BOARD OF TRUSTEES  
NORTH CAROLINA STATE UNIVERSITY  
AGENDA  
Audit, Risk Management and Finance Committee  
September 10, 2020  
Via Zoom

Members: Ed Weisiger, Chair, Melanie Flowers, Ann Goodnight, Stan Kelly, Ven Poole, Dewayne Washington

CALL TO ORDER

ROLL CALL

PUBLIC MEETING REMINDER AND READING OF STATE GOVERNMENT ETHICS ACT

CONFLICT OF INTEREST STATEMENT

 RESPONSIBILITIES OF THE COMMITTEE  
TAB 4.0

A. Review Committee Responsibilities as established in Bylaws  
Office of Finance and Administration
Charles A. Maimone, Vice Chancellor, Finance and Administration

B. Review Draft Agenda/Plan of Work for the Year  
Office of Finance and Administration
Ed Weisiger, Chair, Audit, Risk Management and Finance Committee
Charles A. Maimone, Vice Chancellor, Finance and Administration

1. APPROVAL OF MINUTES  
TAB 4.1

Approval of April 23, 2020 Meeting Minutes

2. ACTION ITEMS  
TAB 4.2

A. Internal Audit Charter Review and Approval  
Office of Internal Audit
Cecile Hinson, Chief Audit Officer and Director, Internal Audit

3. INFORMATIONAL REPORTS  
TAB 4.3

A. Internal Audit Update  
Office of Internal Audit
Cecile Hinson, Chief Audit Officer and Director, Internal Audit

B. Legislative and Budget Update  
Office of External Affairs, Partnerships & Economic Development
Kevin Howell, Vice Chancellor, External Affairs, Partnerships & Economic Development
Office of Finance and Administration
Charles A. Maimone, Vice Chancellor, Finance and Administration
C.  Finance Update  4.3C  
Office of Finance and Administration  
Mary Peloquin-Dodd, Associate Vice Chancellor, Finance and University Treasurer  

D.  Enterprise Risk Management and Compliance Update  4.3D  
Office of General Counsel  
Allison Newhart, Vice Chancellor and General Counsel  

4.  ADDITIONAL INFORMATIONAL MATERIALS  TAB 4.4  
A.  NC State Investment Fund Performance Review  4.4A  
B.  NC State Intermediate Term Fund Performance Review  4.4B  

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Appendix 1

NC State Board of Trustees’ Delegations of Authority, Assignments and Guidelines

I. Audit, Risk Management and Finance Committee Delegated Authority and Assignments

a. Audit

   i. Provide oversight of the internal audit function.

   ii. Review and approve the annual internal audit plan at the beginning of the audit cycle.

   iii. Receive quarterly activity reports from the internal auditor.

   iv. Receive direct verbal and/or written reports from the university’s internal auditor regarding out of the ordinary reviews and findings that may involve senior level university employees, trustees or affiliates.

   v. Review a comparison of the annual internal audit plan to the actual internal audits performed.

   vi. Provide oversight of the annual financial statement audit.

   vii. Assure that the university is performing self-assessments of operating risks and evaluations of internal controls on a regular basis.

   viii. Meet with representatives of the State Auditor’s Office to review the annual state auditor’s report and the university’s corrective action, if any.

   ix. Review audit reports of University-associated entities.
b. Finance
   i. Advise the Chancellor with respect to the development of budget estimates for the university, and with respect to the execution and administration of the budget as approved by the General Assembly and the Board of Governors.

c. Risk Management
   i. Provide oversight of the risk management and compliance functions.

   ii. Receive annual reports on risk management, compliance and legal issues.

d. Planning

e. Policy Development
   i. Recommend to the Board of Trustees for approval policies regarding the preservation, maintenance and management of institutional trust funds.

   ii. Upon recommendation of the chancellor, recommend to the Board of Trustees for approval policies related to the maintenance of campus security.

   iii. Upon recommendation of the chancellor, recommend to the Board of Trustees for approval policies related to information technology and cybersecurity.
NC STATE BOARD OF TRUSTEES
AUDIT, RISK MANAGEMENT AND FINANCE COMMITTEE RESPONSIBILITIES
FY 2020 – 2021

Plan of Work/Calendar
• Review of Committee Responsibilities (Annual)
• Review of Draft Agenda Items for the Year (Annual)

Approvals/Recommendations (Action Items)
• Minutes
• Internal Audit Charter Review and Approval (Annual) (Audit)
• Internal Audit Yearly Plan (Annual) (Audit)
• Recommendation to full Board – policy changes related to institutional trusts (as needed) (Policy Development)
• Recommendation to full Board – campus security policy changes (as needed) (Policy Development)
• Recommendation to full Board – information technology and cybersecurity policy changes (as needed) (Policy Development)
• Recommendation to full Board – Bond/Debt (as needed) (Finance)

Review of Required Annual Reports
• Annual Financial Report/Audit (State Auditors attend) (Audit)
• Annual Report on Endowment and Investments (Annual) (Finance, Policy Development)
• Associated Entities Review (Annual) (Audit)
• University Debt Update (Annual) (Finance)
• Intercollegiate Athletics Finance and Budget Reporting (Annual) (Finance)
• Campus Securities (Annual) (Audit, Risk Management, Policy Development)
• Information Technology Update (Annual) (Audit, Risk Management, Policy Development)

Receive Informational Reports
• Enterprise Risk Management & Compliance Update (as needed) (Audit, Risk Management, Policy Development)
• Finance Update (Finance)
• Legislative and Budget Update (Audit, Finance, Risk Management, Policy Development)
• Internal Audit Update (Audit)
• Investment and Institutional Fund Performance Review (Finance, Policy Development)
NC STATE BOARD OF TRUSTEES
AUDIT, RISK MANAGEMENT AND FINANCE COMMITTEE
2020 – 2021 PLAN OF WORK

July
• New Trustee Orientation (as needed)

September
• Approval of Bonds/Debts (NC State Pol 01.05.01, Appendix 1, l.b, and di) (as needed)
  Desired outcome and measure of success: Consider and recommend bond resolution approval to BOT when presented. BOT bond approval
• Enterprise Risk Management and Compliance Update (as needed) (UNC Pol, Ch.100.1, Appendix 1 (XV), UNC Pol, Ch 1300.7, 1300.9) (NC State Pol 01.05.1, Appendix 1, l. a.vi, c , d.ii) (as needed)
  Desired outcome and measure of success: Receive informational reports on University security, risk and compliance issues. Review risk, security and compliance processes, including but not limited to Title IX, Cleary Act and other specifically related topics.
• Finance Update (UNC Pol, Ch. 100.1, Appendix 1 (V) (NC State Pol 01.05.1, Appendix 1, l.b)
  Desired outcome and measure of success: Receive informational reports on university financials, institutional trust funds and investments to better understand resources and priorities that impact the University.
• Internal Audit Charter Review and Approval (Req by Internal Audit Act) (annual)
  Desired outcome and measure of success: Review the Internal Audit Charter to be compliant with the Internal Audit Act
• Internal Audit Update (NC State Pol 01.05.1, Appendix 1, l.a.i-viii)
  Desired outcome and measure of success: Receive informational reports quarterly on current activity, so that Trustees are aware of any issues that could impact the University. In addition, Trustees would receive bi-annual report on the activities by the Internal Audit Office in reference to the annual plan, and offer guidance when needed.
• Investment and Institutional Fund Performance Review (NC State Pol 01.05.1, Appendix 1, l.d.i)
  Desired outcome and measure of success: Inform Trustees of Investment Fund valuation and changes to market affecting the same via written materials provided at each meeting.
• Legislative and Budget Updates (NC State Pol 01.05.1 App 1, l. a-d)
  Desired outcome and measure of success: Receive informational report on Legislative budget priorities and understanding possible impacts to University
• Policy Approvals (NC State Pol 01.05.1, Appendix 1, l.d) (as needed)
  Desired outcome and measure of success: Recommend appropriate policies to the full Board for approval.
• Review of Committee Responsibilities and Agenda Topics (annual)
  Desired outcome and measure of success: Understand Committee scope and develop an effective plan of work for the year.

November
• Approval of Bonds/Debts (NC State Pol 01.05.01, Appendix 1, l.b and .d.i) (as needed)
  Desired outcome and measure of success: Consider and recommend bond resolution approval to BOT when presented. BOT bond approval
• Campus Securities Review (UNC Pol, Ch.100.1, Appendix 1 (XV), UNC Pol, Ch 1300.7, 1300.9) (NC State Pol 01.05.1, Appendix 1, l. a.vi, c , d.ii) (NC State Pol 01.05.1, Appendix 1, l. a.vi, c , d.ii) (annual)
  Desired outcome and measure of success: Receive information report of University campus security.
• Finance Update (UNC Pol, Ch. 100.1, Appendix 1 (V) (NC State Pol 01.05.1, Appendix 1, l.b)
  Desired outcome and measure of success: Receive informational reports on university financials, institutional trust funds and investments to better understand resources and priorities that impact the University.
• Internal Audit Update (NC State Pol 01.05.1, Appendix 1, l.a.i-viii)
  Desired outcome and measure of success: Receive informational reports quarterly on current activity, so that Trustees are aware of any issues that could impact the University. In addition, Trustees would
receive bi-annual report on the activities by the Internal Audit Office in reference to the annual plan, and offer guidance when needed.

- **Investment and Institutional Fund Performance Review** (NC State Pol 01.05.1, Appendix 1, I.d.i)
  
  Desired outcome and measure of success: Inform Trustees of Investment Fund valuation and changes to market affecting the same via written materials provided at each meeting.

- **Legislative and Budget Updates** (NC State Pol 01.05.1 App 1, l. a-d)
  
  Desired outcome and measure of success: Receive informational report on Legislative budget priorities and understanding possible impacts to University

- **Policy Approvals** (NC State Pol 01.05.1, Appendix 1, l.d) (as needed)
  
  Desired outcome and measure of success: Recommend appropriate policies to the full Board for approval.

- **State Auditor’s Report** (NC State Policy 01.05.1, Appendix 1, l.a.viii) (annual)
  
  Desired outcome and measure of success: Receive a clean audit opinion from the State Auditor’s Office.

**February**

- **Annual Financial Report** (NC State Policy 01.05.1, Appendix 1, l.a.viii) (annual)
  

- **Annual Report on Endowment and Investments** (Annual) (UNC Pol, Ch 100.1, Appendix 1 (VII) (NC State Pol 01.05.1, Appendix 1, l.d.i) (annual)
  
  Desired outcome and measure of success: To provide Committee with more understanding about University Endowment and Investments and progress over time.

- **Finance Update** (UNC Pol, Ch. 100.1, Appendix 1 (V) (NC State Pol 01.05.1, Appendix 1, l.b)
  
  Desired outcome and measure of success: Receive informational reports on university financials, institutional trust funds and investments to better understand resources and priorities that impact the University.

- **Information Technology Security Review** (UNC Pol, Ch.100.1, Appendix 1 (XV), UNC Pol, Ch 1300.7, 1300.9) (NC State Pol 01.05.1, Appendix 1, l. a.vi, c , d.ii) (NC State Pol 01.05.1, Appendix 1, l. a.vi, c , d.ii) (annual)
  
  Desired outcome and measure of success: Receive information report of University IT risks, security and compliance.

- **Intercollegiate Athletics Finance and Budget Reporting** (Annual) (UNC Pol, Ch. 1100.1.1(R) I.B) (annual)
  
  Desired outcome and measure of success: Receipt of financial indicators contained in the NCAA Dashboard “Presidential View” with both annual and 5-year information as well as review of annual budget including major sources of revenue and expenses. Informational report promotes transparency of Athletics financial operations.

- **Internal Audit Update** (NC State Pol 01.05.1, Appendix 1, l.a.iii, l.a.iv, l.a.v)
  
  Desired outcome and measure of success: Receive informational reports quarterly on current activity, so that Trustees are aware of any issues that could impact the University. In addition, Trustees would receive bi-annual report on the activities by the Internal Audit Office in reference to the annual plan, and offer guidance when needed.

- **Investment and Institutional Fund Performance Review** (NC State Pol 01.05.1, Appendix 1, l.d.i)
  
  Desired outcome and measure of success: Inform Trustees of Investment Fund valuation and changes to market affecting the same via written materials provided at each meeting.

