Audit Report

University System of Maryland University of Maryland Eastern Shore

August 2011



OFFICE OF LEGISLATIVE AUDITS
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

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DEPARTMENT OF LEGISLATIVE SERVICES OFFICE OF LEGISLATIVE AUDITS MARYLAND GENERAL ASSEMBLY

August 29, 2011

Bruce A. Myers, CPA Legislative Auditor

Delegate Guy J. Guzzone, Co-Chair, Joint Audit Committee Senator James C. Rosapepe, Co-Chair, Joint Audit Committee Members of Joint Audit Committee Annapolis, Maryland

Ladies and Gentlemen:

We have audited the University System of Maryland (USM) – University of Maryland Eastern Shore (UMES) for the period beginning June 1, 2007 and ending August 8, 2010. UMES is a comprehensive public institution of the University System of Maryland, and offers an array of baccalaureate programs in both traditional arts and sciences, and in applied professional fields, as well as select professionally oriented graduate programs and doctoral programs.

Our audit disclosed that UMES did not exercise adequate controls over student financial aid transactions, which totaled \$44.5 million during fiscal year 2010. The propriety of financial aid transactions posted to student accounts was not independently verified, and controls were inadequate to ensure that Honors scholarships were revoked from students who failed to meet program eligibility requirements. In addition, one management employee had the sole discretion to award certain University grants, which were not subject to independent supervisory review, and documentation was not maintained supporting how the amount awarded to each student was determined. Also, there was no formal policy defining the eligibility criteria. During academic year 2010, discretionary awards totaling \$545,000 were awarded to 378 students.

Our audit also disclosed that supervisory personnel did not review documentation supporting student refunds, controls over changes to student residency status were inadequate, and employee access to certain critical functions, including student grade changes, was not properly restricted.

A number of security and control deficiencies were noted over UMES's information systems. For example, access controls over critical applications, networks, and the virtual server environment were inadequate. Finally, improved controls were needed over federal grant accounting and dietary materials and supplies.

An executive summary of our findings can be found on page 5. The USM Office's response to this audit, on behalf of UMES, is included as an appendix to this report. We wish to acknowledge the cooperation extended to us during the course of this audit by UMES.

Respectfully submitted,

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Bruce A. Myers, CPA

Legislative Auditor

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Executive Summary

Legislative Audit Report on University System of Maryland University of Maryland Eastern Shore (UMES) August 2011

• Adequate controls had not been established over student financial aid awards, which totaled \$44.5 million during fiscal year 2010. Financial aid awards posted to student accounts were not independently verified.

UMES should ensure that independent supervisory personnel verify the propriety of financial aid awards posted to student accounts.

• Certain University grants, which totaled \$545,000 during academic year 2010, were awarded to students based on the sole discretion of one management employee. Documentation supporting how the awards were determined was not maintained, and there was no formal policy defining the eligibility criteria. Among the discretionary grant awards for 2010, was an \$1,870 award to a relative of the management employee, which is a potential violation of State Ethics Laws.

UMES should establish a formal policy for discretionary awards, and ensure awards are adequately supported and subject to independent review. UMES should also review previously awarded discretionary grants for propriety and refer the aforementioned matter to the State Ethics Commission for its review.

• UMES did not ensure that the Honors scholarships of students who did not meet eligibility requirements were revoked. Our tests disclosed two students who were improperly awarded Honors scholarships for several semesters totaling approximately \$47,000.

UMES should revoke the Honors scholarships of students that fail to meet eligibility requirements and ensure that scholarship awards are made only to eligible students.

• Supervisory personnel did not review documentation supporting student refunds, and certain non-cash credit adjustments recorded to student accounts were not subject to independent supervisory review. Also, controls over changes to student residency status were inadequate.

UMES should ensure that student refunds, account adjustments, and residency status changes are properly supported and controlled.

• UMES did not properly restrict employee access to certain critical system functions, including student grade changes.

UMES should periodically generate and review reports of employee access capabilities and should assign specific user access capabilities to only those employees who require such capabilities to perform their normal job duties.

 A number of security and control deficiencies were noted with regard to UMES information systems. For example, security reporting and monitoring, and access controls over critical student information applications were not adequate. In addition, improved security was needed over networks and the virtual server environment.

UMES should take the recommended actions to improve controls and security.

• Internal control deficiencies were noted with respect to federal grant accounting and dietary materials and supplies.

UMES should take the recommended actions to improve controls in these areas.

Background Information

Agency Responsibilities

The University of Maryland Eastern Shore (UMES) is a comprehensive public institution of the University System of Maryland and operates under the jurisdiction of the System's Board of Regents. UMES offers an array of baccalaureate programs in both traditional arts and sciences, and in applied professional fields, as well as select professionally oriented graduate programs and doctoral programs. Student enrollment for the Spring 2010 semester totaled 4,232, including 3,706 undergraduate students and 526 graduate students. The UMES budget is funded by unrestricted revenues, such as tuition and fees and a State general fund appropriation, and by restricted revenues, such as federal grants and contracts. According to the State's accounting records, UMES's revenues for fiscal year 2010 totaled approximately \$114 million, including a State general fund appropriation of approximately \$32.9 million.

Status of Findings From Preceding Audit Report

Our audit included a review to determine the status of the seven findings contained in our preceding audit report dated January 24, 2008. We determined that UMES satisfactorily addressed three of the findings. The remaining four findings are repeated in this report.

Findings and Recommendations

Student Financial Aid

Finding 1

UMES had not established adequate internal controls to ensure the proper financial aid awards were posted to student accounts.

