



AUDIT AND ADVISORY SERVICES
SANTA BARBARA, CALIFORNIA 93106-5140
Tel: (805) 893-2829
Fax: (805) 893-5423

October 31, 2022

To: Stephen Bigelow, Department of Mathematics Chair
Ceanna Bowman, Business Officer
Department of Mathematics

Re: **Department of Mathematics – Internal Control Review
Audit Report No. 08-23-0004**

We have completed a limited review of the Department of Mathematics internal controls as part of the 2022-23 annual audit services plan. The audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing*. Enclosed is the report detailing the results of our work.

We sincerely appreciate the cooperation and assistance provided by the Department of Mathematics personnel during the review. If you have any questions, please contact me.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ashley Andersen".

Ashley Andersen
Director
Audit and Advisory Services

Enclosure

cc:

Chancellor Henry Yang
Chuck Haines, Vice Chancellor, Chief Financial Officer
Pierre Wiltzius, Dean of Mathematical, Life, and Physical Sciences and Executive Dean
of the College of Letters and Science
UCSB Audit Committee
Alexander Bustamante, Senior Vice President and Chief Compliance and Audit Officer

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UC **SANTA BARBARA**
Audit & Advisory Services

Audit Report

Department of Mathematics – Internal Control Review

October 31, 2022

Performed by:

Antonio Mañas Meléndez, Associate Director
Irene Camargo, Senior Auditor

Approved by:

Ashley Andersen, Audit Director

Report No. 08-23-0004

EXECUTIVE SUMMARY

OBJECTIVE

The primary purpose of the audit was to evaluate internal controls and procedures established by the Department of Mathematics to ensure best business practices are in place to support operational effectiveness and efficiency, including compliance with University policies.

The objective of our audit was to determine whether:

- Adequate financial oversight over account-funds are in place to prevent overdrafts.
- Sponsored projects cost administration is adequate to guarantee sponsored projects costs were allowable, allocable, approved, properly supported with adequate documentation, and costs associated with the account-fund did not go over the allocated awarded threshold for each cost type.
- Financial reconciliations between the general ledger and GUS¹ were accurate, timely, and approved by management.
- Fiscal closing steps were completed in a timely manner, suspense account-funds were transferred to the correct accounting funds, and carry forwards were justified and approved.
- Federal Salary Cost Transfers² (SCTs) were properly approved, justified, and documentation was maintained and processed within 120 days from payroll end date and less than 90 days after the accounting month's end date, and did not exceed 90 days after the award end date.
- Quantify the volume of SCTs processed by the department over a four-year period and assess whether the number of transactions per year could be considered excessive.

CONCLUSION

Based on the results of the work performed, we found the Department of Mathematics has established overall effective internal controls over business processes within the scope of this audit, including sponsored project administration, financial reporting, fiscal closing processing, and salary cost transfers. However, we highlighted opportunities to improve the oversight of account-fund balances to prevent overdrafts and to avoid errors in the accounting fund string of payroll transactions to reduce the number of salary cost transfers.

¹ GUS: A custom departmental financial system used on campus for several departments managing award expenses for managing and maintaining funding source, liens, and other financial information.

² Salary Cost Transfers: expenses that is transferred from one account to another after the expenses was initially recorded in the financial accounting system. Evaluated SCTs were related to federal awards only.

OBSERVATIONS, RECOMMENDATIONS, AND RESPONSES

1. ACCOUNT-FUNDS IN OVERDRAFT

OBSERVATION

Our work found opportunities to improve the oversight of account-fund balances to prevent overdrafts.

We identified and quantified the account-funds in overdraft at the end of fiscal year 2021-22 and inquired about the causes of overdrafts and plans for addressing deficits. We found that the department has more than \$100,000 in overdraft in five department account-funds, one non-federal sponsored account-fund, and three National Science Foundation³ (NSF) account-funds totaling an overdraft of approximately \$43,000 for the federal awards. See Table 1 for more details.

| Table 1 | | Account-Funds in Overdraft |
|---------------------|----------------------|-----------------------------------|
| Account-Fund | Fund Title | Overdraft |
| 403645-19900 | State General Funds | (\$11,033) |
| 404045-18083 | SA-Lottery Funds | (\$552) |
| 404045-89996* | UC Path Error Fund | (\$5,012) |
| 404045-19900 | State General Funds | (\$42,981) |
| 784145-42087 | Adil Yaqub Hero Fund | (\$1,724) |
| 444045-21264 | NSF Award | (\$345) |
| 444045-22304** | NSF Award | (\$3,597) |
| 784145-21204 | NSF Award | (\$42,906) |
| 444045-58311 | Simons Award | (\$349) |
| Total Amount | | (108,499) |

Source: UCSB Department of Mathematics FY 2021-22.