- **Legislative and Budget Updates** (NC State Pol 01.05.1 App 1, l. a-d)
  
  Desired outcome and measure of success: Receive informational report on Legislative budget priorities and understanding possible impacts to University

- **Policy Approvals** (NC State Pol 01.05.1, Appendix 1, l.d) (as needed)
  
  Desired outcome and measure of success: Recommend appropriate policies to the full Board for approval.
**April**

- **Associated Entities Review** (UNC Pol, Ch. 600.2.1.5, (NC State Policy 01.05.1, Appendix 1, l.a.ix) (Annual)
  
  *Desired outcome and measure of success: To inform Committee on the activities and broad overview of annual performance of associated entities as reported to UNC General Administration.*

- **Enterprise Risk Management and Compliance Update** (UNC Pol, Ch. 100.1, Appendix 1 (XV), UNC Pol, Ch 1300.7, 1300.9) (NC State Pol 01.05.1, Appendix 1, l.a.vi, c, d.ii) (NC State Pol 01.05.1, Appendix 1, l.a.vi, c, d.ii) (as needed)
  
  *Desired outcome and measure of success: Receive informational reports on University security, risk and compliance issues. Review risk, security and compliance processes, including but not limited to Title IX, Cleary Act and other specifically related topics.*

- **Finance Update** (UNC Pol, Ch. 100.1, Appendix 1 (V) (NC State Pol 01.05.1, Appendix 1, l.b)
  
  *Desired outcome and measure of success: Receive informational reports on university financials, institutional trust funds and investments to better understand resources and priorities that impact the University.*

- **Internal Audit Update** (NC State Pol 01.05.1, Appendix 1, I.a.iii, I.a.iv, I.a.v)
  
  *Desired outcome and measure of success: Receive informational reports quarterly on current activity, so that Trustees are aware of any issues that could impact the University. In addition, Trustees would receive bi-annual report on the activities by the Internal Audit Office in reference to the annual plan, and offer guidance when needed.*

- **Internal Audit Yearly Plan Review and Approval** (NC State Policy 01.05.1, Appendix 1, l.a.ii) (annual)
  
  *Requires Committee Approval Desired outcome and measure of success:*

- **Investment and Institutional Fund Performance Review** (NC State Pol 01.05.1, Appendix 1, l.d.i)
  
  *Desired outcome and measure of success: Inform Trustees of Investment Fund valuation and changes to market affecting the same via written materials provided at each meeting.*

- **Legislative and Budget Updates** (NC State Pol 01.05.1 App 1, l.a-d)
  
  *Desired outcome and measure of success: Receive informational report on Legislative budget priorities and understanding possible impacts to University*

- **Policy Approvals** (NC State Pol 01.05.1, Appendix 1, l.d) (as needed)
  
  *Desired outcome and measure of success: Recommend appropriate policies to the full Board for approval.*

- **University Debt Update** (NC State Pol 01.05.1, Appendix 1, l.b.) (annual)
  
  *Desired Outcome: Receive informational report regarding the University Debt, and debt standings/rating*
  
  *Measure of Success: Knowledgeable regarding University Debt, standings and ratings*
Board of Trustees
North Carolina State University
Audit, Risk Management, and Finance Committee
Agenda Topics for FY20-21 (listed alphabetically) (Per Bylaws POL01.05.01, Appendix 1, I)

SEPTEMBER 2020
**Approval of Bonds/Debt (if needed) (Finance, Policy Development)
Enterprise Risk Management & Compliance Update (Audit, Risk Management, Policy Development)
Proposed Topic: TBD
Finance Update (Audit, Finance)
Legislative and Budget Update (Audit, Finance, Risk Management, Policy Development)
*Internal Audit Charter Review and Approval (Annual) (Audit)
Internal Audit Update (Audit)
Investment and Institutional Fund Performance Review (additional materials) (Finance, Policy Development)
*Minutes Approval
Review of Committee Responsibilities (Annual)
Review of Draft Agenda Items for the Year (Annual)

NOVEMBER 2020
**Approval of Bonds/Debt (if needed) (Finance, Policy Development)
Campus Securities (Annual) (Audit, Risk Management, Policy Development)
Finance Update (Audit, Finance)
Legislative and Budget Update (Audit, Finance, Risk Management, Policy Development)
Internal Audit Update (Audit)
Investment and Institutional Fund Performance Review (additional materials) (Finance, Policy Development)
*Minutes Approval
State Auditor's Report (Annual) (State Auditors attend) (Audit)

FEBRUARY 2021
Annual Financial Report (additional materials) (Annual) (Finance)
Annual Report on Endowment and Investments (Annual) (Finance, Policy Development)
Finance Update (Audit, Finance)
Information Technology Update (Annual) (Audit, Risk Management, Policy Development)
Intercollegiate Athletics Finance and Budget Reporting (Annual) (Finance)
Internal Audit Update (Audit)
Investment and Institutional Fund Performance Review (additional materials) (Finance, Policy Development)
Legislative and Budget Update (Audit, Finance, Risk Management, Policy Development)
*Minutes Approval

APRIL 2021
Associated Entities Review (Annual) (Audit)
Enterprise Risk Management & Compliance Update (Audit, Risk Management, Policy Development)
Proposed Topic: TBD
Finance Update (Audit, Finance)
Legislative and Budget Update (Audit, Finance, Risk Management, Policy Development)
Internal Audit Update (Audit)
*Internal Audit Yearly Plan Review for Upcoming FY (Annual) (Audit)
Investment and Institutional Fund Performance Review (additional materials) (Finance, Policy Development)
*Minutes Approval
University Debt Update (Annual) (Finance)

Except as noted, all update reports are as needed.
The Audit, Risk Management and Finance Committee of the Board of Trustees of North Carolina State University met April 23, 2020 via a Zoom conference call.

Members Present: Ed Weisiger, Committee Chair  
Ann Goodnight  
Stan Kelly  
Wendell Murphy  
Ed Stack  
Dewayne Washington  
Tom Cabaniss, Board Chair

Chair Weisiger called the meeting to order at 9:00 a.m. The roll was called and a quorum was present.

Chair Weisiger reminded those in attendance that this was a public meeting but was not a meeting for public comment. Only those included on the agenda are invited to speak. He then read the State Government Ethics Act to remind all members of their duty to report conflicts of interest or appearances of conflict.

Approval of Minutes
The minutes from the February 27, 2020 meeting were presented for approval, and with no changes, they were approved.

Action Items
The Internal Audit Division (IAD) Fiscal Year 2021 Annual Audit Plan was presented for approval. The Committee heard an overview of the Continuous Risk Assessment and Audit Planning process used to develop the Plan, the engagements proposed, and the current staff and organizational structure of IAD; all of which was included in the materials. Time was allowed for questions and discussion. Mr. Washington made a motion to accept the Plan as presented, Ms. Goodnight seconded the motion. The Committee unanimously approved the FY 2021 Audit Plan as presented.

Informational Reports

Internal Audit Update
The Committee was updated on the status of audit engagements for fiscal 2020 and activities in process or completed since the last meeting: five (5) reports have been issued, three (3) audits are in progress, and two (2) audits are in follow-up. There are also four (4) management advisory/consulting engagements underway.

Legislative Update
The current 2020 Legislative session was discussed. The General Assembly focused on COVID-19 responses, including continuity of state operations, economic support, education and health care. Other legislative updates touched on UNC System budget requests, and amended budget priorities for the UNC Board of Governors such as enrollment growth, building reserves, repair and renovation funding and salary increases.

Finance Update
The Committee heard about COVID-19 budget impacts and estimates of anticipated lost revenue through June 30, 2020. Some of the incurred expenses thus far included moving to online...
classes, shifting to remote locations, and vacating student residences. Lost revenue includes cancelled events in areas such as athletics, major conferences, and summer camps. Some research has had to slow down or stop. Retail, stores, most dining and the Stateview Hotel all closed. The Day of Giving scheduled in March was postponed. The Committee also heard about COVID-19 funding expectations from CARES, FEMA and state appropriations.

An update on third quarter financial results and position for the current fiscal year, 2020 compared with the same time for fiscal year 2019 were provided. Overall, the university’s financial position is comparable to the same time last year with the exception of timing issues in the receipt of funds, and the continuing trend discussed last meeting of expenses growing slightly faster than revenues. It is anticipated that the biggest cash outlays in response to COVID-19 will occur in the fourth quarter.

Investment Update
A summary market overview was given on the NC State Investment Fund and other investments and the impact of COVID-19. The Fund is a defensive portfolio that protects in the long-term. NC State’s cash position is good and the Fund has liquidity to meet its endowment commitments.

Annual Associated Entities Review
The Committee heard the annual review of Associated Entities, as required by the Board of Governors. All audits have been sent to the System Office and the copies of the Audits were made available to the Committee. The Student Aid Association was noted to be the only Associated Entity issued a management letter for its fiscal 2019 audit. All of the entities have an operating agreement with the University in place. The Committee also heard information on net assets for the Associated Entities.

Annual University Debt Update
The committee heard a debt update, which included a review of the ten-year history of the University’s Outstanding Debt, by amount, type, and purpose. They heard about upcoming borrowing plans which include funding for Carmichael, Fitts-Woolard, and the Plant Sciences projects. COVID-19 caused market disruptions and affected treasury and municipal markets.

Additional Informational Materials
Reference was made to additional information in the materials under Tab 4.5

Adjournment
With no further business, Chair Weisiger announced the meeting adjourned at 10:06 p.m.

Submitted by ________________________________

Secretary to the Committee

Approved by ________________________________

Chair of the Committee
INTERNAL AUDIT DIVISION
INTERNAL AUDIT CHARTER

MISSION

The mission of the Internal Audit Division (IAD) is to support the University in the successful achievement of its strategic goals. This is accomplished by serving as an independent partner to University leadership, faculty, and staff in the identification and balancing of their units’ risks through objective, flexible, and proactive audit and consultation services. IAD provides independent evaluation of the effectiveness of risk management, control, and governance processes and makes recommendations for improvement.

SCOPE OF WORK

IAD’s scope of work includes assessing whether:

- Risks are appropriately identified and managed across the University
- University governance processes support the organization’s strategies and objectives
- Financial, process, and information technology controls are effective and efficient
- Policies, regulations, rules, and other guidance and training are consistent in their information, effective, and do not create undue bureaucracy or inefficiencies
- University units are compliant to University, UNC-General Administration (UNC-GA), State, and Federal requirements, related processes are administered correctly, and issues are recognized and addressed properly and promptly
- Significant financial, managerial, and operating information is accurate, reliable, secure, and timely
- Actions of University personnel are in compliance with policies and applicable laws and regulations
- University resources are acquired economically, used efficiently, and adequately protected
- Quality and continuous improvement are fostered in the University’s processes

INDEPENDENCE AND ACCOUNTABILITY

All internal audit activity must be free from undue influence or interference in the selection of activities to be examined, determination of the scope or methodology of work, and in communication of the results in accordance with the international standards of independence as set forth by the Institute of Internal Auditors (IIA).

The Director of Internal Audit (Director) reports functionally and administratively directly to the Chancellor. The Director is also accountable to the Board of Trustees (BOT) through its Audit, Risk Management and Finance Committee (Committee) as required by the University of North
Carolina (UNC) Board of Governors (BOG) and the IIA standards. The Director communicates and interacts directly and independently with the Committee. In addition, the Director has informational reporting accountability to the Provost and Executive Vice Chancellor and the Vice Chancellor for Finance and Administration.

RESPONSIBILITY

The Director has the responsibility to ensure IAD achieves the following:

- Maintain compliance with North Carolina General Statute (GS) Chapter §116-40.7 (which establishes the independent audit function at state universities); NC GS Chapter §143 Article 79, The NC Internal Audit Act; and audit-related requirements from the UNC BOG
- Establish a risk assessment process to support the development of a risk-based audit plan and a risk-based approach to individual engagements
- Submit, at least annually, a risk-based audit plan to the Chancellor and the Committee for approval and implement that audit plan
- Continually re-evaluate the audit plan based on changing conditions and emerging issues and revise as necessary to ensure that the highest risk items are given priority
- Consider the scope of work of the external auditors and regulators, as appropriate, for the purpose of providing optimal audit coverage to the organization
- Appropriate and necessary interactions with the various external audit-related governance groups occur as needed, including interactions with UNC-GA, the state’s Council of Internal Audit, Office of the State Auditor (OSA), Office of the State Controller, and the State Bureau of Investigation
- Appropriate and necessary interactions with the various internal audit- and investigation-related units occur as needed, including interactions with Office of the General Counsel, University Police Department, Employee Relations, and Student Conduct
- Investigate suspected fraudulent activities and notify the Chancellor, the Committee, and other management of any significant results; assist OSA or other external investigators with investigation of allegations as necessary
- Issue audit reports or engagement letters as appropriate to the Chancellor and other management summarizing the results of audit or consulting activities
- Report recent activities and high-risk issues to the Committee at regular quarterly meetings
- Perform consulting services, beyond internal auditing’s assurance services, to assist management in meeting its objectives and to proactively address issues
- Coordinate with other control and monitoring functions both internal and external regarding areas such as risk management, compliance, security, legal affairs, environmental health, and external audits and investigations
- Keep the Chancellor, the Committee, the Provost and Executive Vice Chancellor, and the Vice Chancellor for Finance and Administration informed of emerging trends and successful practices in the internal auditing profession
- Educate the campus-community on University policies, State and Federal regulations, best practices, and the importance of effective internal controls
- Participate on various committees, compliance task forces, and system development projects to provide guidance, proactively address potential issues and internal control weaknesses, improve inefficiencies, and increase effectiveness
• Evaluate and assess significant University functions and new or changing services, processes, operations, major systems, and control processes coincident with their development, implementation, and/or expansion
• Develop and maintain a continuous improvement and quality assurance program covering all aspects of IAD’s activities
• Perform all their duties in conformance with the international standards of the IIA

AUTHORITY

The Director is authorized to:

• Have direct and unrestricted access to senior management and the BOT
• Have (and delegate to the IAD staff as appropriate) unrestricted, independent access to all personnel, units, functions, records, and property relevant to the performance of engagements and risk assessment activities
• Allocate resources, set frequencies, select subjects, determine scopes of work, and apply the techniques required to accomplish audit objectives
• Obtain the necessary assistance of personnel in units of the organization where they perform audits as well as other specialized services from within or outside the organization as needed

The Director and staff of the IAD are not authorized to:

• Perform any operational duties for the organization or its affiliates
• Initiate or approve accounting transactions external to the IAD
• Make decisions that are the responsibility of management

To Be Approved by the NC State University Board of Trustees
Audit, Risk Management and Finance Committee
September 10, 2020
The Internal Audit Division (IAD) is in a unique position to elicit positive change and add value to the University as IAD is familiar with the overall University’s operations, culture, policies, procedures, practices, people, and style. Through a variety of engagement services including assurance (formal audits), advisory/consulting, investigative, and special assignments, IAD touched on four of the five University Strategic Goals. Examples of how IAD contributed to the University’s strategic plan’s goals are noted below.

### UNIVERSITY GOAL 1 – ENHANCE STUDENT SUCCESS
- Matthew Wall, graduate of the Poole College of Management Accounting Program, spent summer 2019 as an intern in our office before taking a full-time position with KPMG. Matthew is the latest in a string of NCSU graduates who has leveraged valuable experience as an IAD intern to build a career in the auditing profession.
- In October 2019, Nancy Burgart, IAD Assistant Director, and Seth Miller, IT Auditor, presented to approximately 30 undergraduates in a Poole College of Management auditing class on the topic of IT Auditing, Risk, and Controls.

### UNIVERSITY GOAL 3 – SUPPORT INTERDISCIPLINARY SCHOLARSHIP
IAD provided advisory services on the Enterprise Research Administration (ERA) system project, Research Enterprise Database (RED) to support administration of research activities including interdisciplinary research. IAD joined work teams at all levels to provide insight into research data security and compliance requirements as multiple units collaborated to create new University-wide processes and resources. These activities support all areas of research including colleges, centers, institutes, clusters, interdisciplinary programs and initiatives.

### UNIVERSITY GOAL 4 – PURSUE ORGANIZATIONAL EXCELLENCE
IAD’s audits, collaborations, consultations, and investigations had many positive impacts on the University’s progress towards pursuing organizational excellence during FY 2020. Below are examples of the many positive outcomes - in progress or completed - from IAD’s work in FY 2020.

