

**UNIVERSITY OF CALIFORNIA, DAVIS
INTERNAL AUDIT SERVICES**

**College of Letters and Science
Division of Mathematical and Physical Sciences
Internal Audit Services Project #13-05**

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Fieldwork Performed by:

Tony Firpo, Principal Auditor

Reviewed by:

Leslyn Kraus, Associate Director

Approved by:

Jeremiah Maher, Director

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MANAGEMENT SUMMARY

As part of the Internal Audit Services (IAS) audit plan for fiscal year (FY) 2012-2013, IAS conducted a review of the Division of Mathematical and Physical Sciences (MPS) within the College of Letters and Science (L&S). In FY 2011-2012, IAS had planned to conduct a review of the MPS Dean's Office; however, the audit was postponed until FY 2012-2013. In the interim, the MPS Dean announced his intention to retire, as did the MPS Assistant Dean. In December 2012, the Provost advised MPS faculty of the decision by campus leadership to appoint an interim dean from within MPS in 2013 with the expectation that the search for a permanent dean would begin in the fall of 2014.

MPS includes five academic departments: Chemistry, Physics, Mathematics, Geology and Statistics. Additionally, the Nanomaterials in the Environment, Agriculture and Technology (NEAT) Organized Research Unit reports to the MPS Dean's Office. For FY 2012-13, MPS has a general funds base budget of approximately \$40.7 million, and as of November 2012, MPS had approximately 155 filled faculty FTEs. Extramural research expenditures for MPS for FY 2011-2012 were approximately \$25.5 million (\$28.2 million including NEAT).

The objectives of the review were to assess and determine:

- Financial performance of MPS including the availability and commitments against discretionary funds;
- Organizational structure of the Division including span of control;
- Definitions of success within the Division and plans and processes to move the Division toward success;
- Risks facing the Division and plans to mitigate those risks; and
- Internal controls over financial and administrative processes.

To perform our review, we interviewed faculty and administrative personnel from the MPS Dean's Office, the Chairs of all MPS departments, MPS faculty members, and other leaders from offices across campus. We also reviewed statistics and data about the Division's faculty, research expenditures, staff, and students, most of which is available through the Provost's Dashboard¹. Additionally, we obtained and analyzed reports from the Davis Financial Information System (DaFIS) and supporting schedules prepared by MPS Dean's Office personnel. Finally, we obtained and reviewed an issue paper developed by Budget and Institutional Analysis (BIA) entitled, *Division of Mathematical and Physical Sciences Budget Overview*, which addresses the current MPS financial position.

¹ Because substantially all of these statistics and data are readily available to University personnel, the information will not be included in this report.

The most pressing issue facing the Division is the financial state of the Dean's Office. As of June 30, 2012, the MPS Dean's Office had a cumulative deficit of \$5 million, plus outstanding commitments of approximately \$3.4 million, substantially all of which relate to faculty start-up and retention agreements entered into over the past 10 years. While the Dean's Office faces this deficit, the Division as a whole is in a surplus position. However, many Divisional resources represent restricted funding sources that would not be available to cover the deficit.

MPS disclosed the existence of a deficit to BIA in late 2005, and in January 2007 (at which time the deficit was projected to be as high as \$8.7 million by FY 2013-2014), the former Provost and Dean agreed to a plan to reduce the deficit. However, since that time, funding for the University and MPS has been repeatedly cut because of the State budget crisis, and as a result of the cuts and additional faculty hires/retentions, the deficit has persisted. In 2012, the MPS Dean's Office began working with current campus leadership and BIA to develop a new strategy for fiscal stabilization, including a recent agreement for MPS to contribute \$1.25 million in Indirect Cost Recovery (ICR) funds, which will be matched by the Provost's contribution of \$1.25 million. This matching offer from the campus originated in conjunction with the 2007 deficit reduction plan with the former Provost, although MPS was not able to take advantage of it until this fiscal year when ICR funds increased as a result of the new campus budget model.

Other issues of concern raised by faculty members include questions surrounding the organization structure of the Division, the perceived lack of transparency by the Dean's Office in financial and budgetary matters, and facilities and space problems for the Chemistry and Physics departments.

Regarding our assessment of internal controls, our review did not identify any significant weaknesses. However, we did note an opportunity for improvement related to the monitoring of general ledger certifications throughout MPS departments by the Dean's Office.

Additional information is included within the body of this report.

