III. RECOMMENDED OUTLINE FOR REQUEST FOR PROPOSAL (RFP)

This section presents an outline that the PMU may use in creating a Request for Proposal to send to vendors under consideration as suppliers of the management information system.

Using this document: The information is presented in a format that will allow the PMU to excerpt this section for distribution to vendors.

The RFP should be distributed in an electronic format that vendors can edit as they draft their responses. The vendor will then return the document containing both requests and answers to the PMU.

Scheduling the RFP: The November 8, 2004 memo "Revised PMU Critical Path" and the final report *PMU Implementation Plan* recommend an RFP schedule that begins in March and concludes at the end of May 2005. In order for the PMU to begin implementing MIS functions during Year 0 (which will be especially important with the Student Information System's recruitment module), the university must adhere to this March-May schedule.

PMU MANAGEMENT INFORMATION SYSTEM (MIS) RFP

The vendor will supply the following information regarding the management information system proposed for the PMU. Please address each topic and provide information in the sequence provided.

- Executive summary
- Response to Technical Specifications
  - Respond to the technical requirements as described in Section IV. Technical Specifications for a Management Information System of this report, *University Management Information System.* Section IV is organized as follows:
    - A. General Vendor and System Specifications
    - B. Technical Specifications for a Management Information System
      1. General and Information Technology Specifications
      2. Student Information System Specifications
      3. Finance Information System Specifications
      4. Human Resources Information System Specifications
      5. Portal Specifications
- Response to Specifications for System Implementation
  - Respond to the requirements as described in Section V. Specifications for System Implementation for a Management Information System of this report, *University Management Information System.* Section V is organized as follows:
    - A. Implementation Schedule
    - B. Implementation Vendor Requirements
- Response to Pricing and Contract Term section
  - Respond to the requirements as described in Section VI. Pricing and Contract Term of this report, *University Management Information System*. Section VI is organized as follows:
    - A. Contract Term
    - B. MIS Software Pricing
    - C. Implementation Services Pricing
    - D. Database License Pricing
- Additional information
  - Include additional information that may be helpful to the PMU in arriving at a decision that will best serve the mission and goals of the university.

IV. TECHNICAL SPECIFICATIONS FOR A MANAGEMENT INFORMATION SYSTEM

This section describes the technical specifications to be included in a Request for Proposal for the management information system to be installed at the PMU.

Using this document: The information is presented in a format that will allow the PMU to excerpt this section and use it as the main body of a request for proposals (RFP). The university will need to add items particular to PMU such as dates and addresses for responses and PMU's procurement contact.

It is intended that the vendor will receive an electronic copy of this document. Typically, the vendor will insert answers directly into the Word document in the spaces between specifications. The vendor will then return the document containing both specifications and answers to the PMU.

Types of questions: Potential vendors of an MIS are asked to provide two kinds of information, either by writing direct response to questions or by providing published documents about their system that directly address the concerns and specifications described in this section.

Section A describes general information the vendor should supply about itself as a company and about the MIS system it offers.

Section B presents MIS product specifications to which the vendor should respond.

Scheduling the RFP: The November 8, 2004 memo "Revised PMU Critical Path" and the final report *PMU Implementation Plan* recommend an RFP schedule that begins in March and concludes at the end of May 2005. In order for the PMU to begin implementing MIS functions during Year 0 (which will be especially important with the Student Information System's recruitment module), the university must adhere to this March-May schedule.

A. GENERAL VENDOR AND SYSTEM INFORMATION

The vendor will supply the following information regarding the management information system proposed for the PMU.

1. **System Description**
   Present a summary of the major functions and modules of the MIS including screen shots.

2. **System architecture**
   Describe the system's architecture including the Web interface, operating systems, scalability, and compliance with standards.

3. **Reports generator**

   Describe the report generation process and provide sample reports.

4. **System Security**

   Describe the security features available in all modules of the proposed system.

5. **Documentation**

   Present a sample of the documentation for each module of the MIS

6. **Required list of references**

   Provide a minimum three customer references that have purchased the proposed software. The list should include name of customer, address, contact person, contact telephone number, and contact e-mail address. Preferred references are references at peer universities with approximately 5,000 students in the Middle East.

7. **Customer List**

   Provide a customer list of higher education institutions using the proposed MIS product. The list should include the customer name and the specific MIS modules purchased.

8. **Technical Support**

   Describe in detail the maintenance and technical support provided for the MIS. Include information about location of nearest support staff and technicians, means of access to live support staff, description of customer service availability via telephone and via e-mail, options for different support plans, how often enhancements to the software are expected, description of any user groups and electronic discussion groups, and any other data relevant to maintenance and support.

9. **Contract Negotiations**

   Final resolution of all contract issues, language, and terminology will be made at the time of the negotiations. PMU requests that the vendor include a sample contract.

B. SYSTEM SPECIFICATIONS

Organization: The technical specifications for the MIS are organized as follows:

- General and Information Technology Specifications
- Student Information System Specifications
- Finance Information System Specifications
- Human Resources Information System Specifications
- Portal Specifications

Vendor Response: Vendors should provide a direct response to each question stating whether the proposed MIS product meets the requirement or whether the vendor plans to add features that will meet the requirement in the future. The vendor should also describe how the product meets a requirement. The vendor may also supplement the response by providing published documents about the system.

1. General and Information Technology Specifications

1.1 The system should use state-of-the-art technology including hardware, development tools, relational database technology, and reporting tools.

1.2 The system should be compatible with the relational database selected by PMU.

1.3 The system should be scalable to support the PMU community including 5,500 students.

1.4 The system should include reporting capability to allow end-users to develop reports. The system should include a reporting tool that facilitates end-user reporting.

1.5 The system should offer a Web interface for all screens used by the entire PMU community including faculty, staff, and students.

1.6 The system should accommodate both English and Arabic including data entry screens and reporting capability.

1.7 The system must provide extensive on-line help for all modules.

1.8 The system must include extensive documentation of delivered functionality and business processes. The underlying technology of the MIS must also be documented well.

1.9 The system must accommodate multiple levels of security: network level, database level, application level, record level, and field level. Reporting security and portal security should be integrated with on-line application screen security.

1.10 The system must function both as a stand-alone environment or seamlessly integrated with other enterprise modules using a central location for information, workflow development, and processing rules.

1.11 The system should allow configuration of the system without vendor intervention. Please discuss the ability and ease of customization in the proposed system as it applies to carrying local modifications forward to new releases of the software.

1.12 The system should have a strong workflow capability including multiple levels of approval and e-mail notification capability.

1.13 The system must include a consistent single user interface for all modules and must not require exiting from one module to work in another (for example: menu handling, auto-fill fields, function keys for commands, modal or non-modal dialog boxes.)

1.14 The system must have methods of validating data entry (for example. phone numbers with valid codes and exchanges or prerequisites course numbers valid)

1.15 The system must facilitate 24x7 self-service access so faculty, staff, and students can access the system anytime, anywhere.

1.16 The system should allow users to generate reports selected by individual or by certain groups of individuals falling into specified categories. Report features should include:

1.16.1 Library of standard reports
1.16.2 Reporting tools
1.16.3 Query capability
1.16.4 Data storage and structure including data warehousing
1.16.5 Live data versus extracts
1.16.6 Archiving strategy
1.16.7 “As-of” dating for longitudinal analysis
1.16.8 Support for logical views of the data
1.16.9 “Drill down” and “drill around” facilities
1.16.10 Desktop integration strategy

1.17 The system should integrate with the campus e-mail system including the ability to easily send bulk e-mails to selected groups such as all students or students in a specific academic program.

1.18 The system should facilitate the development of interfaces to allow data to be easily imported or exported.

1.19 The system should work well with industry standard office productivity tools such as Microsoft Office (for example: for the generation of letters to students).

1.20 The system should be designed to minimize customization (for example: tuition rates should be configurable in a database table without programming changes).

1.21 The system must provide record access through a name search process that presents a screen of alphabetized match possibilities, including phonetic matches. (Examples of searching criteria could be on any name field, such as maiden name, preferred name, all prior names, e-mail address, and company / school name plus identifiers, such as unique identifier number, date of birth, degree program, and address.)

1.22 The system must supply management-level information to feed the analysis and planning processes throughout PMU in all areas, including what-if scenarios, modeling, statistics, and trend analysis. (Examples of campus-wide information needs might include faculty salary / load / activity analyses, resource requirements modeling, student flow modeling, retention studies, and enrollment planning and forecasting.)

1.23 The system must provide a method for flagging and resolving duplicate records including an efficient process for merging historical information into one of the two records.

1.24 The system must assure data integrity through edit checks, cross reference checks, and consistency checks.

1.25 The system must allow for non-standard text fields such as multi-component address fields and multiple types of addresses, telephone numbers, fax numbers, and e-mail addresses.

1.26 The system should have the ability for users to maintain comments, which should be searchable. Security should control access to review and update comments.

1.27 The system must provide a method to track information changes (audit trail) for institutional-defined major data elements, and automate change notification (for example, withdrawals) for pre-designated routing lists.

1.28 The system must have a consistent and meaningful set of well-documented error codes and facilities for error analysis.

