



# STATE OF NORTH CAROLINA

**AUDIT OF THE INFORMATION SYSTEMS**

**GENERAL CONTROLS**

**ASHEVILLE-BUNCOMBE TECHNICAL COMMUNITY  
COLLEGE**

**OCTOBER 2007**

**OFFICE OF THE STATE AUDITOR**

**LESLIE MERRITT, JR., CPA, CFP**

**STATE AUDITOR**

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Leslie Merritt, Jr.,  
CPA, CFP  
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**AUDITOR'S TRANSMITTAL**

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The Honorable Michael F. Easley, Governor  
Members of the North Carolina General Assembly  
The Board of Directors of Asheville-Buncombe Technical Community College  
Dr. Betty Young, President

Ladies and Gentlemen:

We have completed our audit of Asheville-Buncombe Technical Community College. This audit was conducted during the period from June 19, 2007, through July 31, 2007. The audit was conducted in accordance with *Government Auditing Standards* and *Information Systems Audit Standards*.

The primary objective of this audit was to evaluate information systems (IS) general controls at Asheville-Buncombe Technical Community College. The scope of our IS general controls audit included general security, access controls, systems software, physical security, and disaster recovery. Other IS general control topics were reviewed as considered necessary.

This report contains an executive summary and audit results which detail the areas where Asheville-Buncombe Technical Community College has performed satisfactorily relevant to our audit scope, where improvements should be made, and where further study is necessary.

We wish to express our appreciation to the staff of Asheville-Buncombe Technical Community College for the courtesy, cooperation and assistance provided to us during this audit.

North Carolina General Statutes require the State Auditor to make audit reports available to the public. Copies of audit reports issued by the Office of the State Auditor may be obtained through one of the options listed in the back of this report.

Respectfully submitted,

A handwritten signature in cursive script that reads "Leslie W. Merritt, Jr.".

Leslie Merritt, Jr., CPA, CFP  
State Auditor

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## EXECUTIVE SUMMARY

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We conducted an Information Systems (IS) audit at the Asheville-Buncombe Technical Community College from June 19, 2007, through July 31, 2007. The primary objective of this audit was to evaluate the IS general controls in place during that period. Based on our objective, we report the following conclusions:

**General security** involves the establishment of a reasonable security program that addresses the general security of information resources. Asheville-Buncombe Technical Community College has established a reasonable security program that addresses the general security of information resources. *We did not identify any significant weaknesses in general security during our audit.*

The **access control** environment consists of access control software and information security policies and procedures. We found several weaknesses in access controls. Due to the sensitive nature of the conditions found in these weaknesses, we have conveyed these findings to management in a separate letter pursuant to the provision of North Carolina G.S. 147-64.6(c)(18).

**Systems software** is the collection of programs that drive the computer. The selection of systems software should be properly approved and the software should be maintained by the computer center. *We did not identify any significant weaknesses in systems software during our audit.*

**Physical security** primarily involves the inspection of the agency's computer center for the controls that should reasonably secure the operations of the computer center from foreseeable and preventable threats from fire, water, electrical problems, and vandalism. *We did not identify any significant weaknesses in the physical security.*

A complete **disaster recovery** plan that is tested periodically is necessary to enable Asheville-Buncombe Technical Community College to recover from an extended business interruption due to the destruction of the computer center or other Asheville-Buncombe Technical Community College assets. *We did not identify any significant weakness in the Disaster Recovery.*

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## AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

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### OBJECTIVES

Under the *North Carolina General Statutes* 147-64.6, the State Auditor is responsible for examining and evaluating the adequacy of operating and administrative procedures and practices, systems of accounting, and other elements of State agencies. IS general control audits are examinations of controls which effect the overall organization and operation of the IS function. This IS audit was designed to ascertain the effectiveness of general controls at Asheville-Buncombe Technical Community College.

### SCOPE

General controls govern the operation and management of computer processing activities. The scope of our IS general controls audit was to review general security issues, access controls, systems software, physical security, and disaster recovery which directly affect Asheville-Buncombe Technical Community College's computing operations. Other IS general control topics were reviewed as considered necessary.