Analysis

Adequate internal controls had not been established to ensure the propriety of financial aid awards posted to student accounts. According to UMES records, during fiscal year 2010, financial aid awarded to students, including grants and scholarships, totaled approximately \$44.5 million.

Financial aid awards posted to student accounts were not independently verified. Specifically, UMES conducts a review each semester of financial aid posted to student accounts, on a test basis, to ensure that amounts recorded agree to the award notification letters. Approximately 200 student accounts are included in this review. However, the employee who selected students for review, and two of the four employees who performed the review, also had the capability to modify student financial aid awards in the automated system. Additionally, the review did not ensure that the amount of financial aid was properly calculated and, if required, whether the financial aid (such as Honors scholarships) was authorized by supervisory personnel. For example, the review did not ensure that all pertinent factors (such as tuition waivers granted to students) were considered when calculating the amount of the financial aid award.

Furthermore, adjustments to financial aid posted to student accounts were not subject to supervisory review and approval. A total of eight employees had the capability to adjust student financial aid.

Recommendation 1

We recommend that UMES

- a. ensure that supervisory personnel independent of the financial aid award process verify, at least on a test basis, the propriety of financial aid awards and adjustments posted to student accounts, including the calculation and authorization of the awards; and
- b. ensure that such verifications of financial aid awards and adjustments are documented.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

Finding 2

Certain University Grants were awarded at the sole discretion of one management employee and were not subject to independent review.

Analysis

Controls had not been established over certain University Grant awards that were made at the sole discretion of one management employee. University Grants totaling approximately \$1.5 million were disbursed to students during academic year 2010. Approximately \$1 million of these awards were determined based on criteria in UMES's automated system using data on the completed financial aid application, and the remaining awards were made on a discretionary basis by this management employee.

Discretionary University Grants were awarded to students based solely on the judgment of one management employee and there was no formal policy defining the eligibility criteria. This employee did not maintain documentation supporting how the amount awarded to each student was determined, and the awards were not subject to independent supervisory review and approval. In addition, the UMES website stated that University Grants (which include the discretionary portion) were awarded in amounts of up to \$3,000 each year to degree-seeking undergraduates who completed the standard financial aid application. Yet, our review disclosed that, during academic year 2010, 138 students were awarded University Grants (including discretionary) ranging from \$3,050 to \$5,604. In some cases, the discretionary award increased the system-determined University Grant award above the \$3,000 limit and, in other cases, discretionary awards were given to students who did not otherwise receive University Grants. During academic year 2010, 378 Discretionary University Grants were awarded totaling approximately \$545,000. During the 2010 academic year, 11 of these students, who received Discretionary Grants totaling \$12,945, also received full or partial tuition waivers because they were dependents of USM institution employees.

Among the 11 Discretionary Grants awarded for the 2010 year to USM dependents was a Discretionary Grant, totaling \$1,870, awarded to the aforementioned management employee's relative. We determined that the management employee's relative was also awarded a \$3,000 Discretionary University Grant for academic year 2011. We brought this to the attention of UMES upper management personnel who advised that the 2010 grant had been verbally approved but who was unaware of the academic year 2011 award. Subsequently, the academic year 2011 award was reduced from the \$3,000 Grant to a \$1,000 Grant.

Legal counsel for the State Ethics Commission advised us that the Discretionary Grant award, made solely by the management employee to the employee's relative, potentially violated State Ethics Laws. Specifically, Sections 15-501 of the State Government Article of the Annotated Code of Maryland (the Ethics Law) prohibits a State employee or official from participating in a matter in which the qualifying relative has an interest in the matter and the official or employee knows of the interest. Any final decision related to violations of the State Ethics Laws would ultimately be determined by the State Ethics Commission.

Recommendation 2

We recommend that UMES

- a. establish a formal policy for the award of Discretionary University Grants;
- b. ensure awards are made in compliance with the established policy, including established limits, are adequately supported, and are subject to independent supervisory review and approval; and
- c. review previously awarded Discretionary Grants for propriety, refer the aforementioned matter to the State Ethics Commission, and take appropriate action based on the Commission's decision.

Finding 3

Adequate internal controls were not in place to ensure that the Honors scholarships of students that did not meet program eligibility requirements were revoked, and certain ineligible students continued to receive scholarships.

Analysis

UMES had not established adequate internal controls to ensure that students receiving Honors scholarships continued to meet program eligibility requirements, including maintaining a minimum grade point average (GPA). In that regard, the Honors Program personnel generally conducted reviews to ensure that students receiving Honors scholarships were meeting program eligibility requirements. We were advised by UMES that a review was performed annually each January, and included preparing a listing of students who did not meet the Honors Program eligibility requirements. This listing was to be sent to the Financial Aid Office so that the scholarships of these students could be revoked. However, as of December 2010 this listing had not been prepared for January 2010. Furthermore, our review disclosed that there was no procedure for the Honors Program or Financial Aid Office to perform supervisory reviews to ensure that the Financial Aid Office actually revoked the Honors scholarships from the students.

Our November 2010 test of five students who received Honors scholarships totaling approximately \$90,400 during the 2009 – 2010 academic year disclosed that, although two students were not eligible to receive these scholarships due to their academic performance, the scholarships had not been revoked. Specifically, one student was awarded a scholarship beginning in the Fall 2008 semester, did not maintain required GPA levels, but continued to receive a scholarship through the Fall 2010 semester. Another student was awarded a scholarship in the Spring 2009 semester, did not maintain required GPA levels, and continued to receive a scholarship through the Spring 2010 semester. These two students were awarded Honors scholarships totaling approximately \$47,000 for two or more semesters after they failed to meet the eligibility requirements.

