



STATE OF NORTH CAROLINA

AUDIT OF THE INFORMATION SYSTEMS

GENERAL CONTROLS

GASTON COLLEGE

AUGUST 2007

OFFICE OF THE STATE AUDITOR

LESLIE MERRITT, JR., CPA, CFP

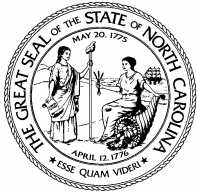
STATE AUDITOR

AUDIT OF THE INFORMATION SYSTEMS

GENERAL CONTROLS

GASTON COLLEGE

AUGUST 2007



Leslie Merritt, Jr.,
CPA, CFP
State Auditor

STATE OF NORTH CAROLINA
Office of the State Auditor

2 S. Salisbury Street
20601 Mail Service Center
Raleigh, NC 27699-0601
Telephone: (919) 807-7500
Fax: (919) 807-7647
Internet <http://www.osa.state.nc.us>

AUDITOR'S TRANSMITTAL

The Honorable Michael F. Easley, Governor
Members of the North Carolina General Assembly
The Board of Directors of Gaston College
Dr. Patricia A. Skinner, President

Ladies and Gentlemen:

We have completed our audit of Gaston College. This audit was conducted during the period from July 12, 2007, through July 30, 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 Gaston 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 Gaston 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 Gaston 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,

Leslie W. Merritt, Jr.

Leslie Merritt, Jr., CPA, CFP
State Auditor

TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY	1
AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY	3
BACKGROUND INFORMATION	5
AUDIT RESULTS AND AUDITEE RESPONSES	7
ORDERING INFORMATION.....	9

EXECUTIVE SUMMARY

We conducted an Information Systems (IS) audit at the Gaston College from July 12, 2007, through July 30, 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. Gaston College has established a reasonable security program that addresses the general security of information resources. *We did not identify a significant weakness 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 Gaston College to recover from an extended business interruption due to the destruction of the computer center or other Gaston College assets. *Our audit did not note any significant weaknesses in disaster recovery.*

[This Page Left Blank Intentionally]

AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

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 Gaston 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 Gaston 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.

[This Page Left Blank Intentionally]

BACKGROUND INFORMATION

Gaston College was granted a charter by the State of North Carolina in 1963 and began its first classes in temporary headquarters in September 1964. The College moved to its permanent campus on Highway 321 between Dallas and Gastonia two months later. Serving both Gaston and Lincoln counties, Gaston College enrolls over 5,000 students each term in curriculum programs and averages over 16,000 students annually in its Continuing Education programs. Part of the North Carolina Community College System, Gaston College is accredited by the Southern Association of Colleges and Schools to award associate degrees.

The twelve major buildings that comprise the Gaston College Dallas campus contain approximately 450,868 square feet and have an estimated current value of \$41,385,862. There is an efficient road system and parking for more than 2,000 cars. College facilities (including a 480-seat auditorium) are available for public use and may be scheduled through the Office for Finance and Facilities. Gaston College is a commuter institution and does not have dormitories or housing for rent.

Gaston College is comprised of three campuses, with the main campus located in Dallas, a second campus in Lincoln County and a third campus (the East and Textile Technology Center) located in Belmont.

The Information Technology (IT) division at Gaston College is referred to as Technology Services (TS) and is divided into four units: Administrative Systems, Network Services, Institutional Effectiveness, and Mail/Print Shop. Technology Services acts as a service facility to the students, faculty, and staff of Gaston College. The objective of the Department is to provide accurate, timely, and professional computer technology, telecommunication, mail/print services, and documentation of planning, assessment, and the use of results in decision-making across a campus to the overall organization.

The Chief Technology Services Officer (CTSO) is responsible for the planning, organization, direction, and control of the TS Department. This position reports to the Vice President for Finance and Facilities. It is the sole responsibility of the CTSO to see that the Department is in compliance with all written policies and procedures. In addition, the CTSO consults with Gaston College staff on work to be performed in compliance with guidelines set forth by the State of North Carolina and departmental policies and procedures. The Systems Administrator and the Director of Network Services report directly to the CTSO. The CTSO in conjunction with the Director of Network Services and the Systems Administrator coordinates and directs the development and maintenance of all areas of technology services, including: campus fiber-optic network, wide-area connectivity to Lincoln Campus, student/faculty/staff accessibility to computer and network resources and security thereof. The CTSO defines boundaries and priorities and provides recommendations for leasing/purchasing of equipment and supplies needed to implement/maintain technology services, and to ensure compliance with college-wide infrastructure.

BACKGROUND INFORMATION (CONCLUDED)

The primary mission of the Administrative Systems unit and the Systems Administrator is to insure the integrity of the administrative systems and infrastructure. The function of the Administrative Computing Services division is to ensure compliance with all State administrative-computing recommendations, including installation and maintenance of software and providing access, training and support for faculty and staff in order for them to perform their specific job responsibilities.

The primary mission of the Network Services unit is to support the Gaston College computer network infrastructure to ensure that instructional and administrative provisions are met for students/faculty/staff to successfully function in a safe and secure global community/environment. The Network Services unit is also responsible for recommending and specifying as well as maintaining and troubleshooting computer hardware and network related problems at Gaston College.

AUDIT RESULTS AND AUDITEE RESPONSES

The following audit results reflect the areas where Gaston 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. *Our audit did not identify a significant weakness in General Security.*

ACCESS CONTROLS

The most important information security safeguard that Gaston College has is its access controls. The access controls environment consists of Gaston 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 a significant weakness 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. Gaston 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 a significant weakness in physical security.*

AUDIT RESULTS AND AUDITEE RESPONSES (CONCLUDED)

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, many college services would grind to a halt. To reduce this risk, computer service centers develop disaster recovery plans. Disaster recovery procedures should be tested periodically to ensure the recoverability of the data center. *Our audit did not identify a significant weakness in disaster recovery.*

ORDERING INFORMATION

Audit reports issued by the Office of the State Auditor can be obtained from the web site at 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:

Office of the State Auditor
State of North Carolina
2 South Salisbury Street
20601 Mail Service Center
Raleigh, North Carolina 27699-0601

Telephone: 919/807-7500

Facsimile: 919/807-7647