I. OBSERVATIONS, RECOMMENDATIONS, MANAGEMENT CORRECTIVE ACTIONS

A. CUMULATIVE DEFICIT

As of June 30, 2012, the MPS Dean's Office had a deficit of \$5 million, plus outstanding commitments of approximately \$3.4 million, substantially all of which relate to faculty start-up packages and retention agreements entered into over the past 10 years. In addition, Dean's Office's expenses for start-up packages for open faculty recruitments are projected to be approximately \$400,000.

The Dean's Office deficit of \$5 million resulted primarily from expenses for faculty start-up and retention commitments made prior to July 1, 2007. The outstanding commitments of \$3.4 million represent approximately \$2.5 million in start-up packages and approximately \$900,000 for retention agreements. Although the Dean's Office faces this deficit, each of the MPS departments had surplus funds as of June 30, 2012, and the Division as a whole was in a surplus position as of this date. However, many of these Divisional resources represent restricted sources that would not be available to cover the deficit.

BIA has prepared an issue paper for the Provost, *Division of Mathematical and Physical Sciences Budget Overview*, which addresses the deficit in great detail. The issue paper outlines the origins and history of the deficit, the agreements entered into by MPS with previous campus administrations, the financial position of the MPS departments, the effects that the new budget model will have on MPS and the deficit, and many more factors including plans to eliminate the deficit in the future. Because all of these subjects are discussed in great detail in the BIA issue paper, they will not be reiterated in this audit report other than to highlight the most significant reduction agreement between the Dean and the Provost whereby in FY 2012-2013, MPS will provide \$1.25 million in newly allocated Indirect Cost Recovery funds towards the deficit and the Provost will provide \$1.25 million in matching funds.

Recommendation

Regarding the MPS deficit, no recommendations are considered necessary, as the MPS Dean's Office is already in the midst of working with the Provost and BIA on developing a deficit reduction strategy. However, for the campus as a whole, measures must be established to ensure that outstanding commitments of schools, colleges, and divisions for faculty start-up costs and retention agreements are reported to BIA for central monitoring. Implementation of these measures will likely require modifications to the University's Kauli accounting system, assignment of roles and responsibilities among campus offices, and training of deans' office staff.

Management Corrective Actions

Reporting and tracking of commitments will require modifications to Kualii and will proceed in several stages:

1. BIA has been working with Accounting & Financial Services to establish two new object consolidation codes in Kualii to track obligations. One code will be used for committed obligations such as faculty start-up agreements, and the other code will be for known obligations such as equipment reserves and planned renovations. Units will be informed of the new codes by June 30, 2013 and will be requested to begin using the codes starting July 1, 2013.
2. Although use of the codes will begin starting July 1, 2013, the current version of Kualii does not provide the capacity to upload supporting documentation for commitments. The next update to Kualii (which is expected to happen by December 31, 2013) will provide this capacity.
3. By June 30, 2014, BIA anticipates that units will have been provided with enough opportunity and time to enter obligation information and supporting documentation into Kualii such that reliable reporting on committed and known obligations can begin in the 2014-2015 fiscal year. This commitment/obligation information will then be incorporated into BIA's review of school/college/division balances in conjunction with the annual campus budgeting process.

B. CONCERNS OF MPS FACULTY MEMBERS

The following matters were most commonly referenced as issues of concern during our interviews. IAS did not conduct any independent analyses or benchmarking regarding the subject matter of the opinions expressed by faculty members; their viewpoints are included in this report for the benefit of campus leadership, the Dean's Office, and the incoming interim dean.

1. MPS faculty members are concerned about the position of the Division within the University. The Chancellor and Provost have recently met with the MPS Chairs, Steering Committee, and Faculty Executive Committee Chair, and in those meetings, MPS faculty raised concerns similar to those that were voiced to IAS. Opinions expressed to IAS included the following:
 - a. MPS is seen by the campus primarily as a "service unit" for students from other colleges rather than as a true research enterprise. (According to BIA statistics, for the FY 2012-2013 undergraduate tuition distribution under the new budget model, MPS had 19% of the student credit hours, but only 6% of the majors and 4% of the degrees awarded.)

- b. Undergraduate teaching loads of MPS faculty are too high in comparison with those of faculty from other colleges, which may place MPS at a disadvantage when competing for limited submission and RISE (Research Investments in the Sciences and Engineering) awards. The Office of Research (OR) believes that MPS could be stronger if the Division had an associate dean for research. OR would also like to see MPS faculty collaborate more with faculty from other colleges such as Engineering and/or begin to develop ideas and proposals for large-scale centers or projects involving UC Davis faculty and/or other institutions.
- c. Because MPS shares the development function, undergraduate advising resources, and academic committees with the other two divisions in L&S, opportunities for MPS divisional enhancement and effectiveness in these areas are not optimal.