As a result of these deficiencies, UMES lacked assurance that Honors scholarships were only awarded to eligible students. The UMES *Honors Program Agreement* states that students are required to maintain at least a cumulative 3.3 GPA and that those who do not, may have their scholarships revoked. The *Agreement* further specifies that students must take at least 12 credit hours per semester. According to UMES records, during fiscal year 2010, Honors scholarships awarded to 101 students totaled approximately \$1.1 million.

Recommendation 3

We recommend that UMES

- a. periodically review students receiving Honors scholarships to ensure that eligibility requirements have been met; and
- b. perform supervisory reviews to ensure that scholarships of students who fail to meet the requirements of the Honors Program are revoked, as required.

Student Accounts

Finding 4

Adequate internal controls had not been established over the processing of student refunds and certain non-cash credit adjustments made to student accounts.

Analysis

UMES had not established adequate internal controls over the processing of student refunds and certain non-cash credit adjustments made to student accounts. Specifically, supervisory employees who approved refunds posted to student accounts did not review supporting documentation to confirm that refunds were proper and had been approved. Rather, these employees only reviewed refunds

posted for abnormalities (such as a foreign address or an unusually large refund amount). Additionally, non-cash credit adjustments posted to student accounts that related to certain housing and board charges were not independently verified to source documents. A similar condition regarding non-cash credit adjustments was commented upon in our preceding audit report.

As a result of these deficiencies, unauthorized refund payments and adjustments could be made without detection. According to UMES records, student refunds during fiscal year 2010 totaled approximately \$10.3 million, and the aforementioned housing and board-related credit adjustments totaled approximately \$44,800 for the spring 2010 semester.

Recommendation 4

We recommend that UMES

- a. ensure that supervisory employees who approve refunds posted to student accounts review documentation supporting the propriety of the refunds,
- b. ensure that an employee independent of the non-cash credit adjustment processing and approval process for housing and board charges verifies recorded adjustments to source documents (repeat), and
- c. ensure that supervisory reviews of refunds and non-cash credit adjustments are documented and retained for future reference.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

Verification of Residency Status

Finding 5

Internal controls had not been established over certain student residency status changes, and such changes were not always adequately supported and approved.

Analysis

UMES had not established proper internal controls over certain changes to student residency status, and such changes were not always adequately supported and approved. Consequently, unauthorized residency status changes could potentially be made without detection and students' residency status could be misclassified. Specifically, we noted the following conditions:

- Although output reports of changes made to student residency status were generated, the reports were not used by UMES personnel to verify the propriety of residency status changes made for graduate and Pharmacy students. Additionally, the employee responsible for reviewing and approving the output report of residency status changes made for undergraduate students also had the ability to make changes to residency status in the automated system and, therefore, was not independent. As a result of these deficiencies, unauthorized residency status changes could be made without detection. According to UMES records, a total of 109 residency status changes were processed during fiscal year 2010. A similar condition was commented upon in our preceding audit report.
- Our test of 20 residency status changes from out-of-state to in-state status made during fiscal year 2010, for both undergraduate and graduate students, disclosed that adequate documentation was not maintained to support 7 of these changes. For example, one change was made based solely on an email from a student indicating the student was a Maryland resident, even though the admission application filed by the student denoted an out-of-state address. Additionally, there was no indication that these 7 changes were reviewed and approved by the UMES Residency Committee, as required.

USM's Board of Regents *Policy on Student Classification for Admission and Tuition Purposes* states that a student requesting a change in residency status must submit a USM *Petition for Change in Classification for Tuition Purposes* along with supporting evidence that provides clear and convincing evidence of his or her residency status, such as a valid Maryland driver's license. Additionally, UMES policy requires that changes to a student's residency status be subject to the review and approval of the Residency Committee. Accurate student residency determinations are critical because of the significant differences between in-state and out-of-state student tuition rates. For example, full-time undergraduate tuition and fee charges for the Spring 2010 semester totaled \$3,041 for Maryland residents and \$6,653 for nonresidents.

Recommendation 5

We recommend that UMES

- a. ensure that student residency status changes for all students, as reflected on output reports, are reviewed and agreed to supporting documentation, at least on a test basis, by independent supervisory personnel, and that such reviews are documented (repeat);
- b. maintain adequate documentation supporting student residency status changes, as required by USM policy, and ensure that all changes are subject to review and approval by the Residency Committee; and

c. investigate the propriety of the seven aforementioned residency changes that were not properly documented, and take appropriate action.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

Automated System Access

Finding 6

UMES did not ensure that the capability of employees to change student residency status and student grades was properly restricted.

Analysis

UMES did not periodically generate and review reports of access capabilities assigned to system users to ensure that employees' ability to perform critical functions was properly restricted. Our review of employee access to several critical functions disclosed that a number of employees did not need access to two critical functions to perform their job duties. Specifically, of the 15 users with the capability to change a student's residency status, access granted to 9 users was unnecessary. In addition, 4 of the 7 users with the capability to make changes to student grades did not require such access.

According to UMES records, 109 student residency status changes were made during fiscal year 2010, and 842 grade changes were made during the Spring 2010 semester.

Recommendation 6

We recommend that UMES

- a. periodically (for example, quarterly) generate computer system security reports and review the reports to evaluate assigned user access capabilities; and
- b. assign specific user access capabilities only to those employees who require such capabilities to perform their job duties, and immediately remove the aforementioned unnecessary access capabilities.