- **College of Engineering Investigations - Materials Science and Engineering**
  - OFA and OIT began gathering data and researching across the University to understand the scope and nature of non-university employees’ access to University resources and data. These stakeholders and interested parties will be involved in developing improved guidance and controls through the development of a guest/affiliate system (Brickyard). These controls will:
    - Better identify affiliates such as guests, retirees, research collaborators, and external research partners who want to access NCSU data
    - Remove affiliates from the HR system
    - Give granularity in assigning privileges to individual University systems
  - Lessons learned from this situation are also informing OFA’s drive for University-wide business process improvement and enhancements to administrative staff training and improved guidance (PRRs, SOPs, knowledge-bases, etc.).
  - The Provost Office is developing a new, centralized process which will require all Faculty Activity Reports (FAR) to be tracked through the Provost’s Office to ensure consistent completion of FAR.
  - ORI used the lessons learned from this audit to create mandatory face-to-face training to the entire department which included definitions of Conflicts of Interest (COI) that must be reported, how they should be reported, when they should be updated, when a COI Management plan is needed, and when Notices of Intent should be submitted. This training will be used to train research faculty and staff University-wide.
  - Lessons learned from this audit were also used as a test case in the development of the COI module of the Enterprise Research Administration system.

- **Audit of Non-Salary Year End Transfer of Expenses**
  - The University Controller’s Office is updating guidance and training to provide University personnel with more comprehensive instructions for completing journal entries.
  - The Poole College of Management Business Office is implementing updated processes, policies, and procedures to strengthen governance and internal controls within the college.

- **Audit of Expenditures from Special Academic Program Resources**
  - The Provost’s Office and the Office for Finance and Administration are jointly developing general guidance for the management and use of premium tuition on post-baccalaureate programs.
  - The Poole College of Management Business Office is strengthening controls over the use of premium tuition within the college.

- **Audit of College of Agriculture and Life Sciences - NC Cooperative Extension - Business Process Governance**
  - In response to feedback during the audit, NC Cooperative Extension implemented procedures to help University personnel maintain compliance with the requirements of the University’s regulation on Programs that Involve the Participation of Minors.

- **Audit of User Controls Over Ultra-Sensitive Data**
  - OIT issued an updated University Data Management Regulation which defines authority and accountability for secure use of University data.
  - IAD provided advisory input for the updates to the regulation as well as University data sensitivity classifications.
  - OIT expanded the use of more secure methods for storing and sharing sensitive data using ShareBase. The more secure methods are being expanded to units that need to collect ultra-sensitive or highly sensitive data such as social security numbers, HIPAA data, Personal Identifiable Information (PII), or financial information.
Campus Enterprises - Vendor Processes Fraud Risk Assessment for NC State Dining and NC State Stores
  - Campus Enterprises and OIT worked together to ensure controls were implemented to address security gaps and meet University IT security requirements on check writing services until a permanent solution for securely managing the vendor payment process is established.

Enterprise Research Administration (ERA) Project and Research Enterprise Database (RED) Implementation
  - IAD has provided advisory and consulting services and oversight to the Office of Research and Innovation, Office of Finance and Administration, and Office of Information Technology for the replacement of multiple legacy systems used for enterprise research administration activities. This year’s focus has been on the COI module of the Research Enterprise Database (RED) system. IAD provided real-life examples and lessons learned from other audits and advisory engagements during the development of this module to facilitate identification of gaps in researchers’ understanding of the central offices’ expectations for complying with COI disclosure and management requirements.

HIPAA Security Implementation Project
  - After IAD worked with OIT Security and Compliance and the HIPAA Compliance Sub-committee to complete a HIPAA security assessment and privacy review for HIPAA covered health care components at NC State, IAD also provided advisory services to the implementation of recommendations from an outside consultant to ensure all risk areas identified are addressed.

Implementation of Accounts Payable Vendor Management System
  - We provided advisory and consultative services to the Controller’s Office on their implementation of a vendor management system application. This included identifying:
    - gaps in compliance
    - best practices
    - improvements to general business and central processes
    - gaps in current available guidance documents
    - efficiency and effectiveness of customer support structure
    - ability to adapt to the growing and changing University vendor environment

Office of Finance and Administration – University-wide Research Management Business Processes
  - SPARCS and C&G merged websites into a single website to streamline the content and put all of the information employees need for research funding, research integrity and compliance into one website.

Office of Finance and Administration (OFA) – Business Operations Group
  - IAD provided advisory and consultative services to the Business Operations Group Steering Committee. The purpose of this steering committee was to:
    - share knowledge and best practices to improve business practices
    - provide advice the Vice Chancellor of OFA
    - suggest topics and speakers for meetings
    - evaluate effectiveness and suggest improvements

OFA case studies
  - IAD collaborated with OFA to turn its audit results into business case studies and facilitate a broader collaboration between IAD, OFA, and Business Partners across the University to ensure improved - standardized when possible - and more effective business processes University-wide.

Facilitated EHPS EMMC Cybersecurity exercise in July 2019 with approximately 30 participants to:
  - Assess the ability of the participants to detect threats and risks, properly react to activity, and make decisions during the exercise
  - Assess NC State’s capability to determine operational impacts of cyber-attacks and implement proper recovery procedures
- Expose and correct weaknesses in cyber security systems
- Expose and correct weaknesses in cyber operations policies and procedures
- Understand the costs associated with cyber attacks

- Served as evaluator for OIT Cybersecurity exercise in June 2020 with 37 participants based on the July university-wide exercise hosted by EMMC. The objectives of the exercise included:
  - Assessing OIT’s capability to determine operational impacts of cyber-attacks and implement proper recovery procedures
  - Assessing if OIT support teams could address questions from the affected clients about suspicious activities
  - Determining enhancements or capabilities needed to protect an information system and provide for operations in a hostile environment
  - Developing contingency strategies for surviving the loss of some data or all IT systems

- IAD identified an issue with the Information Security Acknowledgement form - completed by users to acknowledge their responsibility to secure all University information from unauthorized disclosure or loss - which was not being monitored, tracked, or enforced. OIT revised the form and will be automating the acknowledgement process for people with access to MyPack Portal

- IAD collaborated with OIT Security and Compliance to identify gaps in NCSU’s ability to meet the UNC System Office requirements; a working group was established to address those gaps

- IAD collaborated in the development of the annual risk gap analysis for the campus’ security framework - ISO 27002 Code of Practice for Information Security Management

- IAD provided input on the UNC System Office Guidance standard for IT User Identity and Access Control for risk-based implementation of identity management

- IAD provided data analytics advisory services to personnel from the Poole College of Management College Business Office, the University Controller’s Office, and the University Budget Office who were interested in growing their reporting and analytics capabilities.

- As the mission of IAD is to support the university in the successful achievement of its strategic goals, we have worked hard to become a trusted partner to the university community. This year IAD participated on various search committees, which play a vital role in evaluating and recommending the most qualified candidates for critical positions across the University, such as:
  - OFA – Assistant Vice Chancellor for Human Resources (HR) Strategy
  - OFA – Assistant Vice Chancellor for HR Operations
  - Chancellor - Chief Compliance, Enterprise Risk Management and Ethics Officer Nominating Committee

UNIVERSITY GOAL 5 – ENGAGE LOCALLY AND GLOBALLY

IAD team members leveraged their expertise to contribute to the auditing profession during the year.

- Auditor M’Shiela Hawthorne presented on use of Tableau visualization within the audit engagements to over 500 participants at events that included:
  - The World Continuous Auditing & Reporting Symposium
  - A Tableau webinar on establishing a data-driven culture at NC State for finance and audit
  - An NC Office of State Budget Management Tableau training class with participants from agencies across the state

- Investigative Auditor Vanessa Collins represented IAD on a North Carolina Association of Certified Public Accountants (NCACPA) panel of speakers on the topic of Pathways to the CPA Profession. Vanessa discussed her experience, pathways to the CPA profession, and what attracted her to the profession. The panel was attended by 49 prospective accounting professionals, including NCSU students.

- The Chief Audit Officer and Director provided advisory services to several Community College audit directors at their request
Throughout the year, IAD participates in opportunities to give back to both our local and global communities. Each year the team participates in group community service by volunteering for unanimously selected activities. These activities not only benefit our communities but also provide a valuable opportunity for strengthening our team bonds. This year, IAD staff volunteered for Habitat for Humanity assisting in building a house in Raleigh and 7 out of 8 employees donated to the State Employees Combined Campaign.

ETHICS POINT HOTLINE ACTIVITY
IAD has taken over daily management of the EthicsPoint HotLine with the departure of the University Compliance Officer from the Office of General Counsel. This includes case management within the system, interaction through the system with the complainant, updating the documentation of how the case is addressed, and closing the case out. IAD teams with the Office of the General Counsel to determine the appropriate University unit(s) to review each case; this has ensured allegations are assigned to the correct units to address complainant concerns.

INTERNAL AUDIT HOTLINE ACTIVITY
Since 2014, there has been an upward trend in the number of allegations reported directly to IAD (not through the EthicsPoint). This is in part due to increased marketing of the IAD Hotline as well as greater awareness University-wide of the seriousness of impacts from fraud, waste, and misuse of resources.

IAD receives numerous allegations each year on a variety of topics.
NCSU Internal Audit Division
Subject Areas Reported in FY 2020

- Contract violations
- Property destruction
- Lack of safety training
- Non-compliance - faculty review
- Poor internal controls
- Poor fiscal management
- Non-compliance - sponsored award
- Inappropriate access
- Unallowable expenditures
- Misuse - Pcard
- Biosafety
- Culture
- Clery reporting
- Unmanaged COI
- Non-compliance - signature authority
- Non-compliance - service centers
- Misuse - facilities
- Security - facilities
- Concerning behavior
- Employee misconduct
- Non-university personnel roles
- Misuse - animal care
- Non-compliance - hiring
- Lab safety
- Non-compliance - purchasing
- Trespassing
- Hostile working environment
- IT security
- Non-compliance - external activities
- Non-compliance - external agreements
- Misuse - time
- Misuse of personnel time
- Personnel safety
- Nepotism
- Inaccurate COI
- Parking violations
- Non-compliance - student housing
- Student safety
- Lack of documentation
- Insufficient documentation
- Poor departmental internal controls
- Insufficient fiscal oversight
- Process effectiveness
- Conflict of interest
- Misuse - funds
- Other - Internal Audit Universe Risk - Internal Controls, 26
- Other - Internal Audit Universe Risk - Regulatory Non-Compliance, 21
- Other - Internal Audit Universe Risk - Fraud, 10
- Other - Prior Year Strategic Risk - Employee Misconduct, 9
- 3 - Data or Cyber Security Breach, 8
- Other - Internal Audit Universe Risk - Governance, 7
- Other - Internal Audit Universe Risk - Identification and Risk Management, 2

METRICS

NCSU INTERNAL AUDIT DIVISION
FISCAL YEAR 2020 RISK AREAS COVERED IN ENGAGEMENTS
AS OF 06/30/20
**Staff Changes**

- **Vanessa Collins**, an investigative auditor with more than 15 years experience, joined IAD on March 23. Vanessa previously worked for the NC Office of State Auditor and the NC Real Estate Commission. She is a CPA and CFE and earned her MBA from NCSU.
- **Frank Dziepak**, Investigative Auditor, left IAD on January 24 for an opportunity at another state agency.
- **Denise Hall**, University Program Specialist and Executive Assistant to the Chief Audit Officer & Director, left IAD on February 28 to pursue new adventures with her family.
**Staff Recognition**

M'Shiela Hawthorne was nominated for the Chancellor’s Office Awards for Excellence under the category of Efficiency and Innovation. Since fall of 2019, M’Shiela had become a subject matter expert at using Tableau software to analyze and visualize NCSU business processes and risks. During the year she provided data analytics insights to campus partners here at NC State and she represented NC State in multiple data analytics presentations to industry and state government audiences.

**CONCERNS FOR THE FUTURE**

While IAD has maintained the same number of audit staff since 2008, the risks that are facing universities have grown and become more dynamic. FY2020 has seen the emergence of highly complex risks, such as those related to COVID-19 and increasing Federal regulations and areas of significant concern such as undue foreign influence. Additionally, in the next year the University will see increased regulatory compliance requirements and probable Federal and State audits in relation to funding received from both Federal and State agencies. As University resources become more strained due to the post-COVID-19 economic downturn and increased regulatory compliance needs, it will become challenging for IAD to further increase efforts to help the University anticipate and manage these risks.

IAD’s use of data analytics within our work has enhanced our ability to identify issues within University operations. Once an issue is identified, IAD, in accordance with professional standards and best practices, completes broadscoped, in-depth analysis to ensure that we identify the root cause and assess the full impact of that issue. This takes significant time and bandwidth. As an extremely small audit team for the size of our University, when IAD is required to expand the scope of an engagement due to the identification of significant risks, effort on other planned audits and advisory work must be reduced. For example, IAD’s FY2020 multiple investigations within the College of Engineering - Materials Science and Engineering Department required a large expansion of scope and forced IAD to decrease effort towards other important engagements like the ERA RED implementation and to be unable to even start a number of planned engagements. Furthermore, indications of potential fraud identified by our Certified Fraud Examiners within another college also merited expanded analysis of a large population of journal entry transactions. This took significant time and also negatively impacted our ability to provide services requested by University units as well as reducing time available for other planned engagements.

