UNCC) Information Technology General Controls.

The audit objective was to assess whether IT controls maintained by UNCC were adequate 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 regarding security were reported to UNCC 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 Charlotte for the courtesy, cooperation, and assistance provided us during the audit.

Respectfully submitted,

Beth A. Wood, CPA
State Auditor

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**State Auditor**

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# BACKGROUND

**University of North Carolina Charlotte**

The University of North Carolina Charlotte (UNCC) is one of 17 constituent institutions that make up the University of North Carolina System.

UNCC'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 seven areas:

- Enterprise Applications
- Enterprise Infrastructure
- Client Engagement
- University Research Computing
- Planning and Administration
- Center for Teaching and Learning
- Information Security Compliance

The University of North Carolina Information Technology Security Council recommended the adoption of ISO 27002 <u>Information Technology - Security Techniques - Code of Practice for Information Security Controls</u> as the common security framework baseline for University of North Carolina system campuses. UNCC formally adopted the ISO 27002 security framework on December 22, 2011.

# OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this audit was to assess the general and business process application controls maintained by the University of North Carolina Charlotte (UNCC). These controls are 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 UNCC's Information Technology Services; the College of Engineering; the College of Computing and Informatics; and the Student Health Center.

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

- IT governance
- Access controls
- Physical security
- Change management
- Configuration management
- Network administration
- Disaster recovery

To accomplish our audit objectives, we gained an understanding of UNCC's policies and procedures, interviewed key UNCC administrators and other personnel, examined system configurations, examined system controls, reviewed appropriate technical literature, and reviewed computer-generated reports. Whenever sampling was used, auditors applied a nonstatistical approach. Therefore, results could not be projected to the population. This approach was determined to adequately support the audit conclusions. The audit fieldwork was conducted between January 2017 and March 2017.

As a basis for evaluating controls, auditors applied the guidance contained in the International Organization for Standardization Standard 27002 (ISO 27002) for information technology security framework.

Additionally, auditors applied the guidance contained in the COBIT (Control Objectives for Information and Related Technologies) framework issued by ISACA. COBIT 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 security deficiencies considered reportable under generally accepted government auditing standards. These deficiencies 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).*

UNCC agreed with our findings and recommendations.

# ORDERING INFORMATION

This audit was conducted in 1,100 hours at an approximate cost of $113,300.