1.29 The system should be compatible with a wide-range of third-party tools (for example, performance management software).

1.30 The system should have been created using industry-standard development tools and programming languages.

1.31 The system should have been created using industry-standard development tools and programming languages.

1.32 The vendor should provide the source code to PMU.

1.33 The system should allow programs and reports to be scheduled.

1.34 The system should allow secured electronic report distribution.

1.35 The system should have effective dating capability (for example, to allow a business process to become effective on a specific date).

2. Student Information System Specifications

Academic Records

2.1 The system must be able to track and maintain all information accumulated about individual students throughout the academic career.

2.2 The system must build on information acquired during the admissions cycle to create each student's academic and administrative record.

2.3 The system must update individually or in batch mode to reflect:

- 2.3.1 Status of preparation year experience
- 2.3.2 Changes in residency status
- 2.3.3 Degree codes
- 2.3.4 Major declarations
- 2.3.5 Areas of concentration
- 2.3.6 Advisor assignments based on user-defined criteria, including credits earned, academic status, program, major, educational objective, and department
- 2.3.7 Academic progress
- 2.3.8 History of academic standing at specified point in time (end of session or semester)
- 2.3.9 Calculation of GPAs by term, credit type, and overall. 2.4.4Locate repeated courses and exclude from averaging.
- 2.3.10 Calculation of credit hours to determine student's class
- 2.3.11 Calculation of class rank

2.4 The system must produce enrollment verification reports on demand and provide online history of where reports are used.

2.5 The system must interface with the registration system to produce a roster for each course and section that may be printed or viewed online

2.6 The system must generate various user-defined reports and listings of individual students or specified groups.

2.7 The system must enable users to track unlimited number of academic programs (for example, majors, minors, areas of concentration and specializations with associated catalogs for appropriate calendar years, start dates for each program, reasons for changing programs, and GPA for each program). It must allow students to be tracked in multiple programs simultaneously.

2.8 The system must track permanent or temporary breaks in a student's academic program (that is, withdrawals, leaves of absence or participation in exchange programs with other institutions, departure date, and scheduled return date if applicable).

2.9 The system must allow faculty to enter grades online and via the Web using an unlimited number of user-defined grade parameters (for example, letter grades, plus and minus grades, credit / no credit, satisfactory / unsatisfactory, numeric grades and incomplete, and automatically update student transcripts.

2.10 The system must generate grade rosters and reports at specified times.

2.11 The system must generate grade distribution reports by faculty member, department, division, school, or location.

2.12 The system must track incomplete or unresolved grades and provide automatic update and adjustment to GPA and academic standing based on specified dates.

2.13 The system must maintain an audit trail for all grade changes.

2.14 The system must produce printed and / or electronic transcripts (including multiple transcripts for one student) on request, without waiting for batch updates to be applied to records while maintaining an audit trail of where the transcript was sent, the date it was sent, purpose of the transcript, record, and history of requests. Transcript content should include but not be limited to:

2.14.1 View dates
2.14.2 Courses completed and in process
2.14.3 Advanced standing
2.14.4 Transfer credit
2.14.5 Exceptional additions and notations

2.15 Any charges for fees such as transcripts should be posted directly to the student's account receivable account.

2.16 The system should make grades available on the Web.

2.17 Maintain and issue transcripts including maintaining "hold" status from information received from other offices.

2.18 The system should allow requests and payments for transcripts to come through the Web.

2.19 The system must allow for users to generate reports / transcripts electronically and / or in paper format.

Student Billing

Accounts Receivable

2.20 The system must handle accounts receivable processes (for example, automatic invoicing, subsidiary ledgers, payment plans, sponsor billing, aging of receivables, financial aid credits and automatic updates to general ledger on receipt of student payment).

2.21 The system must:

- 2.21.1 Track student, employee, and miscellaneous fees.
- 2.21.2 Establish deferred payment plans and print payment coupons.
- 2.21.3 Calculates and apply finance and service charges, interest, exemptions or discounts.
- 2.21.4 Age receivables.
- 2.21.5 Automatically generate and process invoices for all tuition, fees and housing charges for individual students or selected groups in online or batch mode.
- 2.21.6 Automatically credit student's accounts receivable balance with approved financial aid (that is, scholarships, grants and other payments)
- 2.21.7 Track funds awarded to students by third parties
- 2.21.8 Allow students to query account balances online
- 2.21.9 Support automatic add / drop billing with tuition and fee forfeiture based on user-defined criteria
- 2.21.10 Interface with Accounts Payable system to process refund checks

2.22 The system must allow users to created unlimited subsidiary ledgers for different types of receivables.

2.23 The system must allow the Business Office to specify whether to withhold student registration privileges based on student accounts receivable balance. The system must automatically update online when a student has made appropriate payments and / or cleared all holds on the record in order to immediately release the hold(s).

2.24 Using one processing form, the system must enable the Business Office to process a group of transactions, such as all tuition payments on a given day.

2.25 The system must address billing rules to reflect unique circumstances (for example, multiple billing structures for graduate and undergraduate programs).

2.26 The system must reflect rules for credit limits and pre-paid credit balances for student accounts to be used to pay fees, purchase books, or conduct other financial transactions.

2.27 The system should automatically generate charges and credits from data provided by other offices and controlled by parameters supplied by the user (for example, housing charges should be calculated from housing data. Fees from the Library, Health Services, and other areas on campus should happen automatically.) Charges should then be offset by actual student aid automatically, with tentative student aid as a memo item (provisional credit), and notes as to any limitations and restrictions.

2.28 The system should have the ability to include estimated financial aid as part of a student's bill, up until a certain date when this would be dropped (for students who had not completed their paperwork).

2.29 The system should allow flexible tuition and fee calculations including the ability to charge by the credit-hour for part-time students.

2.30 The system should have the ability to generate charges for specific courses, labs and other fees. (For example, if there is a fee for written packets for a specific class, the system should be able to generate that fee based on a class roster maintained elsewhere in the system.) The system should be able to specify which bill (general or tuition) on which these charges should appear.

2.31 The system should support automatic adjustments to charges such as student withdrawals or students leaving housing based on user-defined rules. The system should support a mechanism to interface with the financial aid system in order to ensure aid is adjusted to reflect the appropriate budget based on the revised charges.

2.32 The system must have the ability to reverse one or all of a student's basic charges and generate a refund if desired. The system should support a mechanism to ensure that the interface with the financial aid system has occurred to adjust aid to reflect any revisions in the charges before any refund is generated.

2.33 The system should generate on demand student bills and receipts for payment, with various selection criteria available, including by individual student, only those students with activity since the last bill, only those overdue, and only those with a credit or debit balance. Information should include how each student's balance is to be paid and when, allowing the entry of automatic internal prompt memos. Bills should accommodate a user-specified level of detail about the charges.

2.34 The system should produce at least two different types of bills: one for tuition and fees and another for general charges (including campus charges such as telephone, the bookstore, or others). These bills should be able to be sent to different and / or multiple addresses.

2.35 The system should process enrollment deposits.

2.36 The system should automatically apply the general deposit to the outstanding bills for all students who graduate, generating, if necessary, the information needed by accounts payable to issue a refund.

2.37 The system should maintain and report a complete student financial history, including financial aid, available either on-line or in printed statement format, for individual students or for groups of students, based on a variety of selection criteria.

2.38 The system should have the option to calculate beginning balance by term / semester or academic year.

2.39 The system should have the capability to look at detailed charges / credit by semester or date.

2.40 The system should allow for flexibility in mapping Accounts Receivable charges to general ledger accounts.

2.41 The system should allow flagging of duplicate information during the data entry process.

2.42 The system should provide a variety of financial holds to block registration, diplomas, transcripts, etc.

2.43 The system should allow restrictions to be placed to control placement and release of holds

2.44 The system should automatically generate personalized electronic and / or printed reminder letters and overdue notices, and aid in the collection process by producing reports and tracking collection activities.

2.45 The system should have the ability to swipe ID cards for in-person payments, issuing receipts immediately and producing daily cashiering reports to reconcile cash entries with cash-on-hand. It should have a reconciliation feature that facilitates the easy balancing of cash drawers.

2.46 The system should post cash receipts directly to cash accounts via automated general ledger transactions or batch updates. It should post payments on-line, real-time to accounts receivable accounts, with appropriate control mechanisms for balancing deposits with postings.

2.47 The system should handle and process late fees based on user parameters, including the ability to mark an account as accruing no late fees for some period of time.

2.48 The system should provide for student and parent viewing of their own accounts, preferably through Web access.

2.49 The system should provide a way to use credit cards and electronic funds transfer for payments, including through the Web, with a direct interface to the students' account records.

2.50 The system should allow electronic credit bureau reporting of overdue accounts based on user-defined criteria (for example, only accounts of students who are graduated or withdrawn).

2.51 The system should have the ability to clearly mark an account as being at collection and have the ability to note information about this including: what agency, when sent to the agency, if a second referral. It also should have the ability to note information about this including: what agency, when sent to the agency, if a second referral.

2.52 The system should have the ability to clearly mark an account as written off and the ability to note information about the write-off such as date, amount, and reason.