While IAD’s in depth analysis of issues have led to improvements in organizational excellence this year just as in prior years, there is strong unmet demand from Vice Chancellors, Deans, Assistant Deans and University committees for increased advisory services from IAD such as assistance in developing or improving business processes, providing fraud prevention training, provide oversight and insight for new implementations, and advisory services to assist their handling of management challenges. Similarly, there is strong demand for us to engage more locally and globally to collaborate with our sister institutions and the broader auditing profession. However, we are increasingly unable to keep up with or respond adequately to these various demands because of our limited staff.
# NC State University Internal Audit Division
## Fiscal Year 2020 Audit Plan and Engagement Status
### As of June 30, 2020

<table>
<thead>
<tr>
<th>Engagement</th>
<th>On Original FY20 Audit Plan?</th>
<th>Coverage of University Strategic Risks</th>
<th>FY20 University Strategic Plan Goals</th>
<th>Status</th>
<th>Auditor Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit of Corrective Actions for National Science Foundation (NSF) 2018 Performance Audit of Incurred Costs</td>
<td>No - Carried Forward From Prior Year</td>
<td>Other - Internal Audit Universe Risk - Regulatory Non-Compliance</td>
<td>Closed</td>
<td>The objective and scope of our audit was to confirm that NCSU successfully implemented its corrective actions in response to the NSF audit findings. Corrective actions were successfully implemented to repay disallowed costs and enhance administrative and management controls. Report Issued 05/20/20.</td>
<td></td>
</tr>
<tr>
<td>College of Engineering - Materials Science and Engineering - Purchasing Investigation</td>
<td>No - Carried Forward From Prior Year</td>
<td>Other - Prior Year Strategic Risk - Employee Misconduct</td>
<td>Complete - In Follow-Up</td>
<td>The objective of this audit was to investigate allegations from an internal source regarding alleged personal purchases by an employee on a PCard and within the University's online e-procurement tool, Marketplace. The allegations were substantiated and the unit is working on corrective action for 1 issue related to insufficient MarketPlace and PCard Purchase Support Documentation. Original report issued 8/2/19</td>
<td></td>
</tr>
<tr>
<td>Non-Salary Year End Transfer of Expenses</td>
<td>No - Carried Forward From Prior Year</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>Complete - In Follow-Up</td>
<td>The objective of this university-wide audit was to review fiscal year-end non-salary related journal entries to determine if the transactions were proper and if they were processed accurately and in compliance with state and university requirements. Poole College of Management (PCOM) is working on corrective actions for 1 issue: PCOM Business Office Accounting and Business Practices. The Office of Finance and Administration is working on 2 issues: Journal Entry Compliance and Training, and Journal Entry Supporting Documentation. Original report issued 11/13/19</td>
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<tr>
<td>College of Engineering - Materials Science and Engineering Investigation</td>
<td>No - Added</td>
<td>Other - Prior Year Strategic Risk - Employee Misconduct Other - Internal Audit Universe Risk - Regulatory Non-Compliance Other - Internal Audit Universe Risk - Internal Controls Other - Internal Audit Universe Risk - Fraud</td>
<td>4. Pursue organizational excellence</td>
<td>Complete - In Follow-Up</td>
<td>The objective of this audit was to investigate allegations from an internal source of potential conflict of interest and misuse of federal funds. The allegations were substantiated and the unit is working on corrective actions for 8 issues: Inaccurate and Incomplete Conflict of Interest Disclosure and Lack of Management Plan, PI's Pattern of Misconduct and Non-Compliance, Unallowable Expenditures Paid with National Science Foundation Grant Funds, Unallowable Expenditures Paid with Department of Energy Grant Funds, Insufficient Oversight and Lack of Compliance Assurance by Departmental Research Administration Office, Inappropriate Responsibilities and Access Assigned to Non-University Personnel, Departmental Non-Compliance with Faculty Annual Review Requirements, and Insufficient Oversight of PI's Sales and Service Account by Departmental Business Office. Original report issued 12/19/19.</td>
</tr>
<tr>
<td>Audit of Expenditures from Special Academic Program Resources</td>
<td>No - Carried Forward From Prior Year</td>
<td>Other - Internal Audit Universe Risk - Internal Controls Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
<td>4. Pursue Organizational Excellence</td>
<td>Complete - In Follow-Up</td>
<td>The objectives of this audit were to assess whether: • Governing processes and procedures were in place to establish requirements and guidance for the collection and appropriate use of these special funds within colleges and departments • Revenues for special academic programs were collected from the appropriate students at the maximum allowable amounts per term and were distributed to programs appropriately • Expenditures were consistent with requirements, guidance, and historical practices governing the use of these special funds • Expenditures were appropriately allocated and classified within the University’s Financials System The offices of the Provost and Executive Vice Chancellor and the Vice Chancellor for Finance and Administration are working on 1 issue: Guidance for Premium Tuition. The Office of Finance and Administration is working on 1 issue: Classification and Allocation of Student Support Related Expenditures Made with Premium Tuition Funds. Original report issued 2/19/20.</td>
</tr>
</tbody>
</table>
## NC STATE UNIVERSITY INTERNAL AUDIT DIVISION
### FISCAL YEAR 2020 AUDIT PLAN AND ENGAGEMENT STATUS
#### AS OF JUNE 30, 2020

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<tbody>
<tr>
<td>College of Engineering - Materials Science and Engineering - Vendor Management Investigation</td>
<td>No - Carried Forward From Prior Year</td>
<td>Other - Prior Year Strategic Risk - Employee Misconduct</td>
<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objective of this audit is to investigate allegations from an internal source about a possible conflict of interest and non-compliance with purchasing requirements.</td>
</tr>
</tbody>
</table>
| College of Agriculture and Life Sciences (CALS) - NC Cooperative Extension (NCCE) - Business Process Governance | No - Carried Forward From Prior Year | Other - Internal Audit Universe Risk - Internal Controls | 4. Pursue organizational excellence | In Process | The objective of this audit was to assess the effectiveness of governance over NCCE business processes. Those processes included:  
• Strategic planning  
• Financial management  
• Procurement  
• Human resources  
• Program delivery  
• Training  
• Compliance with Federal, State, and University guidelines |

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**KEY:**
- Closed
- On-Hold
- In Process
- Returned to Continuous Risk Assessment
- Remaining in Process
- Corrective Actions in Process
- In Process
- On-Track
- Closed

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<tr>
<td>College of Sciences (COS) - General Information Technology (IT) Controls</td>
<td>No - Carried Forward From Prior Year</td>
<td>3 - Data or Cyber Security Breach</td>
<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objective of this audit is to evaluate governance over and effectiveness of IT controls within COS IT operations. These include the organizational and administrative structure of the IT function, IT strategic decision-making, the existence of policies and procedures, availability of staff and their skills, and the overall controls in the environment. Controls include security management, change management, configuration management, contingency planning, and vulnerability management. The audit will review the adequacy and effectiveness of the controls and how IT functions support the university, college's, and department's goals.</td>
</tr>
<tr>
<td>College of Agriculture and Life Sciences - Prestage Department of Poultry Science</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objectives of this audit are to evaluate the efficiency and effectiveness of the department, review internal controls, and assess compliance with federal, state, university and CALS policies and procedures.</td>
</tr>
<tr>
<td>Engagement</td>
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</tbody>
</table>
| Federal Safeguards Rule - Security Requirements Audit         | No - Added                  | Other - Internal Audit Universe Risk - Regulatory Non-Compliance                                       |                                    | In Process | The objective of this audit is to determine if the university is compliant with 2 CFR Part 200 - Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, Appendix XI - Compliance Supplement (Federal Safeguards Rule) by implementing core elements of the rule, specifically:  
• Whether the university designated an individual to coordinate the information security program  
• Performed a risk assessment that addresses the three areas noted in 16 CFR 314.4 (b)  
• Documented safeguards for identified risks |
<p>| Poole College of Management - Financial Business Operations   | Yes                         | Other - Internal Audit Universe Risk - Internal Controls                                              | 4. Pursue organizational excellence | In Process | The objectives of this audit will be to evaluate internal controls and governance over the financial business processes, efficiency and effectiveness of processes, and compliance to federal, state, and university requirements. This audit will serve as follow-up to issues found in fiscal year 2019 audit engagements: Audit of Expenditures from Special Academic Resources and the Audit of Non-Salary Year End Transfer of Expenses. |</p>
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<tbody>
<tr>
<td>College of Humanities and Social Sciences - Institute for Nonprofits - Business Processes</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objective of this audit is to review the business operations of the institute including governance, internal controls, efficiency and effectiveness of processes, and compliance to federal, state, and university requirements.</td>
</tr>
<tr>
<td>Wilson College of Textiles - Nonwovens Institute - Business Processes</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objective of this audit is to review the business operations of the institute including governance, internal controls, efficiency and effectiveness of processes, compliance to federal, state, and university requirements.</td>
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### NC STATE UNIVERSITY INTERNAL AUDIT DIVISION

#### FISCAL YEAR 2020 AUDIT PLAN AND ENGAGEMENT STATUS

**AS OF JUNE 30, 2020**

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<tbody>
<tr>
<td>Title IX Governance Processes</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
<td>4. Pursue organizational excellence</td>
<td>On-Hold</td>
<td>The objective of this audit is to assess the effectiveness of the processes governing and ensuring Title IX compliance. This engagement was placed on hold due to the release of new Federal guidance with a compliance requirement date of August 14, 2020.</td>
</tr>
<tr>
<td>Office of Finance and Administration - Environmental Health and Public</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td></td>
<td>On-Hold</td>
<td>The objective of this audit is to assess services for granting, revoking, and managing the physical access to campus locations supported by SAT. This engagement was placed on hold due to temporarily limited resources and other higher risk/priority engagements taking precedence.</td>
</tr>
<tr>
<td>Safety - Security Applications and Technologies (SAT) - Physical Access</td>
<td></td>
<td>Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
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<tr>
<td>Services</td>
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<tr>
<td>Administration and Compliance Over Salary Supplements</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
<td></td>
<td>Returning to Continuous Risk Assessment</td>
<td>The objective of this audit is to review administration of supplemental salary and university-wide compliance to requirements.</td>
</tr>
<tr>
<td>Office of Finance and Administration - Facilities - Informal Construction</td>
<td>Yes</td>
<td></td>
<td></td>
<td>Returning to Continuous Risk Assessment</td>
<td>The objective of this audit is to review compliance with the bid rules governing the university's informal construction contract award processes and evaluate for favoritism or bias.</td>
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<tr>
<td>Contracts Award Process</td>
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<tr>
<td>Office of Finance and Administration - Facilities - Energy Management</td>
<td>Yes</td>
<td></td>
<td></td>
<td>Returning to Continuous Risk Assessment</td>
<td>The objective of this audit is to review the effectiveness of policies, procedures, and controls securing the university's power and water systems.</td>
</tr>
<tr>
<td>Systems - Cyber Security for University Power and Water Systems</td>
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### NC State University Internal Audit Division

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<tr>
<td><strong>CURRENT YEAR AUDIT FOLLOW-UP</strong></td>
<td></td>
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</tr>
<tr>
<td>College of Engineering - Materials Science and Engineering Investigation - Follow-up</td>
<td>Yes</td>
<td>Other - Prior Year Strategic Risk - Employee Misconduct</td>
<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objective of this audit was to investigate allegations from an internal source regarding alleged personal purchases by an employee on a PCard and in Marketplace. The allegations were substantiated and the unit is working on corrective action for 1 issue: Insufficient Marketplace and PCard Purchase Support Documentation. Original report issued 8/2/19. Number of Audit Issues Remaining Open: 1 Number of Audit Issues Closed: 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other - Internal Audit Universe Risk - Fraud</td>
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<tr>
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<td>Other - Internal Audit Universe Risk - Internal Controls</td>
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<td>4. Pursue organizational excellence</td>
<td>In Process</td>
<td>The objective of this audit was to investigate allegations from an internal source of potential conflict of interest and misuse of federal funds. The allegations were substantiated and units are working on corrective actions for 8 issues: Inaccurate and Incomplete Conflict of Interest Disclosure and Lack of Management Plan, PI's Pattern of Misconduct and Non-Compliance, Unallowable Expenditures Paid with National Science Foundation Grant Funds, Unallowable Expenditures Paid with Department of Energy Grant Funds, Insufficient Oversight and Lack of Compliance Assurance by Departmental Research Administration Office, Inappropriate Responsibilities and Access Assigned to Non-University Personnel, Departmental Non-Compliance with Faculty Annual Review Requirements, and Insufficient Oversight of PI's Sales and Service Account by Departmental Business Office. Original report issued 12/19/19. Number of Audit Issues Remaining Open: 7 Number of Audit Issues Closed: 1</td>
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<td></td>
<td></td>
<td>Other - Internal Audit Universe Risk - Regulatory Non-Compliance</td>
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<td></td>
<td></td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
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<td></td>
<td>Other - Internal Audit Universe Risk - Fraud</td>
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<tr>
<td>Engagement</td>
<td>On Original FY20 Audit Plan?</td>
<td>Coverage of University Strategic Risks</td>
<td>FY20 University Strategic Plan Goals</td>
<td>Status</td>
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<tr>
<td>Audit of Expenditures from Special Academic Program Resources - Follow-up</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>4. Pursue Organizational Excellence Corrective Actions in Process</td>
<td>The objectives of this audit were to assess whether: • Governing processes and procedures were in place to establish requirements and guidance for the collection and appropriate use of these special funds within colleges and departments • Revenues for special academic programs were collected from the appropriate students at the maximum allowable amounts per term and were distributed to programs appropriately • Expenditures were consistent with requirements, guidance, and historical practices governing the use of these special funds • Expenditures were appropriately allocated and classified within the University’s Financials System The offices of the Provost and Executive Vice Chancellor and the Vice Chancellor for Finance and Administration are working on 1 issue: Guidance for Premium Tuition. The Office of Finance and Administration is working on 1 issue: Classification and Allocation of Student Support Related Expenditures Made with Premium Tuition Funds. Original report issued 02/19/20. Number of Audit Issues Remaining Open: 2 Number of Audit Issues Closed: 0</td>
<td></td>
</tr>
<tr>
<td>Non-Salary Year End Transfer of Expenses - Follow-up</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls Other - Internal Audit Universe Risk - Regulatory Non-Compliance</td>
<td>4. Pursue organizational excellence Corrective Actions in Process</td>
<td>The objective of the audit was to review fiscal year end non-salary related journal entries to determine if the transactions were processed accurately, properly, and in compliance with state and university requirements. Units are working on corrective actions for 3 issues: Poole College of Management Business Office Accounting and Business Practices, Journal Entry Compliance and Journal Entry Training, and Journal Entry Supporting Documentation. Original report issued 11/13/19. Number of Audit Issues Remaining Open: 3 Number of Audit Issues Closed: 0</td>
<td></td>
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</tbody>
</table>
### NC STATE UNIVERSITY INTERNAL AUDIT DIVISION
### FISCAL YEAR 2020 AUDIT PLAN AND ENGAGEMENT STATUS
### AS OF JUNE 30, 2020