The Division has set for itself the goal of “Breaking 20 by 2020” (i.e., each of the MPS departments reaching the top 20 nationally by 2020), but generally believes that the current organizational structure of MPS may be a hindrance to achieving its goals for the reasons noted. Among those interviewed, there was consistent support for MPS becoming its own college, which they believe would help to address some of their concerns. Campus leadership has agreed to study this possibility in the coming years.

2. Some who were interviewed expressed the opinion that MPS has been underfunded in the past. As an example, several faculty members believe that start-up packages for MPS physical science faculty are not realistic for what is required or expected for a top-tier research university. References were also made to the conclusions reached by the Washington Advisory Group (WAG), who in 2010 conducted a review of research at UC Davis commissioned by the Chancellor. The WAG report, “*External Review of Research at University of California, Davis,*” states in part: “The departments of the Division have the know-how and ambition to rise in national ranking, but not the resources. Unfortunately, a case can be made that the Division [MPS] has been historically underfunded and held back – that it may have been viewed as a service Department to other units rather than one that both teaches and engages deeply in research, as is typical for a top research university.” However, the WAG report does not cite specific data that was the source of its conclusions about levels of MPS funding. Nevertheless, BIA acknowledged that the budget cuts made to MPS in recent years, which have been the lowest of all divisions/schools/colleges, reflect the funding concerns raised in the WAG report.

3. Some degree of friction appears to exist within the Division regarding the Dean's perceived lack of transparency regarding financial and budgetary information. Although the Dean's Office has been in a deficit position for many years, the department chairs were not made aware of the degree of the deficit until November 2012. For some departments, the Dean's practice of withholding financial information from the Chairs seems to have created a lack of trust toward the Dean's Office regarding financial matters such as budget allocations, which may need to be attended to by the incoming interim Dean.

The Dean's Office has explained that financial transparency has only become a part of the University culture in recent years. The Dean's Office has also noted the current efforts of increasing the senate faculty involvement in budget issues in an effort to increase transparency. The L&S Executive Committee, with faculty representatives from all three divisions, was not quite appropriate for detailed budget consultation. In recognition of this, at the suggestion of the MPS Dean, a subcommittee - "MPS Steering Committee" - was created by the L&S Executive Committee. It is comprised of an elected faculty member from each of the MPS departments in addition to the two MPS members from the L&S Executive Committee. The MPS Steering Committee has been consulted by the Dean on various issues related to the Division including budget matters.

4. Facilities and space issues pose challenges for Chemistry and Physics. The Chemistry building, which is the oldest in the UC system, was not built for modern chemistry, has only limited sprinklers, appears to have reached power capacity, and for these reasons is of concern to the campus fire marshal. Chemistry faculty members are concerned about the state of the labs in light of the incident at UCLA and subsequent lawsuit settlement. (As of the issuance of our report, the campus was in compliance with the edicts arising from the settlement. However, a recent chemical incident is still under investigation and therefore cannot be commented on as part of this report.) Also, Chemistry lab instrumentation is obsolete based on reports of recent graduates working in the industry, and funding to upgrade/modernize the instrumentation is not available. Physics has significant space available in its building, but this space is currently vacant because no funds exist for renovations.

Management Corrective Action

No corrective actions are considered necessary; these observations are being provided for the benefit of campus leadership, the MPS Dean's Office, and the incoming interim Dean.

C. LEDGER REVIEWS

The MPS Dean's Office has not established procedures to monitor the status of the general ledger reviews within the Division, and was therefore unaware that ledger reviews for two units were not current as of September 30, 2012.

The Dean's Office does not monitor the status of the general ledger reviews for units within the Division. As of September 30, 2012, two MPS general ledger review plans were not current, and one plan includes accounts that have not been certified dating as far back as December 2010. Because the Dean's Office has not been monitoring the ledger review plans throughout the Division, management was not aware of the review status for these two units. General ledger reviews are a key internal control within the University's accounting structure, and therefore efforts must be made to ensure that ledgers are reviewed in a timely manner.

Recommendation

The campus will be forming a task force to study general ledger reporting issues, but until any campus-wide solutions are established, the Dean's Office will need to devise a means of monitoring the status of the general ledger reviews of MPS units, such as periodic upward communications by the departments to the Dean's Office.

Management Corrective Action

By February 28, 2013, the Dean's Office will explain the importance of timely general ledger reviews to MPS departmental MSOs at a monthly meeting. On a periodic basis afterward, the Dean's Office will provide reminders to departments about the need for the ledger reviews.