2.53 The system should have the ability to summarize items on bills so details do not show (such as with health charges).

Cash Receipts

2.54 The system should enable users to process a group of transactions (for example, application fees, housing deposits, tuition payment checks received in one day, or other items) to multiple accounts from one form from various offices (for example, Admissions, Residence Life, or other office).

2.55 The system must allow cashiers to view student holds placed by the Business Office prior to processing payments.

2.56 The system must provide a variety of receipt printing options such as:

2.56.1 Printing receipts immediately for hand-delivered payments
2.56.2 Routing receipts to batch printing process for payments received in the mail
2.56.3 Not printing the receipt.

2.57 The system must use built-in checks and balances to ensure that all transactions are accurately recorded before being posted to the general ledger.

Curriculum Management

2.58 The system must support a variety of term-based and non-term-based schedules with production of customized schedules and course catalogs.

2.59 The system must allow users to define

2.59.1 Course name
2.59.2 Course identifier
2.59.3 Course and subject description
2.59.4 Type of course
2.59.5 College / department offering the course
2.59.6 Credits and / or units
2.59.7 Course level
2.59.8 Contact hours
2.59.9 Workload units
2.59.10 Required faculty qualifications
2.59.11 Cross-listed courses / sections
2.59.12 Billing parameters
2.59.13 Prerequisites
2.59.14 Restrictions
2.59.15 Capacities
2.59.16 Locations
2.59.17 Grading policies
2.59.18 Repeat policy
2.59.19 Supplies needed
2.59.20 Equipment requirements

2.60 The system must be able to create new courses online with the ability to capture required approval codes and agencies.

2.61 The system should allow users to develop criteria for moving students from waiting lists to appropriate courses / sections as space becomes available.

2.62 The system should allow users to perform individual or batch changes (for example, course cancellations, day and time changes, room changes, or faculty changes) in a schedule triggering several events:

- 2.62.1 Automatic e-mail (integrated with the Communications Management system) should notify students and faculty affected by the change.
- 2.62.2 Cancellation information should be automatically applied to student, faculty and room schedules.
- 2.62.3 The student's accounts receivable balance should be automatically adjusted.

2.63 The system must enable users to track the history of a course from the time of inception and approval. The history should include:

- 2.63.1 History of the terms in which the course has been taught.
- 2.63.2 Changes in course characteristics (for example, title, credits, contact hours, billing characteristics and methods of instructional delivery)
- 2.63.3 Summary of the number and characteristics (for example, academic level) of students taking the course.

2.64 The system should designate courses for block registration or automatic registration based on user-defined criteria.

2.65 The system must allow users to define and maintain requirements for each degree / non-degree program at the PMU to integrate with the Degree Audit system. Data should include:

- 2.65.1 Courses to be taken
- 2.65.2 Course levels
- 2.65.3 Prerequisites
- 2.65.4 Fees
- 2.65.5 Required text and materials
- 2.65.6 Test requirements
- 2.65.7 Assessments
- 2.65.8 Locations

Communications Management

2.66 The system should track and support remote access by staff and students via laptops, handhelds, pagers, and cell phones as well as paper interactions.

2.67 The system must interface to other commercial software (such as e-mail, spreadsheets, word processing packages, instructional software, voice-response systems, campus-wide calendars, and Web-based applications), as well as to other applications systems that are, or will be, implemented at PMU in the future.

2.68 The system must have the ability to notify predefined offices when students change relevant demographic information.

2.69 Based on user-defined processing rules, the system must provide notices to appropriate staff and / or faculty regarding data records or students needing special attention or action.

2.70 The system must provide notices if a student takes an action that activates a predefined rule or time based trigger (for example, changing majors or dropping required courses during the semester of graduation).

2.71 The system should maintain a complete history of all correspondence and other contacts with prospects, students, employees, and vendors.

2.72 The system will track and provide access to person demographics (for example, student or parent) such as student names, home addresses, prior (secondary or college / university) school name, major(s), PMU PO Box, PMU e-mail address. It also should provide access to demographics based on information gleaned from departments such as awards, study abroad information, internships, sports, or graduation information.

2.73 The system will provide access to information that flows into admissions at the enrollment stage in a way that does not violate admissions confidentiality.

2.74 The system must allow students to enter data (such as graduation information) on-line. This entered data needs to be stored and accessed in student information system and used in merged Word documents.

2.75 The system must develop multiple, customized correspondence "tracks" to send customized letters on specified mailing dates, or on dates determined by a response from the recipients.

2.76 The system must track incoming correspondence and generate reminder lists of when contacts should be made.

2.77 The system should generate mass mailing lists to be used in batch correspondence for recruitment either electronically (e-mail) or via printed letters.

Degree Audit

2.78 The system will provide support for different degree audit requirements based on the academic program (Preparation Year Program, College of Engineering, College of Information Technology, College of Business Administration, and the Executive Masters in Business Administration) in which the student is enrolled.

2.79 The system will provide a complete on-line, easy-to-use degree audit function, including the use of wild cards for creating program requirements.

2.80 The system will accommodate cross-listed, re-numbered, and repeated courses.

2.81 The system must allow user-defined exceptions.

2.82 The system must make information available to students and advisors via the Web.

2.83 The system must enable multiple degree audit capabilities based on the effective date on which the student enrolled in and / or selected a given major or program.

2.84 The system should have flexible, easy-to-build degree audit program requirements tools, including the ability to establish requirement groups to be used in multiple academic programs.

2.85 The Degree Audit system should allow for minimum grades for selected requirements / courses, as well as the ability to establish one-to-multiple relationships for specific requirements.

2.86 The system should provide audits for selected groupings of students (for example, certain majors).

2.87 The system should provide faculty and others access to advisees' records, including enrollment records for advising purposes. It should support "what-if" course program planning for advisors to use with their students (in order to explore alternate degree options or courses for programs of study). It should include the ability to determine:

2.87.1 Additional courses need to be taken to complete a degree.
2.87.2 Which completed courses count toward a different degree.
2.87.3 How many additional terms are required to complete an alternate degree.

2.88 The system should generate automatic lists of transfer courses and credits to be evaluated and should provide the ability to enter transfer credits awarded. It should allow the use of PMU course numbers when granting transfer credit. It should maintain a historical course articulation file to be used in awarding transfer credit.

2.89 The system should facilitate evaluation of transfer credits and maintenance of a transfer credit equivalency table.

2.90 The system should allow user-defined key words to be used to specify degree requirements for each degree program.

Faculty Information

2.91 The system must integrate with Person Demographics to ensure up-to-date credential and campus-wide information about faculty.

2.92 The system must track special faculty appointments and assignments.

2.93 The system must allow batch advisor assignments and reassignments based on parameters defined by the PMU.

2.94 The system must generate advising reports electronically online or printed that have been automatically updated by the system following student graduation or withdrawal.

2.95 The system must allow users to define the number of courses and / or advisees for each faculty advisor permitted during any one term. When number is exceeded, an exception report is automatically generated and sent via e-mail to the appropriate department and faculty member.

Financial Aid

2.96 The system must receive financial aid applications electronically.

2.97 The system must allow a student record to be created from an Admissions Department file or manually.

2.98 The system must support all necessary interfaces including access and information exchange with the Office of Admissions, Student Accounts, and the Registrar's Office

2.99 The system must provide an interface that should be both configurable (rules changes) and customizable (strictly limited code changes).

2.100 The system must provide for updating each system with little to no need for manual entry in order to keep data in the systems consistent. The interface needs to be bi-directional, with student information downloaded from SIS system to Financial Aid as well as financial aid info uploaded into the SIS. The system should enable full inquiry and spot updates, including history.

2.101 The system must provide Web-based services for current students, applicants, and / or administrators to access student account information.

2.102 The system must differentiate among undergraduate, graduate, and non-degree students for financial purposes.

2.103 The system should allow prospective and / or current students to estimate their family contribution on the Web using institutional parameters.

2.104 The system must roll over student information from one academic year and / or fiscal year to the next with key information for tracking.

2.105 The system must track changes in eligibility and / or status generated by enrollment and / or academic status and progress.

2.106 The system must collect and store historical award information for each student and use the information to determine eligibility for aid.

2.107 The system must implement checks and balances for complying with award rules through system messages and exception reports.

2.108 The system must have the ability to define tracking populations based on required documents and student type (for example, returning students, incoming applicants, or foreign students).

2.109 The system must allow users to define rules for placing and releasing holds and to display all holds that affect student eligibility or disbursement of funds.

2.110 The system must be able to identify a student's status based on documents requirements (for example, incomplete files, grade point averages, or other requirements.)

2.111 The system must be able to notify students via the preferred method of communication (e-mail, voice-mail, letter, or other) indicating the status of their financial aid application.

2.112 The system must be able to notify financial aid and other offices electronically if individual circumstances change, allowing all charges and aid to be adjusted to the student's current status (for example, if a student drops to half-time status).

2.113 The system should provide batch and online processing that is parameter driven and that can provide multiple automatic packaging formulas.

2.114 The system must allows financial aid staff to run packaging simulations to determine the effect of various award strategies for individuals and / or groups and to produce standard and ad hoc packaging reports.