Information Systems Security and Control

Background

The UMES Administrative Computing and Information Technology units provide information technology support to UMES through the operation and maintenance of campus-wide administrative applications, such as the student information system. These units also operate an integrated administrative and academic computer network, which provides connections to multiple servers used for administrative and academic purposes. The campus network also includes separate email and file servers, Internet connectivity, and firewalls. In addition, UMES connects to the University of Maryland Academic Telecommunications System network to send data to and receive data from other University System of Maryland institutions.

Finding 7

Security reporting, monitoring, and access controls over a critical application and database were not adequate.

Analysis

Security reporting, monitoring, and access controls over a critical application and database were not adequate. Specifically, we noted the following conditions:

- A default administrative database account unnecessarily had full access to the database used for the student information system. Since this account includes local server administrators, by default, all local administrators on the database server had full administrative access to this database. Also, anyone able to achieve local administrator privileges would automatically have full administrative access to this database and could perform unauthorized modifications to critical data. A similar condition was commented upon in our preceding audit report.
- Certain student information system database security events (such as "grant" privileges) and audit events (such as "stop audit") which should have been logged were not logged. Accordingly, significant database security violations could go undetected.
- Five accounts were assigned unnecessary access to an application maintenance tool that could be used to modify the student information system's application security settings and to make unauthorized changes to the information in the related database.

• Reports of additions and changes to the permissions assigned to users of the student information system's application were not created. As a result, there was a lack of assurance as to the propriety of these additions and changes.

Recommendation 7

We recommend that UMES

- a. limit access to all critical databases to personnel whose job duties require such access (repeat),
- b. log all significant database security and audit events,
- c. limit access to the application maintenance tool to only those users requiring such access, and
- d. regularly generate and review reports of additions and changes to permissions assigned to users of critical databases.

Finding 8

Network architecture, controls, and monitoring were not sufficient to properly protect the network.

Analysis

Network architecture, controls, and monitoring were not sufficient to adequately protect UMES network. Specifically, we noted the following conditions:

- Numerous publicly accessible servers were located on the internal network, rather than in a separate network zone to minimize security risks. These publicly accessible servers, which could potentially be compromised, exposed the internal network to attack from external sources. According to industry best practices, as described by the State of Maryland, Department of Information Technology's (DoIT) *Information Security Policy*, all publicly accessible servers should be placed in a neutral network zone. A similar condition was commented upon in our preceding audit report.
- Key administrative systems were not adequately protected from untrusted portions of the UMES network. Specifically, numerous computer labs throughout the campus had unnecessary network level access to critical campus administrative resources. A similar condition was commented upon in our preceding audit report.
- Logging and monitoring of critical firewall security-related events was not sufficient. Specifically, UMES personnel could only access firewall logs for the three most recent days. In addition, critical and questionable events identified on certain firewall log reports either were not reviewed or were not

investigated, and other firewall log reports were not reviewed at all. The University System of Maryland (USM) *Guidelines in Response to the State's IT Security Policy* requires that institutions maintain and perform documented reviews of firewall log files.

Recommendation 8

We recommend that UMES

- a. relocate all unprotected, publicly accessible servers to a neutral network zone to limit security exposures to critical systems on the internal network (repeat);
- b. restrict access, at the network level, to key administrative systems to only those entities requiring such access (repeat); and
- c. review all relevant firewall logs, review and investigate critical or questionable events on these logs, and retain access to these logs for at least three months, for incident response purposes.

Finding 9

Controls over the virtual server environment were not adequate.

Analysis

Controls over the virtual server environment were not adequate. Specialized software developed in recent years allows for a single physical host server's resources (memory, CPU, and storage) to be defined and subdivided into multiple virtual servers that can each operate as a separate unique server. As of October 10, 2010 UMES, was using nine identically configured physical host servers that hosted 120 virtual servers, including servers that supported the critical student information system. Our test of one of these nine host servers disclosed the following conditions:

- The physical host server had not been properly secured at the host server level and several host server security configuration settings were not adequate. For example, UMES did not utilize the default host server-based firewall feature to protect the host server.
- Certain network security option settings on this host server's virtualization software were not properly configured in accordance with the software vendor's recommended security settings. As a result, this weakened network level security for the virtual servers configured on this host server.
- This host server was running vulnerable virtualization software. Specifically, as of October 7, 2010, this server was utilizing virtualization software that had

not been updated for numerous critical related software patches released before July 7, 2010. The Department of Information Technology's *Information Security Policy* requires that all devices have updates and patches installed on a timely basis to correct significant security flaws.

Recommendation 9

We recommend that UMES

- a. properly secure all of its physical host servers against attack,
- b. configure the software on its physical host servers in accordance with the vendor's recommendations to help ensure adequate security over the resident virtual servers, and
- c. apply virtualization software patches in a timely manner to correct significant security-related vulnerabilities.

Federal Grants

Finding 10

Monthly reviews of federal grant account activity were not documented and certain grant records appeared to be inaccurate.

Analysis

Although we were advised by UMES management personnel that monthly reviews of federal grant activity (such as expenses, collections, and accounts receivable balances) recorded in its automated system were performed to ensure that all grants were billed and all billings were collected, such reviews were not documented. Additionally, our review of grant account records from the automated system disclosed that certain records appeared to be inaccurate. For example, for one grant account, the amount recorded as collected (approximately \$398,900) exceeded the award amount by approximately \$18,300 and exceeded the amount recorded as being billed by \$20,900. We were advised by UMES personnel that these discrepancies were the result of not recording the full grant award and all expenditure activity for this grant in the automated system.