*SCT was cleared in August.

**Double payment caused by system glitch.

The causes of these overdrafts were the following:

- Seven of the nine account-funds in overdraft were a result of funds that were not appropriately managed to restrict overspending without adequate funding.
- One of the overdrafts was due to payroll funds not being properly set up in UCPath that hit the suspense account. During our audit, we verified that a SCT has been processed to the correct accounting fund string and confirmed that it was posted and corrected in the August 2022 payroll ledger.
- One overdraft occurred during the transition over to the UCPath payroll system that caused a payroll payment to be issued twice. As of July 26, 2022, Business and

³ National Science Foundation: An independent agency of the United States government that supports fundamental research and education in all the non-medical fields of science and engineering.

Financial Services informed the department that they are reviewing the erroneous payroll error to address the issue.

During the audit, management indicated that the Department of Mathematics has defined plans to reduce overdrafts and has provided a monthly balance report to Principal Investigators (PIs) to assist them in monitoring their awards. The Department of Mathematics is in the process of hiring a financial analyst that will help the Business Office in the administrative process to address identified overdrafts.

RECOMMENDATION

We recommend that the Department of Mathematics continue to:

- Proceed with planned actions to reduce identified overdrafts within the department.
- Establish monitoring controls to track low account-fund balances to help prevent overspending and ensure balances are not in deficit as is recommended by sound accounting practices.

MANAGEMENT RESPONSE

The Department of Mathematics will continue to:

- Proceed with planned actions to reduce identified overdrafts within the department.
- Establish monitoring controls to track low account-fund balances to help prevent overspending and ensure balances are not in deficit as is recommended by sound accounting practices.

Audit and Advisory Services will follow up on the status of these issues by January 31, 2023.

2. SPONSORED PROJECTS

OBSERVATION

Overall, we found that federal sponsored project costs were allowable, allocable, approved, and reasonable for the respective awards tested, and support documentation substantiated the costs associated with the award. In addition, costs did not go over the allocated awarded threshold for each cost type.

We selected four National Science Foundation (NSF) sponsored federal projects and reviewed five costs from each award relevant to the mission of the award. We found that the twenty transactions tested were allocable and allowable per the approved budget and sponsor terms and conditions and costs were approved. Expenses were reasonable, and documentation was adequately supported. Furthermore, we determined that the costs associated with the account fund did not go over the allocated awarded threshold for each cost type.

3. FINANCIAL REPORTING

OBSERVATION

Reconciliations

Our review found monthly financial reconciliations are accurate and timely performed between the general ledger and GUS. However, evidence to support management's review and approval is not properly documented.

For the months of March, April, and May 2022, we reviewed reconciliations of four account-funds out of the total twelve⁴ account-funds managed by the department to determine whether financial reporting was accurate, timely, and sufficient evidence of management's review and approval was maintained. We found,

- Reconciliations between GUS and the general ledger balances were accurate and timely performed.
- Reconciliation reviews and approvals were not always properly documented or timely performed. Specifically,
 - There was no evidence to support management's timely review and approval of March's reconciliation.
 - Management's review and approval was partially documented for April's reconciliation. The management's review was timely performed within the payroll ledger support documentation. However, there was no evidence to support the review and approval of the reconciliation performed in GUS.
 - Evidence of May's reconciliation review and approval process was captured in a DocuSign form; however, it was not performed until August due to June fiscal close priorities.

During the audit, the Business Officer implemented a DocuSign form as a means of capturing the preparer's certification that transactions were accurately reconciled and management's acknowledgement that reconciliations were adequate. However, we found approval dates were not captured in the DocuSign form. We reviewed the DocuSign form for the June reconciliation and verified that dates were included.

Fiscal Closing Process

The Department of Mathematics followed the Office of Budget & Planning instructions for year-end fiscal close.

We assessed whether three fiscal closing activities were aligned with campus instructions for year-end fiscal close. Specifically, we reviewed whether the Department of Mathematics completed fiscal closing processes in a timely manner, suspense account-funds were transferred to the correct accounting fund strings, and carry forwards were justified and approved. We found that the department:

⁴ Six were federal funds and six were state general funds.