2.115 The system should record and disburse multiple awards detailing the source and amount directly to student billing.

2.116 The system must support multiple disbursement schedules (that is, fall, spring, and summer terms).

2.117 The system must automatically calculate refunds in accordance with policy parameters that are based on enrollment changes.

2.118 The system should maintain a student loan history file.

2.119 The system must provide loan billing and collection processing.

2.120 The system must maintain active data access for a minimum of five years.

2.121 The system must track the source of financial aid awards (for example, college-named scholarships). It must provide reports of all students receiving such support.

2.122 The system must keep track of fund and budget information, including fund balances; report on over / under awards by fund, and net revenue.

2.123 The system must support the production of correspondence, particularly for awards notification; full word processing, and formatting capability. The system must generate format award letters to institutional specifications.

2.124 The system must calculate and generate award letters in batch or individually on demand. It must be able to print financial aid for one term only and automatically track, via a communication log, what type of letter has been sent to individual student and record the date the letter was sent.

2.125 The system must rescind or cancel an award letter that has been calculated and printed.

2.126 The system must track amounts awarded to students who did not come to the university, and track the number of loans and amounts that were canceled.

2.127 The system must provide financial aid status maintenance (the ability to handle multiple types of status indication).

2.128 The system must provide online verification and correction of award data.

2.129 The system must give students access to their financial aid records through Web access.

2.130 The system must provide the ability to match selection criteria of named (endowed) scholarships with characteristics of the student body.

2.131 The system must generate a history file that tracks cumulative aid across years for individual students, with breakouts for items such as institutional aid, total student loan, or parent loans.

2.132 The system must allow storage of aid information for students who had aid awards prior to attending the PMU (for example, loans awarded to transfer students) in order to enable historical reporting.

2.133 The system must import and store student e-mail address, in order to automatically generate follow-ups for student document requests, send comments to students, or enable other communications. These e-mail notifications are then stored in a comments / communication log.

2.134 For managing funds, the system must provide funds-specific eligibility rules, award limits, required documents, and special messages that print on award letters. It must maintain a running total of award counts and totals. It must provide a user option to limit funds and exceed fund limits.

2.135 The system must perform online financial aid packaging. It must provide the ability to award academic scholarships by various levels and automatically cap the amount of free money awarded by specific packaging matrices. The system also must provide flexibility to alter packages in the online packaging systems, automate and batch packaging tailored to user-defined award rules, and scan groups It must have the ability to package in batch, on-line or manually. It must have the ability to create user-defined: budgets, funds, selection sets, local data fields, periods of enrollment, letters, and documents, with the ability to add unlimited number of items to each category.

2.136 The system must automatically create and update student records according to user created processing rules (via manual creation or automatic creation).

2.137 The system must automatically credit each student's account receivable when specific award criteria are met (for example, at registration for a full course load or at completion of specific requirements).

2.138 The system must monitor student academic progress in order to retain financial aid eligibility using a rules-based algorithm. This algorithm should be able to use any of the data elements in the system to flag students who are not making satisfactory progress in order to quality for aid.

2.139 The system must have the ability to automatically update other data in the system based on data elements changed. (For example, a change in tuition costs will update all appropriate student budgets, or a change in required documents for dependent students will update all appropriate dependent student records) The system should be able to "lock" documents, funds, budget items, etc, against such automatic changes.

2.140 The system must collect and maintain information about all financial aid applicants, including need analysis data, with the ability to receive and load forms electronically.

2.141 The system must seamlessly integrate information about students, both within Financial Aid and with other departments. (For example, enrollment information with student billing.) The system must show awards on student bills as tentative, awarded, and / or received, based on status code. The system must automatically notify Financial Aid of changes, allowing the Financial Aid staff to configure how the changes will be handled. The system must disburse funds automatically based on rules the user associates with the institution's enrollment periods. The system must review student records against tracking status rules and perform eligibility edits before generating disbursements.

2.142 The system must provide loan tracking and detail sheet allowing for maintenance, tracking, and processing of loan data such as master promissory notes, entrance and exit interviews, and other items.

2.143 The system must have the ability to automatically track electronically received documents.

2.144 The system must dynamically evaluate student records for required documents, updating tracking status online according to user-defined rules. (For example, the system must reflect the student's current stage in the financial aid process - ready to review, ready to be packaged, disbursed, incomplete, etc.)

2.145 The system must track all forms and activities, with automatic letter generation containing details of information that is is still needed, which forms have conflicting information, and so on. The system must have the ability to suppress letters and to determine the number of copies to be generated, as needed.

2.146 The system must have the ability to create unlimited messages that can be tied to letters, funds, documents, or other items.

2.147 The system must have the ability to track parental data needed for loan processing.

2.148 The system must have the ability to view other years of an individual student record while in any given year.

Person Demographics

2.149 The system must have the ability to store extensive biographical and demographic data on both enrolled and potential students. Data to be included:

- 2.149.1 Biographic (name, maiden name, suffix, courtesy title, mailing label name, preferred name, nickname, birthplace, current status, active or deceased, marital status, country of citizenship, gender, ethnic origin, date of birth, and date of death).
- 2.149.2 Address that is automatically lined to individual student's biographic information (fields for countries, provinces, and postal codes; multiple address listings to cover home, business, e-mail, emergency and other mailing locations; voice telephone numbers and fax numbers; seasonal addresses; memberships to local alumni chapters; and time zone information.
- 2.149.3 Employment to track employers of individuals in the person demographics database.
- 2.149.4 Relation information (spouse, children, parents, contacts, and friends. Contains names, maiden names, addresses, date of birth, gender, and reunion class years for each person listed).
- 2.149.5 Academic summary (secondary school attended, graduation year, grade point average, class rank, other colleges or universities attended, transfer credits received, grade point average, degree and degree date, years of attendance, student program, majors and honors. Needs such as developmental skills (math, English, ESL, etc.), child care, financial aid, medical needs, job placement)
- 2.149.6 Emergency and health information (contact name, telephone number, insurance information, disability and special needs codes, immunizations codes and associated dates.
- 2.149.7 Additional / optional demographic information as defined by the authorized user
- 2.149.8 The system should allow user to enter preferred mode of communication
- 2.149.9 The system will also store:
  - 2.149.1 Medical history
  - 2.149.2 Work experience
  - 2.149.3 Club memberships
  - 2.149.4 Student offices held
  - 2.149.5 Awards and recognitions received
  - 2.149.6 Scholarships received
  - 2.149.7 Recommendation letters

2.150 The system should store multiple addresses and contact information for individual students.

2.151 The system should provide activation / deactivation of accounts triggered by user-defined date ranges.

2.152 The system will maintain biographical and demographic information for all students, including specialized formats for international students. Data will come both from the Office of Admissions and be entered into this system manually.

Recruitment / Admissions Management

2.153 The system will allow prospective students to request information via telephone, Web, e-mail, or print communication and be able to link information seamlessly into the database and generate appropriate communication.

2.154 The system will permit electronic applications via the Web or print format.

2.155 The system will allow users the option to screen inquiries to eliminate double entries and inappropriate entries.

2.156 The system will provide defaults when inputting groups of related records, such as applications received on the same day.

2.157 The system will enable flagging, voiding, removing duplicate entries and records of individuals, both by manual name search and by automatic matching.

2.158 The system must be designed to accept scanned documents such as handwritten reply cards, applications, and other documents that have been formatted with text areas for scanning.

2.159 The system must allow for document imaging of documents received by the Office of Admissions including high school transcripts, essays, teacher recommendations, etc. and provides on-line viewing of all documents received on each student.

2.160 The system will invoke batch updates of electronic data from outside sources of inquiry with duplicate checking on items such as name, address, social security number, and telephone number.

2.161 The system will provide flexible data fields, such as address fields for international students, multiple (date-sensitive) address features, e-mail, addresses for parents not living together, and free-form information.

2.162 The system will track applicant status, beginning with initial contact and throughout the admissions process. The system will provide automatic tracking, code structure for tracking, and letter generation for changes in status, such as acceptance from wait list.

2.163 The system will track contact between the university and prospective students, including correspondence, off-campus meetings, and campus visits. It will automatically generate and track correspondence regarding missing forms, interview schedules, and other communications.

2.164 The system will provide information to prospective students and applicants via the Web about missing documents, the completeness of their application, and the status of their application.

2.165 The system will have the ability to collect and maintain data on feeder schools and sources of students, including how many from each source have inquired, applied, and been accepted. The system will allow users to display this information on the Web or print format.

2.166 The system should integrate well with the student database to generate lists of prospective students from schools and regions to be visited. It will provide the university's applicant history for the schools that the PMU visits.

2.167 The system should automatically assign staff to prospective students based on user-defined criteria that target prospects for specialized attention from admissions staff.

2.168 The system will support off-campus recruitment by tracking school visits, college fairs, and receptions for traveling PMU staff and alumni volunteers, daily schedules, flights, and hotel accommodations. It will provide the ability to query and generate reports for enrollment analysis.

2.169 The system should support on-campus events, including registration entry tied to prospective student database, room assignments, etc. The system should be flexible enough to maintain simultaneous admission events at once. The system should allow for statistical tracking for the current events as well as past events.