In addition, UMES maintained a separate aging schedule of its federal grant accounts receivable, which was used to pursue outstanding accounts. However, reconciliations were not performed of the outstanding accounts receivable balances per the automated system with the corresponding balances per the aging schedule. Our review disclosed that, as of June 30, 2010, the aggregate accounts receivable balance per the aging schedule (approximately \$856,100) exceeded the balance per the automated system (approximately \$452,200) by approximately \$403,900, and UMES personnel were not able to readily explain this difference.

According to UMES records, revenue from federally sponsored research grants totaled approximately \$12.5 million during fiscal year 2010.

Recommendation 10

We recommend that UMES

- a. perform a documented review of grant account activity recorded in the automated system and retain such reviews for future reference;
- b. record all grant activity in the automated records accurately and timely; and
- c. periodically (for example, quarterly) reconcile aggregate accounts receivable balances per the automated system with the aggregate balance per the aging schedule, and investigate and resolve all differences noted.

Materials and Supplies

Finding 11

Procedures and internal controls were not adequate over the UMES dietary inventory maintained for its dining services.

Analysis

UMES had not established adequate controls over access to the dietary inventory and maintenance of related inventory records, and had not conducted required physical inventories. According to the State's accounting records, purchases of dietary materials and supplies for fiscal year 2010 dining services totaled approximately \$2.5 million. Additionally, according to UMES records, the value of dietary materials and supplies inventory was approximately \$144,000 as of September 2010. Our review disclosed the following conditions:

- Physical access to the dietary inventories and record keeping responsibilities
 were not adequately separated. The employee who recorded additions to the
 perpetual inventory records had routine access to the storeroom. Additionally,
 the storeroom custodian was responsible for posting inventory withdrawals to
 the perpetual records.
- Requisition forms were not used to withdraw items from the inventory and to post withdrawals to the inventory records. Rather, withdrawals were based on verbal requests and items removed from inventory were scanned by the storeroom custodian using a barcode scanner which automatically posted the withdrawals to the perpetual inventory records. Although manual listings were prepared by the storeroom custodian of items verbally requested by the

employees who requisitioned the items, these listings were not signed by the employees requesting the items, and the employees were not provided with a copy of the listings. Additionally, the listings were not compared to the withdrawals posted to the perpetual inventory records.

- UMES did not conduct a physical inventory of its dietary materials and supplies during the audit period. USM's *Policy for Capitalization and Inventory Control* requires that these materials and supplies be inventoried at the end of each year. While UMES began conducting monthly physical inventories in September 2010, as of December 2010, the results of the physical inventories had not been compared with the perpetual inventory records to identify variances. Furthermore, four of the seven employees who conducted the inventories were not independent as these employees had routine access to the dietary storeroom.
- Our test of 824 dietary items purchased during fiscal year 2010, totaling approximately \$216,000, disclosed that 443 items, totaling approximately \$124,000, were not posted to the inventory records.
- Our physical count of 10 dietary items disclosed variances between our counts and the quantities on hand per the perpetual inventory records. Specifically, for 8 of the 10 items tested, we counted a total of 86 units while the perpetual inventory records reflected a total of 1,253 units on hand. The aggregate dollar value of the variances totaled approximately \$4,100. UMES management personnel were unable to readily explain these variances.

As a result of these deficiencies, UMES' management may not readily detect irregularities related to the dietary inventory. USM's *Policy for Capitalization and Inventory Control* requires institutions to maintain an inventory system appropriate to the value of the items held for resale and to take a physical inventory at year-end.

Recommendation 11

We recommend that UMES

- a. ensure that employees who maintain the dietary perpetual inventory records and who perform the physical inventories do not have physical access to the dietary inventory;
- b. use requisition forms to document the withdrawal of dietary inventory from the storeroom, and ensure that employees who requisition dietary items sign and retain copies of the completed requisitions;
- c. compare, at least on a test basis, withdrawals posted to the perpetual inventory records to the signed copies of the requisitions retained by the employees who received the items;

- d. perform a dietary materials and supplies inventory at least annually, as required, compare the results of the inventory counts to the perpetual inventory records, and ensure that variances noted are investigated by employees who do not have routine access to the inventory; and
- e. ensure that all dietary items purchased are properly posted to the perpetual inventory records.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

Audit Scope, Objectives, and Methodology

We have audited the University System of Maryland (USM) – University of Maryland Eastern Shore (UMES) for the period beginning June 1, 2007 and ending August 8, 2010. The audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

As prescribed by the State Government Article, Section 2-1221 of the Annotated Code of Maryland, the objectives of this audit were to examine UMES' financial transactions, records and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations. We also determined the status of the findings contained in our preceding audit report.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of materiality and risk. The areas addressed by the audit included purchases and disbursements of UMES' operating expenditures, student accounts receivable, cash receipts, payroll, and information technology systems. Our audit procedures included inquiries of appropriate personnel, inspections of documents and records, and observations of UMES operations. We also tested transactions and performed other auditing procedures that we considered necessary to achieve our objectives. Data provided in this report for background or informational purposes were deemed reasonable, but were not independently verified.

Our audit did not include certain support services provided to UMES by the USM Office (such as endowment accounting) and by the University of Maryland, College Park (such as processing vendor payment transmittals and payroll). These support services are included within the scope of our audits of the USM Office, and the University of Maryland, College Park, respectively. In addition, our audit did not include an evaluation of internal controls for federal financial assistance programs and an assessment of UMES' compliance with federal laws and regulations pertaining to those programs because the State of Maryland engages an independent accounting firm to annually audit such programs administered by State agencies, including the components of the USM.