- Posted final transactions in the general ledger prior to year-end close.
- Corrected payroll transactions that hit the suspense account caused by a funding entry error. Funds were reallocated to the correct accounting fund string.
- Justified and approved carry forward requests. We found that six requests submitted included planned uses for balances over \$25k to be re-appropriated to the new fiscal year and one request to carry forward an account in deficit was approved by the department and the Office of Budget & Planning.

RECOMMENDATION

We recommend the Department of Mathematics update the reconciliation process to ensure management's reviews and approvals are properly signed and dated in a timely manner.

MANAGEMENT RESPONSE

The Department of Mathematics will update the reconciliation process to ensure management's reviews and approvals are properly signed and dated in a timely manner.

Audit and Advisory Services will follow up on the status of these issues by January 31, 2023.

4. SALARY COST TRANSFERS

OBSERVATION

Federal SCTs⁵ processed in fiscal year 2021-22 were properly managed by the Department of Mathematics.

We reviewed the eight SCTs processed in fiscal year 2021-22 involving federal funds and found that the transactions were properly approved, justification for the transfer of funds were provided, and the adequate documentation was retained by the department. In addition, we verified that all SCTs were completed within 120 days of the pay period end date⁶ and less than 90 days after the accounting month's end date.

Two SCTs were processed off of federal funds to another accounting fund string. And six SCTs were caused by payroll transactions hitting the default suspense account due to an error in the accounting fund string that could have been avoided. Specifically,

- Five SCTs were a result of an incorrect accounting fund string that was posted by default to the suspense account.
- One transfer of funds was initiated without updating the accounting fund string in the UCPath system in time for summer salary pay and was charged to in incorrect account fund.

⁵ See background section for Salary Cost Transfer requirements.

⁶ We did not verify whether SCTs exceeded 90 days after the award end date because any of the nine federal award contracts had not ended at the time of the audit.

Salary Cost Transfers Statistics

We identified and analyzed SCTs data posted in the UCPath payroll system from fiscal year 2018-19 to fiscal year 2021-22 to determine the volume, statistical percentages, and number of days from the original payroll end date to initiation of the SCTs to correct the accounting fund string errors.

Our analysis found a total of 130 transactions processed to correct funding errors over a four-year period, a range between 1 and 14 per month, and a yearly average of 32. We consider this number unnecessarily excessive. Extensive use of salary cost transfers may raise doubt in the department’s payroll process, therefore a review of the accuracy of accounting fund strings prior to submission to UCPath would help to reduce unnecessary SCTs.

We assessed the duration of time SCTs take to be transferred by the Department of Mathematics and found that 88% of SCT were processed less than 120 days from payroll end date, while 12% were corrected over 120 days and considered as late SCTs. See Table 3 for SCT range of days lapsed within 30, 60, 90, 120, and over 120 days of the original payroll end date.

| Table 3 | | Transferred Salary Cost Transfers from FY* 2018-19 to FY 2021-22 | | | | |
|--------------------|-----------------------|---|-------------------------------|--------------------------------|----------------------|--------------|
| Fiscal Year | Within 30 days | Between 30 and 60 days | Between 60 and 90 days | Between 90 and 120 days | Over 120 days | Total |
| FY 2018-19 | 17 | 5 | 3 | 0 | 5 | 30 |
| FY 2019-20 | 9 | 15 | 3 | 2 | 3 | 32 |
| FY 2020-21 | 13 | 12 | 3 | 1 | 6 | 35 |
| FY 2021-22 | 13 | 7 | 7 | 4 | 2 | 33 |
| Total | 52 | 39 | 16 | 7 | 16 | 130 |

Source: UCPath.
*Fiscal Year.

RECOMMENDATION

We recommend that the Department of Mathematics:

- Document a procedure or guideline to describe the steps to assign and timely verify that the correct accounting fund strings are used in UCPath.
- Communicate the procedure to all personnel responsible for the process in the department.

MANAGEMENT RESPONSE

The Department of Mathematics will:

- Document a procedure or guideline to describe the steps to assign and timely verify that the correct accounting fund strings are used in UCPath.

- Communicate the procedure to all personnel responsible for the process in the department.

Audit and Advisory Services will follow up on the status of these issues by January 31, 2023.

GENERAL INFORMATION

BACKGROUND⁷

The Department of Mathematics serves the UCSB campus by providing service courses for students taking mathematics as a requirement for a non-math major, a full list of upper division courses for math majors and a wide variety of graduate courses that bring graduate students closer and closer to cutting-edge research.

The Mathematics Department has more than three dozen faculty members working in subfields that cover a broad spectrum of modern mathematics, half-a-dozen visiting assistant professors, more than 60 graduate students and over 1,300 math majors and pre-majors.