2.170 The system will allow user printing of daily schedules and integration with communication tracks for purposes of printing labels and letters for confirmation of on-campus interviews, tours, and other visits.

2.171 The system should be accessible from off-campus via the Internet for PMU staff members who are traveling.

2.172 The system should generate a data summary sheet for each applicant folder based on student status to be distributed electronically or in print format. (For example, a separate sheet format can be provided for first year students and transfer students).

2.173 The system should produce enrollment projections, yield analyses, and analyses of what happened (and why) in a particular year. The system should keep track of information about prospective students based on status. It should allow for easy updating of models and calculations to assist in planning.

2.174 The system should maintain a student's complete history of all relationships with the PMU, including acceptance and withdrawals and all status changes.

2.175 The system must be highly integrated among Admissions, Financial Aid, and other departments, with proper safeguards to be used on an as-needed basis.

2.176 The system should trigger automatic e-mail notifications to others at PMU who need to know certain admissions information.

2.177 The system must allow user-defined volunteer alumni information to serve admission efforts such as contacting prospective students, conducting interviews, attending college fairs, assisting in the planning and implementation of PMU events, and attending local receptions.

2.178 The system must process and evaluate advanced standing credits or transfer credits from other institutions and permit the registrar to enter subjective decisions regarding course equivalencies. The evaluation shall trigger an update to the student's application with appropriate information and / or equivalencies through the Degree Audit system.

Registration

2.179 The system will allow students to register online via the Web, touch tone phone registration, online staff entry, and optical scanning.

2.180 The system will allow unlimited user-defined terms for student registration, as well as the ability to create priority rules of registration for classes of students.

2.181 The system must allow pre-registration, registration, and drop / add processing of students.

2.182 The system will enable the registrar to establish set parameters for registration procedures and limitations (for example, class size, perquisites, instructor permission, hold flags, Business Office approval, accounts receivable status, petition requirements, course restrictions, time conflicts, repeat courses, and other topics).

2.183 The system must allow authorized personnel to manually override registration restrictions and / or parameters.

2.184 The system must automatically transfer registration information to Accounts Receivable system for billing.

2.185 The system will automatically generate electronic and / or print format mailings to notify students of registration information.

2.186 The system must generate warnings if a student's course selection violates predefined parameters.

2.187 The system will provide online student directory look-up.

2.188 The system will support on-line, self-service, paperless, registration for each of the academic programs via the Web. It will provide current information about closed courses, check for time conflicts, and prerequisites, co-requisites, online instructor and advisor approvals. It will restrict which students can register during a certain time period and allow for selection to audit courses.

2.189 The system will enforce pre-defined rules and requirements (prerequisites and co-requisites, repeat courses, etc.) about course eligibility and holds. It will allow for override of closed sections with proper authorization.

2.190 The system will provide a system of multiple administrative action "holds" with hold levels (services which are partially or wholly denied) that vary over time (for example, a warning at pre-registration that becomes a denial of service at add-drop time)

2.191 The system will automatically charge a late fee to a student's account for late drop / add and notify the student. This will give staff the ability to override.

2.192 The system will have the ability to provide faculty with on-demand electronic class lists based on student registration.

Residence Life

2.193 The system must make housing assignments based on person demographics and admissions data.

2.194 The system must automatically charge and update room, meals billing data, and miscellaneous charges to the accounts receivable system.

2.195 The system must reflect credits and provide current on-demand balances of residence hall accounts.

2.196 The system will automatically generate electronic and / or print format mailings to notify students of housing information.

2.197 The system must read the facilities profile to determine available building / room and generate a report based on the profile.

3. Finance Information System Specifications

General Ledger / Chart of Accounts

3.1 The system must support reporting in accordance with Saudi Arabian government requirements for higher education.

3.2 The system must provide a flexible account structure with a sufficient organization hierarchy (budget entity, college, department, sub-department) and subdivision (project, task, sub-task) to meet various needs including budgetary, grant, location, and project costing.

3.3 The system must provide the ability to maintain the Chart of Accounts by fiscal year.

3.4 There should be a "Notes" or "Comments" capability to describe the account purpose or meaning.

3.5 The system must provide user-defined code fields that may be used to further describe an account.

3.6 There should be a means to combine accounts across entities to support multi-disciplinary projects.

3.7 The system must provide sufficient authorization capabilities to allow user security to be defined at the account level and at the update / query level.

3.8 The system must allow attributes from existing accounts to be copied when establishing new accounts.

3.9 The system must allow some attributes to be derived automatically from other attributes.

3.10 The system must offer the ability to derive new fiscal year accounts for all appropriate prior fiscal year accounts.

3.11 The system must allow an attribute to be changed for one fiscal year without affecting other fiscal years.

3.12 The system should provide a means of notification of account activations.

3.13 Changes to certain attributes must be able to be prevented after an account is established.

3.14 There must be a mechanism to track changes to accounts.

3.15 There must be an online review of historical changes to accounts.

3.16 The system must provide standard reporting such as a daily log of accounts created and of accounts still in the approval process.

3.17 The system must additionally provide a way to create Chart of Accounts listings, printed or electronic, according to user-defined sorting and selection criteria.

3.18 The system should provide the ability to display an online account listing in order by account number, by account name, and by organizational hierarchy.

3.19 The system should display the translations of all codes on-line

3.20 The system must provide a comprehensive archiving capability that will prevent archiving of active accounts, prevent duplication of archived account numbers, and insure archiving of accounts marked for deletion.

3.21 The system must provide flexible definition of classification codes (expense, revenue, balance sheet) including multiple levels of codes.

3.22 The system must provide the ability to define, on an account-by-account basis, the required level of object of expense classification.

3.23 The system must allow for the definition of lower levels of classification codes as optional entry fields.

3.24 The system must provide the ability to display the classification code translation description on online forms / windows.

3.25 The system must provide the ability to exempt lower levels of classification codes from validation to make those levels usable by different parties for different purposes on a dynamic basis.

3.26 The system should provide the ability to require balance sheet account classification codes on fund balance accounts transactions.

3.27 The system must allow the assignment of a unique transaction identification number to each transfer voucher entered online or imported from other sources.

3.28 The system must provide the ability to accept transaction identification numbers from imported data (for example, payroll).

3.29 The system must be able to post transactions to multiple accounts and classification codes and must support cross-fund transactions and transactions between budget entities.

3.30 The system should permit multiple users to enter, post, update, and query general ledger transactions online, in real-time.

3.31 The system must have a security scheme to allow users access to only a defined set of accounts based on account attributes, transaction types, and the user profile.

3.32 The system should provide a copy feature for data entry that would allow certain fields to be copied rather than re-keyed for each line of a transaction.

3.33 The system must provide the ability to identify the operator who entered each transaction, whether entered online or through an import file, and to identify the date of entry and date of posting.

3.34 The system should provide the ability to place a hold on a transaction that does not pass edit for later correction.

3.35 The system should allow correct transactions to be held for deferred or delayed posting.

3.36 The system must be able to post successfully edited imported transactions.

3.37 Imported transactions must be able to be corrected and / or deleted online.

3.38 The amounts on all transactions must be allowed to be positive or negative.

3.39 The system must provide the ability to require debits to equal credits on completed transfer vouchers.

3.40 The system must allow transfer vouchers to post in any open period, including period 13.

3.45 The system should allow payroll encumbrances on restricted and unrestricted accounts.

3.46 The system must provide the ability to edit all transactions at time of entry with notification to the user of which transaction(s) did not pass edit and the reason(s) why.

3.47 The system should provide standard field edits during transaction entry, such as numeric, dates, range values, validation codes, as well as verification that every account is valid and active in the Chart of Accounts for the appropriate fiscal year.

3.48 The system should provide the ability to limit spending on an account and allow that limit to be based on the account budget with the ability to override budget edits with the appropriate security authority.

3.49 The system should also provide the ability to control spending based on a specific object code budget with the ability to override budget edits with the appropriate security authority.

3.50 The system should allow the automatic generation of reversing entries after monthly and yearly closing.

3.51 The system should be able to automatically post transactions to the general ledger accounts immediately upon successful entry, whether entered online or imported.

3.52 The system should be able to list all un-posted transactions on the system for a specified user and provide a report of all rejected transactions.

3.53 The system should provide the ability to view restricted and unrestricted account data year-to-date.

3.54 The system should provide the ability to view restricted account data grant-to-date.

3.55 There should be a daily audit trail of all postings.

3.56 There should be the ability to close a posting period for all accounts, immediately protecting them from further postings.

3.57 The system should allow for the closing of all accounts at one time.

3.58 Closed period balances and activity must be available for inquiry online.

3.59 The system should provide the ability to calculate salary encumbrance adjustments to be posted before closing.

3.60 The system should provide comprehensive month-end, year-to-date, and year-end reporting both online and downloadable, as well as in printable format. These reports would include, but are not limited to, ledgers, encumbered purchase orders, unencumbered purchase orders, financial summaries, budget analyses, and year-end financial reports.

3.61 The system should allow posting in a new fiscal year before the previous year is closed.

3.62 The system should allow concurrent operations of transactions for prior and current fiscal years.

3.63 The system should be able to restrict posting in a prior year to someone in a specified user group.

3.64 The system should allow the generation of journal entries to zero all remaining encumbrances and pre-encumbrances from the general ledger.