UMES' management is responsible for establishing and maintaining effective internal control. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records,

effectiveness and efficiency of operations including safeguarding of assets, and compliance with applicable laws, rules, and regulations are achieved.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports are designed to assist the Maryland General Assembly in exercising its legislative oversight function and to provide constructive recommendations for improving State operations. As a result, our reports generally do not address activities we reviewed that are functioning properly.

This report includes findings that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect UMES' ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations. Other less significant findings were communicated to UMES that did not warrant inclusion in this report.

The USM Office's response, on behalf of UMES, to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise the USM Office regarding the results of our review of its response.

APPENDIX



OFFICE OF THE CHANCELLOR

August 25, 2011

Mr. Bruce A. Myers, CPA Legislative Auditor Office of Legislative Audits State Office Building, Room 1202 301 West Preston Street Baltimore, MD 21201

University of Maryland,

Baltimore

1856 University of Maryland, College Park

Bowie State University

1866 **Towson University**

1886 University of Maryland

Eastern Shore

Frostburg State University

1900 Coppin State University

Salisbury University

University of Baltimore

University of Maryland Center for Environmental

University of Maryland University College

University of Maryland, **Baltimore County**

Dear Mr. Myers:

I have enclosed the University System of Maryland's responses to your draft report covering the examination of the accounts and records of the University of Maryland, Eastern Shore. Our comments refer to the individual items in the report.

Sincerely,

Shore

E Kirwan William E. Kirwan

RE: University System of Maryland -

University of Maryland, Eastern

Period of Audit: June 1, 2007

Through August 8, 2010

Chancellor

WEK:mk **Enclosures**

cc: Dr. Mortimer Neufville, Interim President, UMES

Mr. Orlan M. Johnson, Chair, Board of Regents

Kevin M. O'Keefe, Chairman, MHEC

Elisabeth A. Sachs, Interim Secretary of Higher Education, MHEC

Mr. Robert Page, Comptroller, USM Office

Mr. David Mosca, Director of Internal Audits, USM Office

Student Financial Aid

Finding 1

UMES had not established adequate internal controls to ensure the proper financial aid awards were posted to student accounts.

Recommendation 1

We recommend that UMES

- a. ensure that supervisory personnel independent of the financial aid award process verify, at least on a test basis, the propriety of financial aid awards and adjustments posted to student accounts, including the calculation and authorization of the awards; and
- b. ensure that such verifications of financial aid awards and adjustments are documented.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

University Response

- (a): UMES has removed the award update capability of two of the employees within the Financial Aid Office who previously had award update capability. Supervisory personnel independent of financial aid will make the random selections from a list of financial aid recipients provided by Administrative Computing. Three OSFA personnel without award update capability will conduct the audit of the awards and the audit will be verified by the Vice President of Administrative Affairs and/or designee. These procedures will be effective for the mid-term audit to be conducted Fall 2011.
- (b): The institution will develop an Award Audit/Verification Form and documentation of the verification of awards will be maintained with copies housed in the Office of Student Financial Aid and the Office of Administrative Affairs. The security access and duties of financial aid personnel are currently under review to ensure there is adequate separation of duties. This response will be fully implemented for the midterm audit to be conducted Fall 2011.

Finding 2

Certain University Grants were awarded at the sole discretion of one management employee and were not subject to independent review.

Recommendation 2

We recommend that UMES

- a. establish a formal policy for the award of Discretionary University Grants;
- b. ensure awards are made in compliance with the established policy, including established limits, are adequately supported, and are subject to independent supervisory review and approval; and
- c. review previously awarded Discretionary Grants for propriety, refer the aforementioned matter to the State Ethics Commission, and take appropriate action based on the Commission's decision.

University Response

- (a): UMES will develop a written policy and procedure for the awarding of discretionary University grants that support the mission of the institution to provide access to higher education and to support its enrollment, graduation and retention goals. Recognizing University grants vary according to enrollment status, need and availability of funds, this written policy and procedure will be implemented in the Spring 2012 semester.
- (b): UMES will have Administrative Computing develop and produce a quarterly report of all University grant updates made manually. These reports will be reviewed for accuracy by the Vice President for Administrative Affairs and/or designee.
- (c): UMES has reviewed the previously awarded Discretionary Grants for propriety and has referred the aforementioned matter to the State Ethics Commission, and will take appropriate action based upon the commission's recommendation.

Finding 3

Adequate internal controls were not in place to ensure that the Honors scholarships of students that did not meet program eligibility requirements were revoked, and certain ineligible students continued to receive scholarships.

Recommendation 3

We recommend that UMES

- a. periodically review students receiving Honors scholarships to ensure that eligibility requirements have been met; and
- b. perform supervisory reviews to ensure that scholarships of students who fail to meet the requirements of the Honors Program are revoked, as required.

University Response

(a) and (b): UMES agrees with this finding. UMES had established a process to review Honors Program student compliance with established program requirements; however a transition occurred in which, for budgetary reasons, the Honors Program Director was laid off and the Dean of the School of Arts and Professions assumed the leadership of the program. In accordance with the guidelines of the program, she opted not to revoke any scholarships that semester until she had a real opportunity to fully assess each student. Effective immediately, the Vice President for Academic Affairs will ensure that scholarships for Honors Program students be appropriately evaluated and revoked as appropriate.

Student Accounts

Finding 4

Adequate internal controls had not been established over the processing of student refunds and certain non-cash credit adjustments made to student accounts.