<table>
<thead>
<tr>
<th>Engagement</th>
<th>On Original FY20 Audit Plan?</th>
<th>Coverage of University Strategic Risks</th>
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</thead>
<tbody>
<tr>
<td><strong>PRIOR YEARS' AUDIT FOLLOW-UP</strong></td>
<td></td>
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<tr>
<td>College of Agriculture and Life Sciences - Prestage Department of Poultry Science - Feed Mill Education Unit Investigation - Follow-up [Phase 2]</td>
<td>Yes</td>
<td>Other - Prior Year Strategic Risk - Employee Misconduct</td>
<td>4. Pursue organizational excellence</td>
<td>Closed</td>
<td>The objective of this audit was to investigate allegations from an internal source to determine if the unit's purchase of a truck owned by the unit's manager was conducted in a manner that was transparent to university administration and in compliance with state and university requirements. 3 issues were noted related to manager deliberately misrepresenting material facts in order to gain approval to sell his personal vehicle to the Feed Mill Education Unit, inadequate review and approval of transactions, and a culture of non-compliance. Original report issued 2/19/19. Follow-up completed, all issues were satisfactorily resolved/corrected, and the audit closed 1/27/20.</td>
</tr>
<tr>
<td>User Controls Over Ultra-Sensitive Data - Follow-up</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>4. Pursue organizational excellence</td>
<td>Corrective Actions in Process</td>
<td>The objectives of this audit were to: determine whether university users with known access to ultra-sensitive data are adequately protecting the data throughout business process lifecycles; identify - to the extent possible - previously unknown areas where ultra-sensitive data is transmitted and stored; and, assess whether current university users with access to ultra-sensitive data actually have a legitimate business need for the data. 23 issues were reported. Units continue to work on corrective actions for 15 issues related to guidance, training, storage, retention, verification processes, access, and approval processes. Original report issued 3/26/18. Number of Audit Issues Remaining Open: 15 Number of Audit Issues Closed: 8</td>
</tr>
</tbody>
</table>
## NC STATE UNIVERSITY INTERNAL AUDIT DIVISION
### FISCAL YEAR 2020 AUDIT PLAN AND ENGAGEMENT STATUS
#### AS OF JUNE 30, 2020

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</thead>
<tbody>
<tr>
<td>Campus Enterprises - NC State Dining - Vendor Processes Fraud Risk Assessment - Follow-up</td>
<td>Yes</td>
<td>3 - Data or Cyber Security Breach</td>
<td>4. Pursue organizational excellence Corrective Actions in Process</td>
<td></td>
<td>The objective of this audit was to assess the effectiveness of NC State's Dining's vendor payment processes and internal controls at reducing the risk of fraud. Internal Audit is finalizing follow-up review on corrective action for issue related to non-compliance with university IT security requirements and unit is working on corrective action related to use of non-university vendor payment and accounting systems creating redundancy, extra work, and unnecessary risk. Original report issued 3/12/19. Number of Audit Issues Remaining Open: 2 Number of Audit Issues Closed: 0</td>
</tr>
</tbody>
</table>
## NC State University Internal Audit Division
### Fiscal Year 2020 Audit Plan and Engagement Status
#### As of June 30, 2020

<table>
<thead>
<tr>
<th>Engagement</th>
<th>On Original FY20 Audit Plan?</th>
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</thead>
<tbody>
<tr>
<td>Campus Enterprises - NC State Stores - Vendor Processes Fraud Risk Assessment - Follow-up</td>
<td>Yes</td>
<td>3 - Data or Cyber Security Breach&lt;br&gt;Other - Prior Year Strategic Risk - Employee Misconduct&lt;br&gt;Other - Internal Audit Universe Risk - Fraud&lt;br&gt;Other - Internal Audit Universe Risk - Internal Controls&lt;br&gt;Other - Internal Audit Universe Risk - Regulatory Non-Compliance&lt;br&gt;Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
<td>4. Pursue organizational excellence&lt;br&gt;Corrective Actions in Process</td>
<td>The objective of this audit was to assess the effectiveness of NC State's Stores' vendor payment processes and internal controls at reducing the risk of fraud. Internal Audit is finalizing follow-up review on corrective action for issue related to non-compliance with university IT security requirements and unit is working on corrective action related to issue on use of non-university vendor payment and accounting systems creating redundancy, extra work, and unnecessary risk. Original report issued 3/12/19. Number of Audit Issues Remaining Open: 2 Number of Audit Issues Closed: 0</td>
<td></td>
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</tbody>
</table>

### Consulting Engagements

<table>
<thead>
<tr>
<th>Implementation of Accounts Payable Vendor Management System</th>
<th>No - Carried Forward From Prior Year</th>
<th>Other - Internal Audit Universe Risk - Fraud&lt;br&gt;Other - Internal Audit Universe Risk - Internal Controls&lt;br&gt;Other - Internal Audit Universe Risk - Regulatory Non-Compliance&lt;br&gt;Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</th>
<th>4. Pursue organizational excellence</th>
<th>Closed</th>
<th>Consulted with the University Controller's Office on their implementation of a vendor management system application. Consultation closed: 07/30/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the State Auditor - Audit of the 2019 NCSU Financial Statements</td>
<td>No - Carried Forward From Prior Year</td>
<td>3 - Data or Cyber Security Breach&lt;br&gt;Other - Internal Audit Universe Risk - Internal Controls</td>
<td>Closed</td>
<td>Consulted with Office of Information Technology - Security and Compliance on the Information Technology controls portion of the annual NCSU Financial Statement Audit by OSA. Consultation closed: 11/21/19</td>
<td></td>
</tr>
<tr>
<td>Engagement</td>
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<tr>
<td>College of Agriculture and Life Sciences - Applied Ecology Fish Barn</td>
<td>No - Added</td>
<td>Other - Internal Audit Universe Risk - Regulatory Non-Compliance</td>
<td>Consulted with Institutional Animal Care and Use Committee and the University Veterinarian on an allegation related to the College of Agriculture and Life Sciences - Applied Ecology fish barns. Consultation closed: 11/21/19</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>Minor Consulting and Advisory Services</td>
<td>Yes</td>
<td>Various</td>
<td>Internal Audit receives requests every week from colleges, business units, centers, institutes, and remotely located sites seeking consultative audit input on their projects, new initiatives, or for proper handling of problems encountered. These activities deal with security, financial, research, and personnel matters and result in recommendations relating to compliance, efficiency, security and privacy, or provide general audit related information to campus. Time is allowed on the Plan for these advisory services. Consultation closed: 06/30/20</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>Enterprise Research Administration (ERA) Project and Research Enterprise Database (RED) Implementation</td>
<td>Yes</td>
<td>3 - Data or Cyber Security Breach 3. Support interdisciplinary scholarship 4. Pursue organizational excellence</td>
<td>Providing advisory and consulting services, and oversight to the Office of Research and Innovation, Office of Finance and Administration, and Office of Information Technology for the replacement of multiple legacy systems used for enterprise research administration activities. NC State has partnered with InfoEd Global to implement a new, state-of-the-art ERA system, the RED system.</td>
<td>In Process</td>
<td></td>
</tr>
<tr>
<td>HIPAA Security Implementation Project</td>
<td>Yes</td>
<td>3 - Data or Cyber Security Breach 4. Pursue organizational excellence</td>
<td>Consulting with Office of Information Technology - Security and Compliance on implementation of recommendations from an outside consultant to ensure all risk areas identified are addressed by June 2020.</td>
<td>In Process</td>
<td></td>
</tr>
</tbody>
</table>
NC STATE UNIVERSITY INTERNAL AUDIT DIVISION  
FISCAL YEAR 2020 AUDIT PLAN AND ENGAGEMENT STATUS  
AS OF JUNE 30, 2020

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<tr>
<td><strong>SPECIAL ASSIGNMENTS</strong></td>
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</tr>
<tr>
<td>Vice Chancellor - Office of Finance and Administration Case Studies</td>
<td>No - Added</td>
<td>Other - Internal Audit Universe Risk - Internal Controls</td>
<td>4. Pursue organizational excellence</td>
<td>Closed</td>
<td>Development of case studies using business risk intelligence gleaned from internal audit engagements for the Office of Finance and Administration use in University-wide process improvement initiatives. Special Assignment closed: 06/30/20</td>
</tr>
<tr>
<td>University Information Technology (IT) Governance Committees</td>
<td>Yes</td>
<td>Other - Internal Audit Universe Risk - Governance</td>
<td>N/A</td>
<td>Closed</td>
<td>Internal Audit Division provided objective, independent input to various university IT committees as they recommend and implement IT policies and technology to ensure the best possible decisions in advancing the use of technology meets the university's mission, vision, and goals. Special Assignment closed: 06/30/20</td>
</tr>
<tr>
<td>Data Analytics Internal Project</td>
<td>No - Added</td>
<td>N/A</td>
<td>N/A</td>
<td>Closed</td>
<td>Internal Audit Division used data analytics software to identify anomalies, trends, and risks within financial business processes such as purchasing and journal entries. The majority of staff have been trained in the use of this software. This supplements current audit activities with more efficient analysis and quicker turnaround of corrective actions. Special Assignment closed: 06/30/20</td>
</tr>
<tr>
<td>Chief Compliance, Enterprise Risk Management and Ethics Officer Nominating Committee</td>
<td>No - Added</td>
<td>N/A</td>
<td>N/A</td>
<td>Closed</td>
<td>Chief Audit Officer &amp; Director was on the nominating committee for the Chief Compliance, Enterprise Risk Management and Ethics Officer. Special Assignment closed 1/15/20.</td>
</tr>
<tr>
<td>Engagement</td>
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<tr>
<td>University Compliance and Integrity Initiative</td>
<td>No - Added</td>
<td>Other - Internal Audit Universe Risk - Governance</td>
<td></td>
<td>Closed</td>
<td>Collaborated with Compliance Manager office to enhance university-wide compliance activities by increasing collaboration and expanding reporting opportunities for student, faculty, and staff for ethical or compliance related concerns. The goal was to provide a positive compliance experience, increase compliance educational opportunities, and create quality resources that will optimize compliance activity. Special Assignment closed 1/15/20.</td>
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<tr>
<td></td>
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<td>Other - Prior Year Strategic Risk - Employee Misconduct</td>
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<td>Other - Internal Audit Universe Risk - Fraud</td>
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<td>Other - Internal Audit Universe Risk - Regulatory Non-Compliance</td>
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<td></td>
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<td>Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
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<tr>
<td>Business Operations Group - 2019 Steering Committee</td>
<td>No - Added</td>
<td>Other - Internal Audit Universe Risk - Effectiveness and Efficiency of Process</td>
<td>4. Pursue organizational excellence</td>
<td>Closed</td>
<td>Chief Audit Officer &amp; Director was on the steering committee for the Business Operations Group. The objectives and responsibilities of this steering committee are to: Advise the Vice Chancellor of Finance and Administration about planning for the Business Operations Group meetings, represent all colleges and units in suggesting potential topics and speakers, evaluate the effectiveness of the Business Operations Group meetings and suggest improvements, and actively participate in Business Operations Group Meetings. Special Assignment closed 1/15/20.</td>
</tr>
<tr>
<td>Office of Finance and Administration - Vice Chancellor Search Committee</td>
<td>No - Carried Forward From Prior Year</td>
<td>N/A</td>
<td>N/A</td>
<td>Closed</td>
<td>Chief Audit Officer &amp; Director was on the search committee for the Vice Chancellor for Finance and Administration. Special Assignment closed 8/20/19.</td>
</tr>
<tr>
<td>Engagement</td>
<td>On Original FY20 Audit Plan?</td>
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<tr>
<td>Power America IT Security Assessment</td>
<td>No - Carried Forward From Prior Year</td>
<td>3 - Data or Cyber Security Breach</td>
<td></td>
<td>Closed</td>
<td>Collaborated with Office of Information Technology - Security and Compliance (OIT S&amp;C) to assess the effectiveness of the Power America Information Technology Security and Compliance Program implementation. Assessment complete, waiting for OIT S&amp;C to issue final report. Special Assignment closed 1/24/20.</td>
</tr>
<tr>
<td>College Information Technology Maturity Assessment</td>
<td>Yes</td>
<td>...</td>
<td>Returning to Continuous Risk Assessment</td>
<td>To assess College IT operations against the Committee of Sponsoring Organizations of the Treadway Commission (COSO) maturity model to assess risks.</td>
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</table>

**OTHER**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Continuous Risk Assessment and Audit Planning</td>
<td>Yes</td>
<td>N/A</td>
<td></td>
<td>Closed</td>
<td>All team members visited faculty and staff across the university throughout the year to discuss their unit’s strategic plans, goals, and risk posture in relation to the University’s Mission. This included new and on-going activities related to their academic, research, and outreach missions and potential concerns or emerging risks to both strategic and tactical goals at the unit and university level. This process supported the identification of potential audit and consulting engagements and is used as an objective tool in the development of our Annual Audit Plan. Closed: 06/30/20</td>
</tr>
<tr>
<td>Division Administrative and Quality Improvement Activities</td>
<td>Yes</td>
<td>N/A</td>
<td></td>
<td>Closed</td>
<td>Implemented enhanced auditing tools, Implementing Best Practices, Website Revisions, Non-Project Management Reporting (to BOT, BOG, UNC-GA, COIA/OIA, State, OSA, etc.) Closed: 06/30/20</td>
</tr>
<tr>
<td>Hot Line Allegation Review and Due Diligence</td>
<td>Yes</td>
<td>N/A</td>
<td></td>
<td>Closed</td>
<td>The Audit Plan included estimated time for due diligence and investigation of allegations reported through the Internal Audit Division Hot Line, the Office of the State Auditor Hot Line, or other internal and external sources. Closed: 06/30/20</td>
</tr>
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</table>
# NCSU Internal Audit Division
## Fiscal Year 2021 Audit Plan

<table>
<thead>
<tr>
<th>Audits</th>
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</thead>
<tbody>
<tr>
<td><strong>Poole College of Management - Financial Business Operations</strong></td>
</tr>
<tr>
<td><strong>College of Humanities and Social Sciences - Institute for Nonprofits - Business Operations</strong></td>
</tr>
<tr>
<td><strong>College of Engineering - Department of Materials Science and Engineering</strong></td>
</tr>
<tr>
<td><strong>Wilson College of Textiles - Nonwovens Institute - Business Operations</strong></td>
</tr>
</tbody>
</table>

### Information Technology Audits

| Application Programming Interface (API) Audit | The objective of this audit is to:  
| - Identify population of APIs transferring University data outside of PS Enterprise Systems  
| - Identify ultra-sensitive and sensitive data that is being transferred by APIs  
| - Assess controls governing these types of transfers  
| - Assess security of transfers of ultra-sensitive and sensitive data |

### Fiscal Year 2020 Engagements in Progress on July 1, 2020

- Office of Finance and Administration - Environmental Health and Public Safety - Security Applications and Technologies (SAT) - Physical Access Services

*Investigations*
The Audit Plan includes estimated time for analysis of allegations reported through the Internal Audit Division Hotline, Ethics Point Hotline, the Office of the State Auditor Hotline, or other internal and external sources and subsequent investigation.