3.65 The system should allow for year-end cutoffs other than current fiscal year (for example, grant year).

3.66 The system should support separate financial statements for departments identified as auxiliaries.

3.67 The system should provide the ability to carry forward to the next fiscal year the closing balance in each general ledger account for each fund without reentry of data.

3.68 The system should provide the ability to generate entries to close revenue control and expense control accounts to the appropriate fund balance.

3.69 The system should provide a method for archiving and retrieving historical data.

3.70 The system should provide the ability to create account roll-ups.

Accounts Payable

3.71 The system must provide a single comprehensive vendor database that can be used for all payables independent of the payroll system.

3.72 The system must provide the ability to attach comments to a transaction at any point prior to writing a check.

3.73 There should be the ability to submit all documents through an electronic approval process.

3.74 The system should provide a method for archiving and retrieving historical data.

3.75 The system should validate both open and closed university account numbers.

3.76 There should be the ability to suspend payments.

3.77 The system should provide the capability, with appropriate security, to change data in a transaction before a check is issued.

3.78 There should be the ability to combine multiple invoices into a single check for a single vendor.

3.79 There should also be the option to specify that an invoice is to be paid with an individual check rather than including it with other invoices for the same vendor.

3.80 The system should be able to provide notifications when a transaction has been changed during the approval process.

3.81 Encumbrances should be automatically adjusted when an invoice has been changed or deleted.

3.82 There should be the ability to pay electronic invoices.

3.83 There should be the ability to match electronic invoices with purchase orders and contracts.

3.84 The system should have the ability for a three way match of invoices, receiving documents, and purchase orders.

3.85 The system should provide the ability to enter debit and / or credit memos to adjust future payments to vendors.

3.86 The system must provide online inquiry and the ability to create hard copy reports for all data elements.

3.87 There must be online access to canceled checks.

3.88 The system should provide support and accounting for departmental procurement credit cards.

3.89 There should be the ability to do a funds availability check.

3.90 The system should provide the ability to automatically generate payment vouchers for regularly recurring expenses.

3.91 There should be the ability to enter a vendor different from the vendor specified on a purchase order.

3.92 There should be an interface to the Human Resources system to determine if a payee is an employee.

3.93 The system should have the ability to reject payments which exceed limitations specified on a purchase order.

3.94 There should be edits to prevent duplicate payments for a single invoice.

3.95 There should be the ability to identify and account for discounts for freight, cash, and other considerations.

3.96 The system should accept dates to take advantage of discounts and avoid penalties.

3.97 The system should allow overriding of penalties and taking of discounts regardless of due date.

3.98 The system should support invoice aging based on vendor terms and PMU categories.

3.99 The system should provide the ability to automatically release encumbrances against contracts and purchase orders.

3.100 The system should be able to handle and reconcile prepayment deposits or partial payments.

3.101 The system should be able to distribute expenses to multiple accounts and object codes.

3.102 The system should have the ability to make installment payments.

3.103 The system should provide the ability to issue a payment based upon receipt of goods / services in lieu of processing an invoice.

3.104 The system should have the ability to automatically close purchase orders when all line items have been processed on invoices or when all allocations have been spent.

3.105 There should also be the ability to manually close purchase orders.

3.106 The system should be able to automatically reinstate purchase order line items when a check has been cancelled.

3.107 There should be the ability to reissue a cancelled check without reentering its related data.

3.108 The system should be able to accumulate vendor credits and apply those credits to future payments to that vendor.

3.109 There should be the ability to cancel and reinstate checks online.

3.110 The system should provide automatic reversal entries to the general ledger when a check in cancelled.

3.111 The system should have the ability to automatically issue an entry to the inventory system when an equipment object code has been charged.

3.112 There should be the capability to assign invoice numbers for invoices without numbers.

3.113 The system should provide the ability to reimburse employees for travel-related expenses through the payables process.

3.114 There should be the ability to distribute expenses to multiple accounts and object codes.

3.115 There should be the ability to change or delete data at any time during the entry and approval process.

3.116 The system should have the ability to create a transaction to deduct an amount from an employee's paycheck or to create a payment to an employee when expenses exceed a travel advance.

3.117 The system should provide the ability to automatically notify employees of outstanding travel advances after a specified time.

3.118 There should be the ability to access payment history for a service contract for an entire contract period, calendar year, or fiscal year.

3.119 There should be the ability to link transactions and supporting documents from requisition to payment.

3.120 The system should allow users to be identified who have the ability to release or reject a request for payment.

3.121 The system should provide the ability to generate electronic notifications when a voucher is rejected.

3.122 The system should provide batching of invoices with the automatic assignment of batch numbers.

3.123 The system should have the ability to automatically select payment date(s) for invoices based on pre-defined parameters.

3.124 The system should support printing and automatic signing of checks using pre-defined templates.

3.125 The system should support on-demand check writing.

3.126 The system should have online electronic approval for on-demand checks.

3.127 The system should allow the writing of a check at any time with expensing of the applicable items to current, past, or future fiscal years.

3.128 The system should have the ability to generate a check stub that will contain at least the invoice date, invoice number, purchase order number, invoice amount, account number, and object code.

3.129 The system should have flexibility in the order that checks can be produced.

3.130 The system should support the automatic assignment of check numbers during and between check runs.

3.131 The system should be able to initiate wire transfers.

3.132 The system should support direct deposit of funds with a printed advice notice instead of a check.

3.133 The system should be able to issue a duplicate check without additional entries to the general ledger.

3.134 The system should provide daily and monthly check registers.

3.135 The system should be able to write checks against multiple bank accounts.

3.136 There should be the ability to select vouchers from a suspense file for payment based on specific payment date, date range, voucher type, or payment amount range.

3.137 There should be the ability to generate reports of all open credit memos and unpaid approved invoices.

3.138 There should be the ability to identify and produce an exception report of potential duplicate payments.

3.139 The system should provide a report of recurring payments by vendor.

3.140 The system should provide an aging report of checks issued but not cleared.

3.141 There should be the ability to identify vendors as Saudi or ex-patriate.

3.142 The system should provide the ability to identify prior year payments after fiscal year close.

Purchasing

3.143 The system must provide commodity coding.

3.144 The system must provide the ability to track Universal Product Numbers (UPN).

3.145 The system must provide bar-coding capabilities.

3.146 The system must provide the ability to identify commodities by keyword search.

3.147 The system must provide the ability to automatically present the user with the source for a purchase.

3.148 The system must provide the ability to attach comments at any point during the procurement process.

3.149 The system must have the ability to verify university account numbers.

3.150 The system must support procurement cards capabilities.

3.151 The system must provide extensive search capabilities for documents.

3.152 The system must have the ability to electronically incorporate / attach all types of documents involved in the procurement process.

3.153 The system must provide the ability to generate a financial transaction.

3.154 The system must provide the ability to generate an electronic request for internal departmental services.

3.155 The system must provide identification of stock vs. non-stock items.

3.156 The system must provide access to electronic approval and security systems.

3.157 The system must provide the ability to identify delivery options.

3.158 The system must handle returned items.

3.159 The system should provide the capability to browse for goods and services.

3.160 The system must support inventory control by maintaining a count of inventory items in stock, reserved quantities, order lead time, sales histories.

3.161 The system must provide the ability for departments to access inventory listings as an available source for a purchase.

3.162 The system must provide the ability to change information about stocked inventory.

3.163 The system should provide purchase recommendations based on quantities available and order lead time.

3.164 The system must provide the ability to access all contracts by commodities, vendor classifications, contract number, beginning / expiration dates / anniversary, amounts, campus / unit, keyword search, buyer.

3.165 The system must be able to associate contract number with a purchase.

3.166 The system must provide price and description of items.

3.167 The system should support the encumbrance of funds.

3.168 The system should provide the ability to cancel an order.

3.169 The system should allow the notification of buyers of expiring contracts.

3.170 The system should be able to send orders to vendors in multiple ways including printed on paper, faxed, or electronically transmitted.

3.171 The system must provide the ability to track total purchases against a contract and the ability to set upper limits on contracts and notify purchasing when getting close to the limits.

3.172 The system must provide the ability to automatically generate renewal notices to departments and to extend the contract or create a new contract.

3.173 The system must provide the ability to communicate online electronically to the Purchasing Department what is needed.

3.174 The system must provide the ability to return a request for more information or cancellation.

3.175 The system must allow the editing of electronic document specification while also retaining the original document.

3.176 The system must provide the ability for the originating department to review / approve the modified document at any time prior to initiating a purchase order.

3.177 The system must provide the ability to add or modify customized terms and conditions from a standardized list of options.

3.178 The system must provide the ability to add / select bidders based upon type of purchase, location, rankings, bids, national status, bidders who responded to requests, and other criteria.

3.179 The system must provide the ability to identify bids that require special handling (such as attaching a material swatch).