Recommendation 4

We recommend that UMES

- a. ensure that supervisory employees who approve refunds posted to student accounts review documentation supporting the propriety of the refunds,
- b. ensure that an employee independent of the non-cash credit adjustment processing and approval process for housing and board charges verifies recorded adjustments to source documents (repeat), and
- c. ensure that supervisory reviews of refunds and non-cash credit adjustments are documented and retained for future reference.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

University Response

(a): UMES added a final sample review step to our procedures for issuing student refunds. In addition to the PeopleSoft approver in the Comptroller's Office looking at any irregularities, this person now additionally performs a random sample testing for accuracy of a minimum of 10% of the refunds per batch. This review includes comparing the supporting documentation to the refund approved in PeopleSoft prior to releasing the batch to UMCP for payment processing. This employee then initials the printed refund list beside those transactions selected for testing and retains the signed supporting documents.

(b) and (c): UMES agrees that a more formal procedure should be in place for the approval process on housing and board non-cash credit adjustments. UMES obtains signatures at each step through the process and the proper backup support documentation is sent to all approvers to validate the request and follow it through to the Student Accounts Office. This support documentation is either emailed from the original approver listing the individual names, amounts and reason for the credits that were entered or the actual documentation (i.e. screen prints) as signed and authorized by the original approver. In either instance, the final approver does sign, date and maintain the backup support to justify the approval. This process is currently in effect. Included in this process, an employee independent of the non-cash credit adjustment process and approval process for housing and board charges will verify recorded adjustments to source documents.

Verification of Residency Status

Finding 5

Internal controls had not been established over certain student residency status changes, and such changes were not always adequately supported and approved.

Recommendation 5

We recommend that UMES

- a. ensure that student residency status changes for all students, as reflected on output reports, are reviewed and agreed to supporting documentation, at least on a test basis, by independent supervisory personnel, and that such reviews are documented (repeat);
- b. maintain adequate documentation supporting student residency status changes, as required by USM policy, and ensure that all changes are subject to review and approval by the Residency Committee; and

c. investigate the propriety of the seven aforementioned residency changes that were not properly documented, and take appropriate action.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

University Response

(a) and (b): The University has removed the ability of the Assistant Vice President for Student Affairs and Enrollment Management to change residency status. Effective immediately, the review of all residency changes will be performed by the Assistant Vice President for Student Affairs and Enrollment Management. A new campus wide Residency Committee has been established with representatives from Academic Affairs, Administrative Affairs, Student Affairs, Graduate Studies, and the Pharmacy Program. All materials used in the evaluation of a residency change will be appropriately maintained.

(c): UMES will investigate the propriety of the seven aforementioned residency changes and take the appropriate action.

Automated System Access

Finding 6

UMES did not ensure that the capability of employees to change student residency status and student grades was properly restricted.

Recommendation 6

We recommend that UMES

- a. periodically (for example, quarterly) generate computer system security reports and review the reports to evaluate assigned user access capabilities; and
- b. assign specific user access capabilities only to those employees who require such capabilities to perform their job duties, and immediately remove the aforementioned unnecessary access capabilities.

University Response

(a) and (b): Agreed. UMES will generate annual computer system security reports and use these reports to evaluate assigned user access capabilities by December 1, 2011. All necessary access capabilities have been removed from users as identified leaving them with only the access capabilities required to perform their job duties.

Information Systems Security and Control

Finding 7

Security reporting, monitoring, and access controls over a critical application and database were not adequate.

Recommendation 7

We recommend that UMES

- a. limit access to all critical databases to personnel whose job duties require such access (repeat),
- b. log all significant database security and audit events,
- c. limit access to the application maintenance tool to only those users requiring such access, and
- d. regularly generate and review reports of additions and changes to permissions assigned to users of critical databases.

University Response

- (a): After the Server upgrade, 2008, the BUILTIN/Administrator group access was activated to only public capabilities. With the public access, the system log files increase rapidly with "invalid" error messages. Therefore, in an effort to ensure continuity of operation, the access was changed back to sysadmin. This process was demonstrated to the Auditors. We have now created an individual domain ID's and all PeopleSoft service are identified by the new domain ID. The BUILTIN/Administrative group has been deleted.
- (b): We agree with the recommendation. We will comply with the USM guidelines by incorporating a procedure to review critical database security events. This procedure will be in place by December 1, 2011.
- (c): Access to the maintenance tool has been assigned to the appropriate user only.
- (d): The University of Maryland Eastern Shore will create an evaluation process to view all People Soft users' access throughout the campus. The evaluation process will include documents pertaining to the users' PeopleSoft access and the time/date stamp of the reviews. The review process will occur twice a year and during occasions when a PeopleSoft user's access is being modified. The evaluation process will be implemented by January 2012.

Finding 8

Network architecture, controls, and monitoring were not sufficient to properly protect the network.

Recommendation 8

We recommend that UMES

- a. relocate all unprotected, publicly accessible servers to a neutral network zone to limit security exposures to critical systems on the internal network (repeat);
- b. restrict access, at the network level, to key administrative systems to only those entities requiring such access (repeat); and
- c. review all relevant firewall logs, review and investigate critical or questionable events on these logs, and retain access to these logs for at least three months, for incident response purposes.

University Response

(a): UMES will create a plan to move all publicly available systems that would work in such a configuration to a neutral network zone. We have initiated this process and have documented the list of systems and services that will be migrated. UMES plans to have full implementation of the plan by May 1, 2012.

Since the last audit, UMES IT has installed a firewall between the UMES WAN and datacenter, best-of-breed Intrusion Prevention System (IPS), and implemented software firewalls on key critical systems. Additionally UMES has documented review procedures of these systems that are logged and signed by IT management.