**Prior Year’s Follow-up Audits**

The Internal Audit Division performs follow-up activities on all audit issues reported by our office or the Office of the State Auditor. As of March 9, 2020, corrective actions for issues noted in the following audit reports will be assessed/reviewed in fiscal year 2021:

- User Controls Over Ultra-Sensitive Data
  - Campus Enterprises - NC State Dining - Vendor Processes Fraud Risk Assessment
  - Campus Enterprises - NC State Stores - Vendor Processes Fraud Risk Assessment
- College of Agriculture and Life Sciences (CALS) - NC Cooperative Extension (NCCE) - Business Process Governance
- College of Sciences (COS) - General Information Technology (IT) Controls
- College of Agriculture and Life Sciences - Prestage Department of Poultry Science

**Advisory Services**

| Office of Research and Innovation and Office of Finance and Administration - Research Administration Systems Replacement - Enterprise Research Administration Research Enterprise Data System Implementation | Internal Audit is providing advisory and consulting services on the replacement of multiple legacy systems used for enterprise research administration activities. |

**Special Assignments**

<table>
<thead>
<tr>
<th>University Information Technology (IT) Governance Committees</th>
<th>Chief Audit Officer &amp; Director, Assistant Director, IT Auditor are providing advisory services to various IT governance committees.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study Development</td>
<td>Development of case studies using business risk intelligence gleaned from internal audit engagements for the Office of Finance and Administration use in University-wide process improvement initiatives.</td>
</tr>
</tbody>
</table>

**Continuous Risk Assessment and Audit Planning**

Every week, Internal Audit Division team members visit University faculty and staff to discuss their unit’s strategic plans, goals, and risk posture in relation to the University’s Mission. This includes new and on-going activities related to their academic, research, and outreach missions and potential concerns or emerging risks to both strategic and tactical goals at the unit and university level. This process supports the identification of potential audit and advisory engagements and is used as an objective tool in the development of our Annual Audit Plan.
Audit Risk Universe (see illustration, page 5)
Current best practices relating to development of the audit universe contend that a risk-based internal audit function considers all risks that affect their enterprise, not just the "auditable risks." Specifically, at NCSU, this broader concept of the audit universe begins with the core elements of the NC State Mission: academics, research, and engagement. The NC State Internal Audit Division (IAD) identifies three integral activities necessary for the achievement of our mission:

1) Governing – performed by our university leadership team and the Board of Trustees who set the direction and ethical expectations for university constituents
2) Doing – performed by our faculty, engagement agents, and staff around the globe
3) Supporting – performed by university units through various processes and practices carefully designed to manage risk and ensure the university meets its goals, objectives, and requirements

Risks to these mission-critical activities and the ways in which risks are mitigated are the focus of our Continuous Risk Assessment (RA) Process that leads to the development of our Audit Risk Inventory and Audit Plan.

Continuous Risk Assessment Process (see illustration, page 6)
IAD continuously performs risk assessment activities across the Audit Risk Universe to identify areas of high risk to the university “enterprise” in relation to achieving both its strategic and tactical goals and objectives. The RA process is at the core of our audit and consulting engagements and is used as an objective tool in the development of our risk-based Audit Plans. We use our Audit Risk Inventory to compile and track risk exposures to the university’s governance, operations, and information systems that relate to components such as the:

- Reliability and integrity of research, financial, and operational information
- Effectiveness and efficiency of operations
- Safe-guarding of assets
- Compliance with university and UNC System policies
- Compliance with legal, regulatory, and contractual obligations
- Detection and prevention of fraud
- Effectiveness of information technology security and compliance

Audit Plan Development (see illustration, page 6)
All objective and subjective information and data gathered through our continuous RA process is analyzed when received and at weekly RA staff meetings. This on-going analysis process allows IAD to determine areas that may need immediate attention, areas that are potential near-term or future audits, and areas that we will continue to watch and monitor through our process.

Our Audit Plan reflects the results of our continuous assessment and analysis process as of the end of the first quarter of each calendar year. Each year’s Plan is presented for approval at the regularly scheduled April meeting of the NC State Board of Trustees and is implemented at the start of the new fiscal year on July 1.
NCSU Internal Audit Division
Continuous Risk Assessment and Audit Planning Process
Audit Risk Universe as of March 9, 2020
NCSU Internal Audit Division
Risk Assessment and Audit Planning Process
Continuous Risk Inventory and Audit Plan Development
Staff Bios

Chief Audit Officer & Director

Cecile M. Hinson, CCEP, CFE, CISA
Cecile joined the Internal Audit Division in February 2001. Prior, she worked for Lockheed Martin and PricewaterhouseCoopers, LLP, in the areas of financial, operational, and information technology auditing. Cecile received her Bachelor of Science in Business with an emphasis in Accounting from Meredith College. She is a Certified Compliance and Ethics Professional (CCEP), a Certified Fraud Examiner (CFE), and a Certified Information Systems Auditor (CISA). She is also a graduate of the NC State Equal Opportunity Institute and holds an Information Technology Audit Certificate from the MIS Training Institute.

Assistant Director

Nancy L. Burgart, CFE, CISA
Nancy re-joined the Internal Audit Division in October 2010 after working as an IT Compliance Auditor in the NC Office of the State Chief Information Officer. Nancy began her career at NC State in August 1994 and worked in various departments across campus, including Telecommunications, NCSU Libraries, and Internal Audit. Nancy has a Bachelor of Science in Accounting from East Carolina University. She is a Certified Information Systems Auditor (CISA) and a Certified Fraud Examiner (CFE).

Audit Manager

Neil Holloway, MBA, CFE, CGFM, PMP
Neil joined the Internal Audit Division in February 2015. Previously, he worked as a financial management consultant for IBM and an auditor for the U.S. Department of Defense, Office of the Inspector General. Neil earned his Bachelor of Science in Accounting from Juniata College in 2007. He earned his Master of Business Administration (MBA) from NC State in 2017. He is a Project Management Professional (PMP), a Certified Government Financial Manager (CGFM), and a Certified Fraud Examiner (CFE).

Staff

M'Shiela R. Hawthorne, CIA, CFE
M'Shiela joined the Internal Audit Division in December 2014. She has over 20 years of accounting experience in various industries including the military. M'Shiela has a Bachelor of Science Degree in Accounting with a concentration in Internal Audit from NC State University. She is a Certified Internal Auditor (CIA) and a Certified Fraud Examiner (CFE).
Sandra J. Soto, CFE
Sandra joined the Internal Audit Division in December 2017. She has over 20 years of accounting experience in various industries. Sandra graduated with honors and has a Bachelor of Science Degree in Accounting with a concentration in Internal Audit from NC State University. She is currently enrolled in the MBA program at NC State. Sandra is a Certified Fraud Examiner (CFE). She is also trilingual, speaking English, Spanish and French.

Seth Miller, CISA, Net+
Seth joined the Internal Audit Division in August 2018. He has over 7 years of compliance and auditing experience in regulated industries. Seth started his career at a non-profit organization (RTI International) focusing on governance, security, and compliance. He then moved to a large private software company (SAS) where he was focused on compliance, operations, and auditing. Seth has a Bachelor of Science Degree in Business Administration with a concentration in Marketing from Appalachian State University. Seth holds both Certified Information Systems Auditor (CISA) and Network Plus (Net+) certifications.
Executive Summary

Issuer: Board of Governors of the University of North Carolina
Borrower: North Carolina State University
Description: General Revenue Bonds, Series 2020A; Taxable General Revenue Bonds, Series 2020B
Bond Counsel: Parker Poe Adams & Bernstein LLP
Financial Advisor: First Tryon Advisors
Underwriters: Goldman Sachs, Barclays
Underwriters’ Counsel: McGuireWoods LLP
Trustee: U.S. Bank, N.A.
Optional Redemption:
   - 2020A: 4/1/2030 @ 100%
   - 2020B: Make-Whole
Pricing Date: June 16, 2020
Delivery Date: July 7, 2020
Purpose:
   - 2020A: (a) Refund the 2010B Bonds, (b) refund a portion of NC State’s outstanding commercial paper, (c) finance a portion of the costs of the Carmichael Gymnasium Addition and Renovation, and (d) pay certain costs incurred in connection with the issuance of the 2020A Bonds.
   - 2020B: (a) Refund a portion of the 2013A Bonds, (b) refund a portion of NC State’s outstanding commercial paper, (c) finance a portion of the costs of the Fitts-Woolard Hall and the Plant Sciences Building, and (d) pay certain costs incurred in connection with the issuance of the 2020B Bonds.

<table>
<thead>
<tr>
<th>Select Bond Statistics</th>
<th>2020A</th>
<th>2020B</th>
<th>Aggregate</th>
</tr>
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<tbody>
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<td>Tax Status:</td>
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<td>Taxable</td>
<td>Tax-Exempt and Taxable</td>
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<tr>
<td>Par Amount:</td>
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<tr>
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<td>10/1/2042</td>
<td>10/1/2044</td>
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<td>Total Debt Service:</td>
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<td>$360,405,445</td>
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<tr>
<td>NPV Savings ($)</td>
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<td>$26,273,599</td>
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<tr>
<td>NPV Savings (%)</td>
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<tr>
<td>All-in True Interest Cost:</td>
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<td>2.318%</td>
<td>2.165%</td>
</tr>
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</table>
SAN FRANCISCO (S&P Global Ratings) May 18, 2020—S&P Global Ratings assigned its 'AA' rating to North Carolina State University at Raleigh's (NC State) series 2020A and 2020B general revenue bonds. At the same time, S&P Global Ratings affirmed its 'AA' issuer credit rating (ICR) on NC State, as well as its 'AA' long-term rating and underlying rating (SPUR) on NC State's existing revenue bonds. Finally, S&P Global Ratings affirmed its 'A-1+' short-term rating on NC State's outstanding commercial paper (CP) notes. The outlook, where applicable, is stable.

“We assessed NC State’s enterprise profile as very strong, characterized by healthy year-over-year growth in full-time-equivalent enrollment in each of the past three fall enrollment periods, with other favorable demand metrics and sound management and governance,” said S&P Global Ratings credit analyst Phillip Pena. In addition, NC State’s economic fundamentals are excellent, operating in a state that has S&P Global Ratings’ highest rating.

“We assessed the university’s financial profile as very strong, characterized by robust financial performance with recurring full-accrual operating surpluses, good financial policies, and a low to moderate debt burden with modest financial resources for the rating,” Mr. Pena added.

We believe these credit factors, combined, lead to an indicative stand-alone credit profile of 'aa' and a long-term rating of 'AA'.

As a result of the COVID-19 pandemic, all classes for spring 2020 as well as summer sessions 1 and 2 have been moved entirely online. NC State students who occupy university housing were instructed to return to their off-campus residences unless granted an exception. The university has also transitioned to minimal on-campus operations, and requires remote work or alternative work arrangements for most employees. The university reports that despite COVID-19, more students have enrolled in the current summer session relative to the prior summer session. Approximately 11.5% of students at the university are international students, and we feel this level of international students has the potential to affect demand at the university depending on the extent and duration of the pandemic. The university has put most capital projects on hold and expects fiscal 2020 to end with a more modest surplus than fiscal 2019. Auxiliary revenues make up approximately 15% of adjusted operating revenues; however, we believe these potential operating revenue losses can be partly offset by reductions in auxiliary operating expenses. Approximately $17.8 million in total CARES Act funding will be made available to the university, $8.9 million to offset some of the impacts related to the pandemic, and the remaining $8.9 million to fund student grants. We believe the university's available resources and liquidity are adequate to offset the medium-term pressure that might arise due to this pandemic. The university is currently contingency planning for various scenarios possible in fall using guidance from the UNC System. NC State is expecting fall enrollment at the undergraduate level to be in line with prior
projections, and is currently evaluating graduate enrollment trends. We note that fall 2020 undergraduate applications reached a new peak of 31,295, that tuition is frozen for in-state residents, and that 80% of students come from inside the state, which we feel helps to mitigate some pressure from the pandemic.

The stable outlook reflects our expectation that NC State's enrollment will remain stable, and we recognize the uncertainties that the COVID-19 pandemic presents if campuses cannot be fully opened in fall 2020. The stable outlook also reflects our expectation that the university will continue to provide leadership during these difficult times such that ongoing operations and available resources will be closely monitored and needed adjustments made in a timely manner.

As of fiscal year-end 2019, the university has approximately $535.8 million in total debt outstanding. With the series 2020A and 2020B issuance, total university debt on a pro forma basis is $627.8 million. A majority of the bonds will be used to refinance series 2010B and 2013A bonds, and outstanding CP debt. The $92 million new-money component of the issuance will fund the construction of various capital projects on campus.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings’ public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

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Rating Action: Moody's assigns Aa1 to North Carolina State University at Raleigh's (NC) Series 2020A&B bonds; outlook stable

20 May 2020

New York, May 20, 2020 -- Moody's Investors Service has assigned Aa1 to North Carolina State University at Raleigh's (NCSU) proposed $265.5 million General Revenue Bonds, Series 2020A and Taxable General Revenue Bonds, Series 2020B. The bonds, to be issued by the Board of Governors of the University of North Carolina, have an expected final maturity in 2044. Concurrently, we also affirm its Aa1 ratings on $407 million of outstanding rated bonds. The outlook is stable.

Ratings Rationale

The assignment and affirmation of the Aa1 ratings acknowledge North Carolina State University at Raleigh's (NCSU) prominent role as a large, public land-grant university serving over 36,000 students. A member of the University of North Carolina (UNC) system, NCSU receives very generous financial support from the State of North Carolina (Aaa stable), which provides funding for operations and capital. Sizeable and growing financial reserves, aided by solid donor support, provide a strong cushion relative to debt and operations. With extensive planning and continuous strategic investments, the university is poised to maintain its favorable financial, enrollment, and competitive momentum.