3.180 The system must allow selection of bid opening dates / times.

3.181 The system must track bids – when issued and returned – and maintain bid response statistics on all bidders.

3.182 The system must be able to send and receive bids electronically.

3.183 The system must have the ability to convert a requisition into a purchase order.

3.184 The system must be able to electronically transmit a purchase order.

3.185 The system must provide the ability to automatically and manually assign a purchase order number to a buyer.

3.186 The system must provide the ability to include an original requisition number on purchase order.

3.187 The system must provide the ability to generate multiple purchase orders from one requisition.

3.188 The system must be able to have many requisitions for one purchase order.

3.189 The system must provide the ability to identify type of order (for example, maintenance agreements, installment payments, one-time order, national / university / other contracts, or some other source).

3.190 The system must be able to provide notification to non-successful bidders.

3.191 The system must allow for entry of multiple accounts and object codes.

3.192 The system must have the ability to cross reference RFQs and purchase orders.

3.193 The system must have the ability to print a purchase order and automatically fax a purchase order.

3.194 The system must be able to print on-demand purchase orders and RFQs.

3.195 The system must be able to select the method for transmitting purchase order to successful vendor.

3.196 The system must provide the ability to track vendor performance / evaluation to include bid responses, awards, problems, and other items.

3.197 The system must allow a funds availability check / override.

3.198 The system must provide the ability to initiate changes or amendments to purchase orders.

3.199 The system must allow the copying of complete or partial previous RFQs and purchase orders (copy feature) to include vendor lists, bidders list, and special bid conditions.

3.200 The system must allow negative purchase orders (trade-ins).

3.201 The system must give the ability to automatically identify and close purchase orders based upon predetermined criteria.

3.202 The system must allow multiple FOB terms.

3.203 The system must have the ability to interface with Accounts Payable, Workflow, General Ledger, Chart of Accounts, Human Resources, Procurement Cards, Contract Processing, and Equipment Inventory.

3.204 The system must provide the ability to establish, browse, update, and add departmental ship and invoice to addresses for purchase order entry. Such additions would include code number; department name; address; city; province or state (if applicable), country, and postal code (if applicable).

3.205 The system must contain controls to eliminate duplicate vendors.

3.206 The system must have the ability to delete duplicate vendors and combine related data.

3.207 The system must have the ability for multiple locations (such as Accounts Payable, Purchasing, or other department) to update vendor information.

3.208 The system must provide online inquiry into the vendor data base via all data elements.

3.209 The system must have the ability to retain all data related to a payment in the event the attributes related to a vendor are subsequently changed.

3.210 The system should have extensive on-line vendor search capabilities.

3.211 The system should have vendor data that identifies amounts paid by purchase order, fiscal year, and total.

3.212 The system must have a daily audit trail of new and changed vendors.

3.213 The system must have the flexibility to allow all users to add vendors.

3.214 The system should provide an indication in the vendor file as to which area (for example, Accounts Payable or Purchasing) established a vendor.

3.215 The system should have the ability to attach an address to a vendor in a transaction and retain in history.

3.216 The system should have the ability to suspend vendors (for example, permanently, for a specific period of time, by commodity type, or on some other basis).

3.217 The system should have the ability to archive vendors based upon predetermined criteria.

3.218 The system must have the ability to access the Human Resource System to prevent purchases by university employees.

3.219 The system must have the ability to provide a history of activity with a vendor.

3.220 The system must provide the ability to support both departmental and central receiving.

3.221 The system must provide the ability to match item(s) received to purchase orders.

3.222 The system must provide the ability to record reasons for a rejected shipment.

3.223 The system must provide the ability to generate a rejection notification for vendor / carrier and send an electronic notice to the department.

3.224 The system must provide the ability to authorize payment based upon receipt of good or services without receipt of an invoice.

3.225 The system must provide the ability to automatically record items into inventory when applicable.

3.226 The system must be able to automatically record equipment data into the equipment inventory system.

3.227 The system must be able to age purchases against receipts with notification to both purchasing and originating departments.

3.228 The system's commodity code structure should allow for both products and services.

3.229 The system should provide the ability to easily generate standard reports for printing, viewing electronically, or downloading.

Budgeting

3.230 The system should provide a starter set of data for new budget year.

3.231 The system must provide a working model to use in the budget development process that allows forecasting and projecting.

3.232 The system must provide "What If" options for use in budget development to show changes that may be influenced by various factors.

3.233 The system must provide the ability to download and upload information.

3.234 The system must provide the ability to match a proposed departmental budget to a budget control number and generate reports that show differences.

3.235 The system must provide the ability to track changes to base budgets during budget development (detailed revision information by account).

3.236 The system must provide the ability to track funding requests, including improvements.

3.237 An on-line query system must be included.

3.238 The system must provide the ability to manage multiple year budgets.

3.239 The system should have the ability to electronically transmit income and expenditure budget transactions to General Ledger.

3.240 The system should perform edit checks on account number and object code and functions at time of entry.

3.250 The system should provide appropriate edit and audit reporting both online and formatted for printing.

3.251 The system must provide the ability to save the approved start-of-fiscal-year budget file and to create a history file.

3.252 The system must provide the ability to post initial budget and subsequent budget transactions electronically to the accounting system.

3.253 Access and query to data on-line daily will be required (including searches by name and / or attribute).

3.254 Access to historical information on-line will be required.

3.255 The system must provide a line item description for each line of budget revision.

3.256 The system must support the running of the current year budget and the planning budget model concurrently.

3.257 The system must provide the ability to track facilities and administrative budgeted costs.

3.258 The system must provide the ability to budget at multiple account levels including totals for designated account groupings, such as Vice Rector level.

3.259 The system must provide the ability to compare current budget to previous budget information.

3.260 There must be the ability to generate mass budget adjustments (for example, mid-year salary increases).

3.261 The system must be able to generate overdraft notices to departments.

3.262 There must be archive support for prior transactions and budget data (date driven) dating back a minimum of five years.

3.263 The system must provide authorization security by function, level, etc. (view vs. update).

3.264 The system must have a flexible workflow process supporting the budgeting process.

3.265 The system must provide the ability to budget income and expense sub-accounts.

3.266 An online budget revision process is required.

Fixed Assets / Inventory

3.267 The system should provide an easy-to-use template for data entry with fields edited by university-defined validation tables when appropriate.

3.268 The system must provide online inquiry by any field.

3.269 The system must provide the ability to add equipment records with all pertinent information and assign an internal equipment key / record number.

3.270 The system must provide the ability to maintain the identity of the user that created the original record, of the original tag number, and of the original location.

3.271 The system must provide the ability to allow users to suspend a record if missing information and retrieve later to complete the record.

3.272 The system must have the ability to prevent tag numbers from being duplicated.

3.273 The system should provide the ability to populate ownership code based on financial account.

3.274 The system should have the ability to identify government property.

3.275 The system should have a security authorization system to restrict / allow access based on university-defined security.

3.276 The system must have the ability to allow multiple financial accounts for each record.

3.277 The system should maintain the identity of the last user who updated a record along with the date of the update.

3.278 The system must have the ability to allow users to enter comments about a record.

3.279 The system must provide the ability to allow the status of equipment to be identified at the component level.

3.280 The system should provide one or more generic fields for departmental use.

3.281 The system should have the ability to search and select records for processing.

3.282 The system must allow users to inquire by any field in a record.

3.283 The system should display translations of all codes on screens / windows.

3.284 The system must provide an online review of all historical changes to records, with the option for format as a report for printing.

3.285 The system should allow users to re-create year-end inventories with certification statement.

3.286 The system must provide the ability to generate a list of expired restricted accounts that have equipment inventory.

3.287 The system must produce year-end reports for financial statements.

3.288 The system must produce year-end equipment inventory lists.

3.289 The system should provide the ability to archive and purge data based on university-defined specifications.

4. Human Resources Information System

Position Control

4.1 The system must support the administration of salary adjustments, both across the board and individual.

4.2 The must integrate with the payroll system to provide budget and actual salary and benefits amounts by fiscal year, employee type, and other employee and position attributes.

4.3 The system must provide the ability to report and download information at any time.

4.4 The system must provide historical budget data.

4.5 The system must provide a security authorization system to prevent unauthorized access to data at the department level.

4.6 The system must provide the ability to add or delete positions and persons filling positions.

4.7 The system must provide the ability to transfer positions and persons between departmental accounts.

4.8 The system must provide the ability to change salary and job title of the positions and persons.

4.9 The system must provide the ability to change work time percentage and FTE, service schedule (for example, academic year or 12 month schedule), earnings type, and other items for positions and persons.

4.10 The system must allow multiple salaries per position, which should be date driven to reflect changes that may occur within the fiscal year.

4.11 The system must provide the ability to enter comments for historical information about position changes.

4.12 The system must provide the ability to generate budget adjustments in the financial system due to salary adjustments, as well as hiring and terminations.

4.13 There should be the ability to estimate employee benefits, by benefit type, based on salary and employee data.

4.14 The system must provide the ability to track positions and to provide historical information by position.

4.15 The system must handle multiple people (overlap) in a single position number.

4.16 The system must be able to track lump sum positions.

4.17 The system must be able to identify multiple funding sources for a position.

4.18 There should be memo fields to provide a place for individual comments.

4.19 Employees must be allowed to have more than one position number.

4.20 The system must be able to support "What If" scenarios in position budgeting.

4.21 The system must be able to support multiple working budget models available concurrently.

4.22 The system must be able to pass final the salary budget to the budget file.

4.23 The system must be able to maintain the current year position budget changes while working on models for the next fiscal year.