The computer labs on campus are a resource that is made available to students, faculty and staff. To adhere to the recommendation it would require the University to change the operational culture, along with taking on a project with immense cost, implementation and continued management. Therefore we disagree with this recommendation.

- (b): UMES will begin to create a plan to restrict access, at the network level, to staff and key faculty workstations, to only those individuals requiring such access. UMES has a goal to complete a plan by August 1, 2012, and full implementation by August 1, 2014.
- (c): UMES has made a purchase of a SIEM (security information and event management) solution. Initial implementation of the SIEM is being scheduled and

expected to be completed by November 30, 2011, with full implementation and correlation expected to be completed by March 1, 2012.

Finding 9

Controls over the virtual server environment were not adequate.

Recommendation 9

We recommend that UMES

- a. properly secure all of its physical host servers against attack,
- b. configure the software on its physical host servers in accordance with the vendor's recommendations to help ensure adequate security over the resident virtual servers, and
- c. apply virtualization software patches in a timely manner to correct significant security-related vulnerabilities.

University Response

(a) (b) and (c): UMES has made several operating system upgrades and configuration changes to the physical hosts. The current configuration maintains a stronger security profile against attack and is properly secured. Patching physical hosts is now a scheduled task in our help desk system. We are now running scans and patching on a monthly basis.

Federal Grants

Finding 10

Monthly reviews of federal grant account activity were not documented and certain grant records appeared to be inaccurate.

Recommendation 10

We recommend that UMES

- a. perform a documented review of grant account activity recorded in the automated system and retain such reviews for future reference;
- b. record all grant activity in the automated records accurately and timely; and
- c. periodically (for example, quarterly) reconcile aggregate accounts receivable balances per the automated system with the aggregate balance per the aging schedule, and investigate and resolve all differences noted.

University Response

(a) (b) and (c): UMES agrees there were discrepancies created when award changes were not appropriately recorded on the account. However, we do not agree that the expenditure activity was not recorded. All expenditure activity runs through our Accounts Payable module and is posted to the subsidiary ledger for each grant. There is an automated process that occurs monthly to cumulate the expenses over the life of the project in the general ledger. If that process was not established prior to expenses being posted, then a manual entry must be done to show cumulative project life data. In FY2011, we enhanced our account entry procedures to include this setup at the time an account is created to ensure that the automated process will occur and reduce the monthly manual entries required. In FY11, we also created a report that shows any variances between grant revenue and expenses recorded in the ledgers as well as one which shows the details of the Grant Accounts Receivable codes to review any unusual situations, such as a grant collected greater than the grant award posted. All reviews will be documented and all discrepancies will be questioned and reviewed for accuracy and the necessary adjustments recorded in a timely manner. To further enhance our procedures, an independent budget and journal entry review process will be established in FY2012.

Aging schedules are provided and reviewed on a quarterly basis for ensuring timely collections of billings. In addition, semi annually, UMES will review the aging schedule provided by the grant accountants and ensure that it reconciles to the aggregate billed accounts receivable balances. All differences will be researched and corrected as necessary.

Materials and Supplies

Finding 11

Procedures and internal controls were not adequate over the UMES dietary inventory maintained for its dining services.

Recommendation 11

We recommend that UMES

- a. ensure that employees who maintain the dietary perpetual inventory records and who perform the physical inventories do not have physical access to the dietary inventory;
- b. use requisition forms to document the withdrawal of dietary inventory from the storeroom, and ensure that employees who requisition dietary items sign and retain copies of the completed requisitions;

- c. compare, at least on a test basis, withdrawals posted to the perpetual inventory records to the signed copies of the requisitions retained by the employees who received the items;
- d. perform a dietary materials and supplies inventory at least annually, as required, compare the results of the inventory counts to the perpetual inventory records, and ensure that variances noted are investigated by employees who do not have routine access to the inventory; and
- e. ensure that all dietary items purchased are properly posted to the perpetual inventory records.

We advised UMES on accomplishing the necessary separation of duties using existing personnel.

University Response

- (a): The inventory specialist who is responsible for the perpetual inventory records has been relocated from the storeroom area office and is now located in Auxiliary Enterprises. The inventory specialist no longer has keys to gain access to the storeroom and the physical inventory. Employees who have the responsibility for maintaining the perpetual inventory no longer have access to the dietary inventory.
- (b): Requisition forms have been produced and are now used by University Dining Services employees who request any dietary inventory from the storeroom. The requisition form is completed and signed by the requestor. It is then submitted to a supervisor for review and approval. Storeroom personnel distribute the items requested and sign off on the requisition form. The person who is receiving the items then signs the requisition form indicating that they have received the products. Records are kept by those involved.
- (c): University Dining Services has put in place a process to conduct internal review and comparisons, on a test basis, of withdrawals posted to the perpetual inventory records against copies of the requisition. The Director of University Dining Services is responsible for coordinating and maintaining records of this review.
- (d): UMES has begun the process of conducting a dietary materials and supplies inventory. This inventory will be conducted at least annually. The Assistant Vice President for Administrative Affairs and Director of Auxiliary Enterprises, or designee, will compare the results of the physical inventory counts to the perpetual inventory records and ensure that variances noted are investigated. Explanation of any variances will be noted and forwarded to the Vice President

for Administrative Affairs for review. This will be fully implemented by December 31, 2011.

(e): University Dining Services has put in place a process to make sure all purchased items are posted to the perpetual inventory records. The Inventory Specialist will have Assistant Vice President for Administrative Affairs and Director of Auxiliary Enterprises, or designee, sign off on all invoices once they have been entered into the system. All invoices must be entered within 3 working days upon receipt.

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