Research fields and centers include algebra, analysis, applied math, geometry, number theory, partial differential equations, and topology structured to improve skills in listening, speaking, reading and writing.

Salary Cost Transfers⁸

The University is committed to the accurate and timely maintenance of its financial records. Situations require that transfer of recorded cost are identified and processed expeditiously. Additionally, special considerations must be given to transfers of cost to federal funds to ensure that the University action meets the administrative standards established by the federal regulations.

If the expense is being transferred to a federal or federal flow-through account, it must be recorded in the general ledger within 120 days from the close of the month in which the original charge posts to the ledger. If because of unavoidable circumstances an adjustment must be made beyond the 120-day period, a full explanation, including a well-documented account of all the events leading to the tardy adjustment, must be provided.

Cost Transfers which occur after 120 days (four general ledger cycles) from the original ledger month end date are considered excessively late. Transfers made after the 120-day period may be considered non-compliant with University policy and therefore deemed unallowable by federal auditors. Departments must assume the risk for these transfers if found unallowable during an audit.

The escalation process will be used strictly for rare and unusual circumstances. In these circumstances, the request will be evaluated based on set criteria and approved by: Principal Investigator, Department Head/Chair, Extramural Funds Accounting Manager, Controller, and Vice Chancellor of Research. Departments must correct any inappropriately recorded charges on federal funds regardless of timeliness.

⁷ UCSB Department of Mathematics website.

⁸ Business & Financial Services Extramural Funds website.

Furthermore, OMB Uniform Guidance dictates that a final financial report be submitted within 90 days from the end date of a contract or grant. Certain awards may have different reporting requirements. The University's status with funding agencies may be jeopardized when financial reports are submitted after the required filing deadlines. In addition, audit findings for failure to submit financial reports within the specified time frame can put the University at risk of the imposition of remedial action. Such actions can include the withholding of award(s) to an investigator or the entire University, the withholding of payments on outstanding invoices, and/or the revocation of the Expanded Authorities Agreement.

SCOPE

The scope of our review was focused on the Department of Mathematics' business processes and internal controls during fiscal year 2021-22. To accomplish our objectives, our work included interviews, observations, review of support documentation, testing, and other steps. Specifically, we:

- Researched UC and UCSB policies, best practices, and other guidance relevant to the Department of Mathematics.
- Conducted interviews with Department of Mathematics personnel to gain an understanding of core business processes, policies, and procedures for administering and managing University assets.
- Performed a risk analysis that considered business related policy and procedures, sponsored project management, financial reporting, and the volume of salary cost transfers.
- Evaluated the Department of Mathematics business best practices and procedures to determine whether they incorporated adequate internal controls and reviewed opportunities to enhance and improve operational efficiency.
- Reviewed and analyzed financial administration of overdrafts in the department and plans to reduce deficits in fiscal year 2021-22.
- Tested a sample of sponsored projects expenses to determine whether internal controls are in place and operating as intended and comply with award terms.
- Tested a sample of financial reconciliations for accuracy, timeliness, and completeness between the campus general ledger and the department shadow system, GUS.
- Reviewed and verified a sample of fiscal closing procedures that were processed prior to June fiscal close for general ledger entries, payroll suspense accounts, and carry-forward requests and approvals.
- Tested federal funded SCTs to determine whether the transfer of payroll was approved, justified, and documentation was maintained by the department and verified whether transfers were processed within 120 days of the payroll end date and within 90 days of the sponsored project contract end date and less than 90 days after the accounting month's end date.

- Reviewed and analyzed SCTs recorded in UCPath to determine the overall volume, percentage, days lapsed from original pay end date, and the average amount of SCTs over a four-year period.

CRITERIA

Our audit was based upon standards as set forth in UC and UCSB policies, best practices, and other guidance relevant to the scope of the audit. This audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing*.

This review emphasized, but was not limited to, compliance with:

- *2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Office of Management and Budget Uniform Guidance)
- UC Business and Finance Bulletin G-28, *Travel Regulations* (UC Policy G-28)
- UC Business and Finance Bulletin BUS-43, *Material Management* (UC Policy BUS-43)
- UC Business and Finance Bulletin A-47, *Direct Costing Procedures* (UC Policy A-47)
- *UC Contracts and Grants Manual*

AUDIT TEAM

Ashley Andersen, Audit Director
Antonio Mañas Meléndez, Associate Director
Irene Camargo, Senior Auditor