### METHODOLOGY

We audited policies and procedures, interviewed key administrators and other personnel, examined system configurations, toured the computer facility, tested on-line system controls, reviewed appropriate technical literature, reviewed computer generated reports, and used security evaluation software in our audit of general controls. We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States and *Information Systems Audit Standards* issued by the Information Systems Audit and Control Association.

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## **BACKGROUND INFORMATION**

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Asheville-Buncombe Technical Community College, located in Asheville, North Carolina, has been accredited since 1969 by the Southern Association of Colleges and Schools to award associate degrees, certificates, and diplomas. The College offers Associate of Arts, and Associate of Applied Science degrees. The mission of Asheville-Buncombe Technical Community College is dedicated to student success. As a comprehensive Community College, Asheville-Buncombe Technical Community College is committed to providing accessible, quality educational opportunities for lifelong learning to meet the diverse and changing needs of the community.

The IT department at Asheville-Buncombe Technical Community College is referred to as the Information Systems Technology Department and is part of the Administrative Services Division of the College. The Information Systems Technology department has a staff of eight, including a director, network administrator, two computer center specialists, three technical support specialists and a software support specialist. The computer center specialists primarily support the administrative computing function. The network administrator assisted by the technical support specialists maintains the campus network. The Director reports to the Vice President of Administrative Services. The mission of the Information Systems Technology division is to coordinate and administer the College's information and communication systems, and to promote the effective use of technology throughout the College. The function of the Information Systems Technology division is to administer and support use of campus network with its associated applications, the administrative computer systems, workstations, and telephone system.

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## AUDIT RESULTS AND AUDITEE RESPONSES

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The following audit results reflect the areas where Asheville-Buncombe Technical Community College has performed satisfactorily and where recommendations have been made for improvement.

### GENERAL SECURITY ISSUES

General security issues involve the maintenance of a sound security management structure. A sound security management structure should include a method of classifying and establishing ownership of resources, proper segregation of duties, a security organization and resources, policies regarding access to the computer systems and a security education program. Asheville-Buncombe Technical Community has established a reasonable security program that addresses the general security of information resources. *We did not identify any significant weakness in general security during our audit.*

### ACCESS CONTROLS

The most important information security safeguard that Asheville-Buncombe Technical Community College has is its access controls. The access controls environment consists of Asheville-Buncombe Technical Community College's access control software and information security policies and procedures. An individual or a group with responsibility for security administration should develop information security policies, perform account administration functions and establish procedures to monitor and report any security violations. We noted a number of weaknesses in access controls. Due to the sensitive nature of the conditions found in the weaknesses, we have conveyed these findings to management in a separate letter pursuant to the provision of North Carolina G.S. 147-64.6(c)(18).

### SYSTEMS SOFTWARE

Systems software is the collection of programs that the computer center uses to run the computer and support the application systems. This software includes the operating system, utility programs, compilers, database management systems and other programs. The systems programmers have responsibility for the installation and testing of upgrades to the system software when received. Systems software changes should be properly documented and approved. *Our audit did not identify any significant weaknesses in system software.*

### PHYSICAL SECURITY

Controls over physical security are designed to protect a computer center from service interruptions resulting from fire, water, electrical problems, vandalism, and other causes. Asheville-Buncombe Technical Community College's physical security controls ensure that the computer service center is reasonably secure from foreseeable and preventable threats to its physical continuity. *Our audit did not identify any significant weaknesses in physical security.*

## AUDIT RESULTS AND AUDITEE RESPONSES (CONCLUDED)

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### DISASTER RECOVERY

Disasters such as fire and flood can destroy a computer service center and leave its users without computer processing support. Without computer processing, Asheville-Buncombe Technical Community College would grind to a halt. To reduce this risk, computer service centers develop business continuity plans. Business continuity procedures should be tested periodically to ensure the recoverability of the data center. *Our audit did not identify any significant weakness in disaster recovery planning.*

## ORDERING INFORMATION

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Audit reports issued by the Office of the State Auditor can be obtained from the web site at [www.ncauditor.net](http://www.ncauditor.net). Also, parties may register on the web site to receive automatic email notification whenever reports of interest are issued. Otherwise, copies of audit reports may be obtained by contacting the:

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