We regard the coronavirus (COVID-19) outbreak as a social risk under our ESG framework given substantial implications for public health and safety. The coronavirus situation has created dislocation across industries and geographies and triggered urgent challenges for many businesses and organizations to address. Social distancing measures and other restrictions designed to curb the spread of the virus are exacting tremendous economic costs. The prospects and path of economic recovery for the second half of the year and beyond depend on factors including when and at what pace lockdown measures will ease and to what extent fiscal and monetary policy measures are available to assist businesses and organizations. The combined credit effects of these developments are unprecedented. NCSU has received federal aid, through the CARES act, to offset refunds provided to students. In addition, donors have provided support for students experiencing challenges related to COVID-19.

Rating Outlook

The stable outlook reflects our expectations of continued steady operations, growing reserves, and manageable financial leverage. It also reflects expectations of ongoing revenue growth, aided by favorable student demand and continued state financial support. Should COVID-19 related downside risks accelerate, the rating or outlook could be negatively impacted.

Factors that could lead to an upgrade of the ratings

- Material increase in financial reserves relative to debt and operations
- Sustained strengthening in cash flow, contributing to gains in unrestricted liquidity

Factors that could lead to a downgrade of the ratings

- Significant reduction of state financial support or decline in the state’s credit quality
- Substantial increase in financial leverage
- Deterioration of operating performance

Legal Security

The general revenue bonds, all fixed rate, are unsecured obligations of the university, payable from Available Funds, which include unrestricted revenues and unrestricted fund balances, but exclude state appropriations or student tuition payments. At fiscal year end 2019, Available Funds totaled $764 million, which has increased about 12% since fiscal 2015.
USE OF PROCEEDS

Proceeds from the proposed 2020A&B bonds will be used to refund outstanding series 2010B Taxable General Revenue Bonds, 2013A General Revenue Bonds, reduce outstanding commercial paper, and fund four major capital projects. They are the renovation of the Carmichael complex, Centennial Campus cogeneration plant, Fitts-Woolard Hall and the Plant Sciences Initiative. Both the Fitts-Woolard and the Plant Sciences Initiative projects also benefit from capital funding from the state.

PROFILE

NCSU is land, sea, and space grant public university situated in Raleigh, North Carolina. The university serves a total headcount of over 36,000 students has historical strengths in engineering, agriculture, life sciences, textiles and design. A member of the University of North Carolina system, NCSU has operating revenues in excess of $1.6 billion.

METHODOLOGY


REGULATORY DISCLOSURES

For further specification of Moody's key rating assumptions and sensitivity analysis, see the sections Methodology Assumptions and Sensitivity to Assumptions in the disclosure form. Moody's Rating Symbols and Definitions can be found at: https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_79004.

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Higher education – US

Outlook shifts to negative as coronavirus outbreak increases downside risks

The outlook for the higher education sector is changing to negative from stable, reflecting both the immediate negative financial impact of the coronavirus outbreak as well as other significant downside risks. While the duration and full financial impact of the current crisis is unknown, universities’ response to the outbreak will immediately reduce revenue and drive expenses higher. For fiscal 2021, universities face unprecedented enrollment uncertainty, risks to multiple revenue streams, and potential material erosion in their balance sheets.

» Ability to respond to rapidly increasing downside risks varies widely across the sector. The approximately 30% of universities with already weak operating performance will have greater difficulty adapting, with credit stress becoming much more material for approximately 5-10% of the sector under Moody’s downside scenario. Inability to resume normal operations in the fall or material declines in enrollment would drive more severe financial stress across a much broader swathe of the sector. Universities with greater budgetary flexibility, due in part to sound operating cash flow and strong liquidity, will be better able to navigate these challenges. Universities differ in their capacity to shift to digital education platforms, underscoring the varying degrees of preparedness.

» Coronavirus response will immediately hit revenues and drive expenses higher. Operating performance will tighten across the sector as colleges shift to online educational delivery and incur other emergency preparedness costs.

» Universities face multiple risks to revenue in 2021. The sector faces disruption in enrollment patterns, state support, endowment income and philanthropy, and research grants and contracts.

» Financial market disruption presents several immediate and longer-term challenges. Disruption of the financial markets will hit both assets and liabilities. Significant investment losses will most immediately hit reserves, decreasing the buffer for responding to operating volatility. If sustained, market losses will also increase unfunded pension liabilities, with accompanying budgetary impacts.

» What could change the outlook. A sustained recovery in the financial markets, reversal of the projected economic slowdown in the latter part of the year, and stable enrollment for fall 2020 would contribute to a reversion to a stable outlook.
This outlook represents our forward-looking view on credit conditions in the sector over the next 12-18 months. This sectorwide outlook, however, does not imply the likelihood or direction of rating actions for individual issuers.

Our view of credit conditions for the higher education sector are informed by Moody's global macro outlook dated March 6, 2020. Our current baseline macro forecasts are based on two assumptions: (1) the disruption of economic activity in the first half of this year will be followed by some recovery in global factory production and consumer demand in the second half; and (2) warmer weather in the Northern Hemisphere in the spring and summer will weaken the spread of the virus. However, we will need to monitor both of these assumptions.

Several plausible developments could lead to a far more negative scenario. For example, if the infection rate increases even more rapidly and contagion lasts longer, driving sentiment ever lower, over time the demand shock is likely to dominate, potentially generating downward cyclical dynamics. Therefore, the risks to our baseline forecasts remain firmly to the downside. In particular, a sustained pullback in consumption, coupled with extended closures of businesses, would hurt earnings, drive layoffs and weigh on sentiment. Such conditions would ultimately feed self-sustaining recessionary dynamics. Heightened asset price volatility would also result, serving to magnify and transmit the shock across borders, including to emerging market countries.

As events unfold rapidly, there is a higher than usual degree of uncertainty around all macro economic forecasts. Therefore, in our analysis we are taking into consideration that there is a wider range of potential outcomes, including more severe downside scenarios, over the course of the year.

**Ability to respond to rapidly increasing downside risks varies widely across the sector**

Universities will differ in their ability to navigate the rapidly changing business conditions facing the higher education sector due to the coronavirus outbreak. Sectorwide results for fiscal 2020 will reflect a contraction in operating margins for most universities. Liquidity will decline at many institutions because of weaker operating performance and the current financial market instability. While the negative impact will be sectorwide, it will present a more significant financial challenge for those with already thin operating performance. As seen in Exhibit 1, just over 30% of public universities and nearly 30% of private universities were already running operating deficits. Universities with a combination of weak operating performance and low liquidity, 5-10% of Moody's rated universe, will face more critical credit stress under Moody’s downside scenario. The worsening conditions will also challenge the rest of the sector, but a combination of reserves or operating cash flow strength will provide greater flexibility to respond.

**Exhibit 1**

Universities with thin operating performance and lower liquidity have less flexibility to respond to the outbreak

% of each sector with operating deficits or thin liquidity

- Public university
- Private university

Based on most recent available financial statements, fiscal 2019 for most, but fiscal 2018 in some cases

Source: Moody’s Investors Service

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

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If there is more material disruption in the fall, including an inability to resume classes or a significant enrollment decline, a greater proportion of the sector will confront more material financial distress. This could lead to some colleges declaring financial exigency. Financial exigency is a unique mechanism used rarely that allows colleges and universities facing severe financial difficulties to relatively swiftly address fixed costs, including tenure, related to the sector’s rigid employment structure.

While public universities will face similar stresses to privates, those that are significantly struggling benefit from potential state support. For example, several small public universities in West Virginia have weak operating performance and liquidity. The West Virginia Higher Education Policy Commission (Aa3 stable) has identified some internal reserves that it can use to provide some liquidity relief, and is working with the universities and the state for additional contingency plans. Private universities do not have this layer of additional oversight, support or potential liquidity infusion.

**Improvement in technology enables universities to respond in new ways**

Technological innovation has provided universities with a greater set of tools to continue offering educational services in alternative formats, which helps to stabilize enrollment as universities quickly ramp up their response plans. The move to solely online delivery of coursework in recent weeks underscores the responsiveness of the higher education sector to health and safety risks for students, staff, faculty and patients (for universities with academic medical centers). Additionally, the federal government has been quick to alter its rules to enable online course delivery without impairing financial aid for domestic students or the eligibility for international students to continue their coursework.

Still, the sector faces a digital divide that highlights the differing levels of potential preparedness. Universities having already substantially invested in digital delivery capabilities stand to respond better than those that have not because of resource constraints or historically not viewing such channels as mission-critical. The digital divide also extends to student access to what have become practically essential services. For example, universities serving a larger low-income population face more difficulties moving coursework online because a higher proportion of students may not have access to access to high-speed internet service.

The crisis will undoubtedly spur colleges and universities to reexamine and further strengthen their emergency management plans and preparedness. Shifting to online-only delivery will also provide valuable insight into opportunities to offer more distance-learning classes, fostering the continued transformation of the sector over an extended period of time.

**Coronavirus response will immediately reduce revenue and drive expenses higher**

The ramp-up of online learning in response to the coronavirus outbreak will add a variety of additional costs to already constrained budgets. At the same time, universities are bearing other increased costs and loss of revenue associated with emergency management. These include cancellation of study-abroad programs, a loss of room-and-board revenue and cancellation of athletic events, such as the NCAA basketball tournament.

Cost savings from reduced travel and services across campus will offset some of the added expenses, but not all. Some universities have instituted hiring freezes and are looking at other immediate ways to contain expenses in order to preserve performance. Significant investment declines over the last several weeks combined with weaker operating performance are eroding unrestricted liquidity. Some universities have identified the potential for business interruption insurance reimbursement, but the actual ability to collect and time frame to do so is highly uncertain.

**Auxiliary facilities and privatized student housing projects face specific business challenges**

Differing types of auxiliary facilities, such as housing and dining systems, parking systems, and athletic systems will have immediate revenue declines. As students leave campus, some universities are pro rata refunding room and board. Reduction or discontinuation of in-person instruction and a move to work from home for faculty and staff will lead to a drop in parking revenues. The discontinuation of athletic events, including the cancellation of March Madness and associate revenues, will cause many athletic programs to operate at a deficit for the year. Some public universities issue revenue bonds that are more narrowly secured by these revenue streams. In some cases, pledged revenues on an annual basis may be insufficient to cover debt service for the year. Accumulated reserves would
act as a mitigant to annual revenue shortfalls. Further, public universities have historically used internal loans or other mechanisms to support these systems if necessary, because of their integration with the parent, strategic importance, and strong credit links.

Privatized student housing credits are likely to be exposed to the impact of coronavirus. In the very short term, if the affiliated university closes the campus and students vacate the projects, they may be given refunds on a portion of their rental payments. For projects with adequate but not strong levels of debt service coverage this is likely to create a shortfall in funds available for payment of the upcoming debt service. Trustees would then need to draw on the debt service reserve fund to cover the shortfall impairing the credit going forward.

Looking past the spring semester, the impact on projects will depend on enrollment at the affiliated universities and whether there are declines in enrollment, resulting from the virus and changing economic conditions, that could impact occupancy. We will also be monitoring the construction status of projects scheduled to open in fall 2020.

**Universities face multiple risks to revenue in fiscal 2021**

Downside risks will escalate in fiscal 2021, impacting multiple revenue streams. The sector faces the potential for disruption in enrollment patterns, state support, endowment income and philanthropy, and research grants and contracts.

Disruption of enrollment patterns among international students is a substantial credit risk even in Moody’s base case macro scenario starting this fall (fiscal 2021). Enrollment has already been declining because of changes in immigration policy. Concerns around student health and safety, travel and other disruptions could further impair international student demand. International enrollment accounts for about 5% of total sector enrollment, as shown in Exhibit 2. Some universities have greater exposure to a decline in international students, with approximately 10% of Moody’s-rated colleges garnering over 10% of their total revenue from this source. International students are an important revenue stream for many universities because they tend to pay full tuition.

**Exhibit 2**

International enrollment represents approximately 5% of total sector enrollment

Universities also face enrollment uncertainty in the base case macro scenario for domestic students because the coronavirus has interrupted aspects of this fall’s admissions cycle. For example, some colleges are canceling or delaying events for accepted students, which will influence how many students enroll. Colleges with some vulnerabilities in student demand were already confronting potential volatility because of changes last year in the National Association for College Admissions Counseling code of ethics, which introduced the potential for additional late cycle competition.

Retention of existing students for the fall semester 2020 is an additional uncertainty for two reasons. First, many students are confronting significant disruptions in their personal lives and economic circumstances that may make it difficult for them to return to school. This would become even more exacerbated in Moody’s downside macro scenario due to the duration of the disruption. Second, some students will struggle with the switch to the online format, which could negatively affect their ability to complete their coursework.
Uncertainty over the upcoming summer term will be an additional challenge for university budgets. While these terms typically enroll smaller numbers of students for most, some universities rely on tuition and room-and-board charges through the summer months. Additionally, many campuses use campus infrastructure for other revenue generating businesses during the summer.

As economic growth slows and risk of a recession rises, state funding for higher education could be at risk. State funding for public universities is often the first item to be cut when states face their own fiscal challenges. Further, the impact of the coronavirus could drive states to reallocate funding to other high-need impacted areas, such as healthcare, reducing available support for public higher education. Currently, state funding is, on the median, about a quarter of public university revenue.

Continuing volatility in the financial markets would drive a decline in endowment income available for operations. It would also drive a reduction in philanthropy, since gift revenue is correlated with both financial market performance and consumer confidence. This would be more negative for private universities, which have a greater reliance on endowment income and philanthropy, but also be a strain for public universities that have become increasingly reliant on gifts and endowment to support aid and capital projects.

For universities with significant research programs or academic medical centers, two other risks are rising. The coronavirus outbreak is interrupting research programs, with some activities halting and others being deferred. The impact could extend to fiscal 2021. Further, the financial performance of academic medical centers face a hit if optional procedures, which typically are reimbursed at higher rates, are deferred. Some of these hospitals also serve as safety net providers, with high Medicaid and indigent populations.

Financial market disruption presents several immediate and longer-term challenges

Disruption of the financial markets will hit both assets and liabilities. Significant investment losses will most immediately impact reserves, especially liquidity and spendable reserves. Since permanent endowments are meant to be held at the original gift value in perpetuity, the impact of investment losses will be magnified for more immediate reserves, as shown in Exhibit 3.

Exhibit 3

Investment losses have a magnified impact on spendable reserves

<table>
<thead>
<tr>
<th></th>
<th>Total cash &amp; investments</th>
<th>Spendable cash &amp; investments</th>
<th>Permanent endowment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original</td>
<td>$500</td>
<td>$300</td>
<td>$200</td>
</tr>
<tr>
<td>With a 25% investment loss</td>
<td>$375</td>
<td>$175</td>
<td>$200</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>$500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original spendable C&amp;I to operating expenses</td>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spendable C&amp;I to operating expenses after loss</td>
<td>35%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Spendable cash and investments equals total cash and investments minus the permanent endowment

Source: Moody's Investors Service

Universities that issue short-term debt and rely on regular access to capital markets for rollover of commercial paper programs and other demand obligations may have greater difficulty placing this paper and are facing rising interest costs. Those that support this debt with their own liquidity are simultaneously face investment declines that has the potential to erode coverage of supported debt. However, most universities that rely on their own liquidity for demand obligations retain significant liquid assets.

As interest rates decline, some universities with interest rate swaps will see increasing liabilities and be required to post collateral, an additional threat to liquidity.

Additionally, sustained investment return losses would bring an increase in pension and OPEB obligations, leading in turn to near-term budget pressures as program expenses associated with the programs rise.
Some universities are issuing commercial paper, drawing on lines of credit, or adding lines of credit to bolster liquidity. Given market turbulence and unknowns about future access to liquidity, this is a credit positive action and underscores the tools available for many universities.

Some universities are already examining their forward capital plans. Despite a low interest rate environment, universities are likely to become more cautious about adding leverage or proceeding with projects that will add to their fixed cost base until the longer-term impact of the current crisis becomes clearer.

**What could change the outlook**
A sustained recovery in the financial markets, reversal of the projected economic slowdown in the latter part of the year, and stable enrollment for fall 2020 would contribute to a reversion to a stable outlook.

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**Universities with short-term or other demand debt face additional risks**

The rapidly expanding coronavirus crisis presents material risks for municipal issuers' short-term debt portfolio. During market disruptions, similar to those that occurred during the global financial crisis and the September 2001 terrorist attacks, investors typically flee to the safety of US treasuries and related securities, sometimes at the expense of municipal bonds.

- In the near term, a decrease in demand for both long-term and short-term municipal bonds means that short-term debt in particular is susceptible to rapid increases in interest rates to maintain investor interest. Short-term debt susceptible to interest rate risk include variable rate demand bonds (VRBDs), floating rate notes (FRNs), bond anticipation notes (BANs) and commercial paper (CP). Daily reset rates of VRBDs spiked on Thursday and Friday, March 12-13, by nearly 100 basis points, to over 200 basis points.

- If tax-exempt money market fund balances decline, representing a decline in the demand for short-term municipal debt, this would lead to a failed remarketing of VRBDs, resulting in the bonds being put back to the issuer. If these bonds are bank-supported, the issuer will likely face a more onerous, but manageable, repayment schedule with the bank. If these bonds are backed by self-liquidity, issuers will need to have a well-managed treasury operation in order to liquidate the funds necessary to fund the put.

- Similarly, it is possible that BANs and CP, even those issued by highly rated municipal issuers, will find diminished market appetite, which presents rollover risks leading to higher interest costs or, in extreme cases, drains on internal liquidity.

- If the severity and duration of the crises worsens and there is a sustained decline in the demand for municipal bonds, banks may be unable or unwilling to extend credit or liquidity to municipal issuers, resulting in the need for refinancing away from lower short-term rates to higher long-term rates.

- Despite these risks, in most cases highly rated municipal issuers have management experience, liquidity buffers, and market access to address the most acute risks of a market disruption.

- The health of the banking sector, in contrast to 2008, can also help mitigate many risks associated with market disruptions. While there may be some tenders of VRBDs because investors are seeking cash, many of the tenders during the financial crisis occurred because investors were limiting their exposure to bank credit. Additionally, a stronger banking sector means that remarketing agents have greater capacity to hold VRDB inventory and are more able to continue to extend credit and liquidity support.
Moody’s related publications

Credit Conditions – Global Coronavirus and oil price shocks: managing ratings in turbulent times, March 17, 2020

Global Macro Outlook 2020-21 (March 2020 Update) Coronavirus will hurt economic growth in many countries through first half of 2020, March 6, 2020
MARKET COMMENTARY

The spread of COVID-19 impacted not only global investment markets in Q1 2020, but also the fundamental way of life for people across the planet. The novel virus that began in the Chinese province of Hubei quickly spread, causing governments to essentially close down economies. Everyday staples such as restaurants and public parks are no longer open and for employees who still are able to work, remote access is the norm. Domestically, initial unemployment claims spiked to 6.9 million in March vs the prior year level of 203 thousand. The Federal Reserve took dramatic action by cutting the Fed Funds rate to zero, purchasing Mortgage Backed Securities (MBS), treasuries, and Commercial Mortgage Backed Securities (CMBS) at unlimited amounts, and opening credit facilities to support the economy. Fiscal response, while typically slower to be enacted than monetary, is also moving quickly with tax deferments, student loan interest forgiveness, and the $2 trillion CARES Act that provides direct cash payments to households, provides federally guaranteed loans to small businesses and offers additional support for the healthcare and local government systems. Bailouts for the hardest hit sectors such as restaurants and airlines are also in discussion. The full effect of the pandemic and its lasting implications for the economy are not yet understood but the contraction in GDP for the near-term is expected to be significant.

Domestic equities, as measured by the S&P 500 Index, were hit hard during the quarter, losing -19.6%. Smaller companies, as measured by the Russell 2000 Index, were down even more, returning -30.6% for the period. Volatility spiked to all-time highs during Q1 as the market’s fall into a bear market was the most rapid in history.

Some of the countries hit hardest by the pandemic include Italy and Spain, and as such, international equities also suffered significantly during the quarter. International equities, as measured by the MSCI EAFE Index, returned -22.7% for the quarter and are down -17.2% FYTD.

Emerging markets, as measured by the MSCI Emerging Markets Index, were also down materially, returning -23.6% for the quarter. The uncertain global backdrop led to a continued rally for the US dollar, an additional headwind for emerging market equities. China, the original epicenter of the virus, is slowly beginning to reemerge economically as the strict quarantine measures that had been in place in the city of Wuhan and the wider province of Hubei, are cautiously being lifted. As mentioned earlier, the Fed cut its target rate to 0% during the quarter. The result was a rally in treasuries with the 10-year Treasury opening the period at 1.9% and ending at 0.7%. Outside of treasuries, fixed income more broadly was mixed, with corporate credits taking the brunt of the virus’s impact. The Bloomberg Barclay’s High Yield Corporate Bond Index lost -12.7% for the quarter, bringing its one-year return to -6.9%. Investor’s desire for safe haven assets boosted longer dated treasuries, with the Bloomberg Barclays US Treasury 20+ Year Index gaining 21.5%. The index is up 33.5% over the last year.

Although significant uncertainty remains around the control of the virus and its ultimate impact on companies and their supply chains, there are signs that within some of the countries countries or US’s hardest hit areas such as New York, the spread is peaking. The Fed has made clear its willingness to do whatever is necessary to prop up the economy during this time and it appears investors are taking solace in that fact. Lagging indicators such as the unemployment rate do not yet reflect the full scale of the economic damage and the final numbers could be staggering. During times like this it pays to maintain our long-term investment perspective and not change course.
**UNC MANAGEMENT CO.**

The UNCMC was established on January 1, 2003 as an exempt 501 (c)(3) organization. It is a professionally-staffed asset management company created to provide investment services to the University of North Carolina at Chapel Hill and its affiliated entities, to the constituent institutions of the UNC system and system affiliated foundations, associations, trusts, and endowments. With over 40 employees, UNCMC has two teams, Investment Management and Operations. The Investment Management team manages all public and private investments of the UNCIF. Their responsibilities include evaluating and monitoring investment managers, recommending changes to investment objectives and asset allocation, monitoring risk, and implementing investment decisions approved by the UNCIF’s Executive Committee. The Operations Team performs all administrative, legal, compliance, accounting, and performance reporting duties.

**HISTORY OF THE FUND**

The NC State Investment Fund, Inc., (Fund) was established in April 1999 to combine NC State University’s and its affiliated entities’ endowments in an external pooled investment vehicle. The goal of the investment program for the Fund is to provide a real total return from assets invested that will preserve the purchasing power of Fund capital, while generating an income stream to support the spending needs of the University. Effective July 2008, the Fund partnered with UNC Management Company (UNCMC) to invest in the UNC Investment Fund (UNCIF), with the remaining investments committed to a Liquid Policy Portfolio (LPP) of Exchange Traded Funds (ETF’s) and to three private equity managers which includes an allocation for cash to fund capital calls. The transition of assets to UNCMC was completed December 2009.

**INVESTMENT STRATEGY**

The Fund is managed as a broadly diversified portfolio with exposure to seven primary asset classes and many sub-strategies within each asset class. The Fund seeks to diversify exposure to the sub-strategies through the use of multiple investment managers that utilize a variety of investment approaches. The purpose of diversification is to provide reasonable assurance that no single security, class of securities, or investment manager has a disproportionate impact on the Fund’s aggregate results. At times, the Fund invests in passive strategies. In working toward the Fund’s investment strategy, through UNCMC, the Fund invests in a number of niche managers that can employ different types of hedging strategies such as short-selling and derivative investing to help reduce the volatility of the Fund. The focus on controlling volatility preserves capital and benefits Fund participants through the power of compounding.

**ASSET ALLOCATION**

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Biased Equity</td>
<td>28.5%</td>
</tr>
<tr>
<td>Long/Short Equity</td>
<td>12.8%</td>
</tr>
<tr>
<td>Diversifying</td>
<td>7.5%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>10.1%</td>
</tr>
<tr>
<td>Cash</td>
<td>3.6%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>23.7%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>5.2%</td>
</tr>
<tr>
<td>Private Credit</td>
<td>3.5%</td>
</tr>
<tr>
<td>Energy &amp; Natural Resources</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

**ALLOCATION BY MANAGER**

<table>
<thead>
<tr>
<th>Manager</th>
<th>Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNCIF</td>
<td>84.3%</td>
</tr>
<tr>
<td>Blackrock LPP</td>
<td>9.8%</td>
</tr>
<tr>
<td>STIF-NCSIF</td>
<td>2.5%</td>
</tr>
<tr>
<td>NCSIF Private Assets</td>
<td>3.4%</td>
</tr>
</tbody>
</table>
As a pooled fund for the collective investment of operating funds, the NC State Intermediate Term Fund (ITF) consists of Participants’ excess cash balances, which are defined as funds not needed for normal operating purposes. Generally, the ITF will not include operating funds needed within the next year, endowed funds or those funds that are specifically excluded by law or contractual agreement.

The decision to invest funds takes into account various factors including duration, credit, concentration, and manager risk, along with total return, suitability, and the experiences, quality and capability of external managers.

The primary investment objectives of the ITF are: 1) Preservation and safety of principal; 2) Liquidity; and 3) Maximization of returns within acceptable levels of risk. Because of current concerns about potential changes in monetary policy and rising interest rates, duration is limited. The investment policy calls for an average weighted maturity between one and five years, with an overall credit rating in general of A+/A as rated by a nationally-recognized rating agency. However, for any mutual funds selected by the ITF, their respective approved investment policy guidelines supersede those of the ITF.

The ITF was established on July 3, 2014 with an initial investment of $122 million. Additional investments were made during FY 2015 and FY 2017, bringing the total invested to $193.83 million. The ITF can be compared with the State Treasurer’s Short-Term Investment Fund (STIF) on both a total return and on an SEC yield basis. In order to provide a buffer for changes in the NAV of the different investments, some of the excess earnings are being used to create a loss reserve. FMV fluctuates on a day-to-day basis.

BlackRock's SIO was liquidated from the fund on June 30, 2016. Proceeds were invested in Vanguard's Short Term Fund and DoubleLine's Total Return Fund on July 1, 2016. Additionally, a small position with PIMCO Income was initiated on November 2, 2016. The ITF's position in JP Morgan was liquidated on September 27, 2017 and PIMCO Low Duration was liquidated on October 2, 2017. The proceeds from these liquidations were reinvested into Vanguard's Short Term Fund and PIMCO Income, bringing the total cost basis to $190.4 million.

**FUND HISTORY AND PHILOSOPHY**

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Market Value</th>
<th>$181,233,197</th>
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</thead>
<tbody>
<tr>
<td>Performance</td>
<td>QTD</td>
</tr>
<tr>
<td>ITF Fund</td>
<td>-2.9%</td>
</tr>
<tr>
<td>Barclays 1-3 yr Treasury</td>
<td>2.8%</td>
</tr>
<tr>
<td>Barclays Universal 1-5 yr</td>
<td>0.6%</td>
</tr>
<tr>
<td>DoubleLine</td>
<td>-0.8%</td>
</tr>
<tr>
<td>PIMCO Income</td>
<td>-7.7%</td>
</tr>
<tr>
<td>Vanguard Short Term</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

**STATISTICS**

<table>
<thead>
<tr>
<th></th>
<th>Fund</th>
<th>Index (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatility</td>
<td>2.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Sharpe Ratio</td>
<td>0.7</td>
<td>1.4</td>
</tr>
<tr>
<td>SEC Yield</td>
<td>3.1%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Effective Duration</td>
<td>2.2</td>
<td>2.6</td>
</tr>
<tr>
<td>FYTD Net Interest &amp; Dividends**</td>
<td>$5,021,877</td>
<td>N/A</td>
</tr>
<tr>
<td>Net Interest &amp; Dividends</td>
<td>$29,345,467</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Net of Fund expenses

**MANAGERS**

Vanguard’s Short Term Fund has a low tracking error and is a low cost portfolio option consisting primarily of investment grade corporates.

PIMCO's Income Fund is a portfolio of a broad range of intermediate-duration bonds that is actively managed to maximize current income while maintaining a relatively low risk profile.

DoubleLine’s Total Return Fund seeks to maximize total return by exploiting inefficiencies within the subsectors of the mortgage market while maintaining active risk management constraints.

**SECTOR ALLOCATION**

**MANAGER ALLOCATION**

This report is based on information available at the time of distribution. The information comprising this report has not been audited and is subject to change.

Third Quarter Fiscal Year 2020