4.24 The system should allow current year changes to update next year's model, if appropriate.

4.25 The system must provide access to previous year budgets.

4.26 The system must maintain the original budget for each fiscal year.

4.27 The system must provide a unique identifier for each position.

4.28 The system must track and report salary history of a position.

4.29 The system must track and report title and description history of a position.

4.30 The system must track and report account history of a position.

4.31 The system must track and report a history of the employees who have held a given position.

4.32 The system must track and report the status history of a position.

4.33 The system should allow the inclusion or exclusion of temporary positions in all tracking functions.

4.34 The system must provide FTE counts of filled and unfilled positions.

4.35 The system must provide head counts of filled and unfilled positions.

4.36 The system must track and report tenure-track positions.

4.37 The system must provide an online requisition to create and / or fill a position.

4.38 The system should support job descriptions by position number.

Staffing / Recruitment

4.39 The system must provide data security at the field level.

4.40 The system should provide an electronic approvals process.

4.41 The system must provide the user with access to supporting details of an application.

4.42 The system must be able to associate an applicant with multiple open positions.

4.43 The system must provide a unique identifier for each applicant and employee so that an applicant's ID carries forward to become the employee ID.

4.44 The system must provide an automated letter generation / communication system for the recruitment and hiring process.

4.45 The system must profide an easy-to-use online interface for applicants and managers.

4.46 The system should match a hiring requisition to the appropriate position description.

4.47 The system should provide access to applicant records by identifier, name, and position.

4.48 The system must track and report the status of position requisitions (for example, filled, unfilled, on hold, or waiting for applicant response).

4.49 The system must support requests for an internal transfer to a different position.

4.50 The system must provide the ability to match employee skills with requisition requirements in order to identify qualified candidates.

4.51 The system should indicate when applications are received from former employees.

4.52 The system must maintain credentials and certifications data for applicants and employees.

4.53 The system must maintain background check information.

4.54 The system must generate a notification of authorization to create an employee ID card.

4.55 The system should support forecasting reports (for example, cost projections, turnover, and retirement).

4.56 The system should support identification of potential career progressions.

HR Administration

4.57 The system must provide employee self-service capabilities to update certain personal information, enroll in benefits as appropriate, and query personal payroll information.

4.58 The system must provide the ability for managers to query the system of appropriate employee data with correct authorization.

4.59 The system must provide the ability for managers to initiate and approve personnel actions.

4.60 The system must track and report tenure-track and non-tenure-track promotions.

4.61 The system must support a systematic performance evaluation process with automatically generated due notices.

4.62 The system must maintain a record of disciplinary actions taken.

4.63 The system must track education and training undertaken by employees.

4.63 The system must support an automated exit process including release or hold of final paycheck.

4.64 The system must provide online / self-service updating of data for the employees.

4.65 The system should track data changes over time.

4.66 The system must provide the ability to track account number / department number changes for an employee, preserving a history of those changes.

4.57 The system must be able to track account number changes associated with a department, preserving a history of those changes.

4.58 The system should include electronic approvals processes by person and by position.

4.59 The system must be able to handle future-dated and back-dated transactions.

4.60 The system should support What If" functionality for employees through modeling of calculations of gross-to-net, benefit options, etc.

4.61 Historical data should be in easily retrievable and online.

4.62 The system should accommodate unlimited numbers of multiple types of addresses (for example, home, office, or temporary).

4.63 The system must support the entry and maintenance of Saudi Arabian and foreign addresses.

4.64 The system must provide electronic archival of terminated employee data in an easily retrieval format.

4.65 The system must provide the ability to enter and edit comments for events and actions.

4.66 The system must be able to notify appropriate parties when certain data has been changed.

4.67 There must be the capability to add and maintain university-defined fields.

4.68 The system should include a notification system for critical events to be specified by the university (for example, probationary period review, performance evaluation, and terminations).

4.69 The system must provide data security, including screen / window access, at the department / account / employee / gender level.

4.70 The system must provide screen / window security at the individual field level.

4.71 The system must provide security authorization on the bases above for inquiry and update access.

4.72 The system must be integrated with and able to relate data from other MIS modules (for example, Budget).

4.73 The system must allow for nine-month academic appointments as well as less-than-a-year administrative appointments to be paid uniformly over 12 months.

4.74 The system should handle appointments that are paid as one-time only events.

4.75 The system must be able to provide an individual statement of benefits.

4.76 The system must support generation of reports / files to and from external agencies in accordance with Saudi Arabian government requirements.

4.77 The system must be able to code and track expatriates vs. Saudi nationals.

4.78 The system must support updating of employee spouse and dependent information for various benefits plans.

4.79 The system must provide the appropriate linkage between an employee and the appropriate position in the position control system.

4.80 The system must provide the ability to code and track employees based on university-defined requirements of a job (for example, certifications, licensures, training, or specialized driver's license).

4.81 The system should report salary history by employee or position.

4.82 The system should report an employee's employment history.

4.83 The system should support salary analysis by job title, salary grade, or other criteria.

4.84 The system must maintain the data fields required for standard reports and downloads (for example, downloads to telephone directories, mailing labels / files, e-mail addresses, benefits statements, time reporting, external agency reports, workforce analysis, and faculty rank / tenure reporting).

4.85 The system must provide the ability to record educational level by highest level attended and degrees received, as well as maintaining college major area of study.

4.86 The system must provide the ability to designate employee information as confidential and restrict access accordingly.

4.87 The system should provide an edit function that can identify duplicate employee numbers.

Payroll

4.88 The system must be able to generate retroactive transactions for gross pay based on retroactive changes to employee pay outside of the current pay cycle.

4.89 The system must be able to generate retroactive transactions to benefits based on retroactive changes to employee pay outside of the current pay cycle.

4.90 The system must be able to generate retroactive transactions for deductions and contributions based on retroactive changes to employee pay outside of the current pay cycle.

4.91 The system must allow for electronic approval for online entry of payroll transactions.

4.92 The system must provide the ability to maintain and adjust year-to-date, fiscal-year-to-date, and employment-to-date grosses to include activities that occurred outside of a payroll (that is, fringe benefits).

4.93 The system must provide the ability to maintain and adjust year-to-date, fiscal-year-to-date, and employment-to-date hours to include activities that occurred outside of a payroll (that is, leave balance adjustments).

4.94 The system must provide for the online entry of gross, gross-to-net, and hour adjustments.

4.95 The system must capture leave adjustment and leave used amounts from the time and attendance module.

4.96 The system must provide the ability for payroll to calculate annual leave pay at termination once the balance of annual leave hours has been certified.

4.97 The system must provide funds availability checking by pay line during entry of pay adjustments.

4.98 The system should support an unlimited number of types of pay.

4.99 The system must provide the ability to base deduction calculations on selected types of pay.

4.100 The system must provide the ability to group deductions in categories (for example, exemptions, deductions, and reductions).

4.101 The system must allow for an unlimited number of deductions / contributions within each category.

4.102 The system must provide the ability to define deduction schedules based on 13 or 26 pay periods at employee's request.

4.103 The system must provide the ability to support non-paying types of pay (such as a housing value for retirement contributions).

4.104 The system must support payment input for non-compensation payments from external sources (such as travel reimbursement).

4.105 The system must edit transactions for valid account numbers, object codes, etc at the time of initial entry.

4.106 The system must support deductions / contributions based on a percent of gross.

4.107 The system must support deductions / contributions based on a fixed amount.

4.108 The system must allow for deduction eligibility based on employee attributes, deduction attributes, and external system factors.

4.109 The system must support an unlimited number of deductions / contributions per person per payment.

4.110 The system must allow for minimum check amounts to avoid zero payments.

4.111 The system must provide the ability to take partial deductions when full amounts not available.

4.112 The system must support deduction calculation limitations based on a declining balance.

4.113 The system must support related (matching) deductions / contributions.

4.114 The system must support deductions based on net pay (such as student loans, garnishments).

4.115 The system must support the ability to prioritize deductions.

4.116 The system must support the scheduling of deductions based on pay cycle within a given month.

4.117 The system must support the employee-requested frequency of deductions based on employee pay cycle within a given month.

4.118 The system must be able to hold for later processing deductions which could not be taken but which need to be taken with the next payment.

4.119 The system must provide detailed reports to support deductions (Online viewing with remote print option).

4.120 The system must support user-defined maximum deductions / contributions based on percent and amount and employee attributes. (for example, retirement caps).

4.121 The system must support date-driven deductions.

4.122 The system must support the ability to automatically accrue annual and sick leave based on current pay or hours worked.

4.123 The system should advance the annual leave accrual rate to a higher rate based on dates or time interval.

4.124 The system must provide the ability to generate financial transactions as a result of all payroll activity.

4.125 The system must provide the ability to transfer charges for an individual employee for a prior payment from one account to another account including the associated staff benefits (post-payroll labor distribution).

4.126 The system must generate ledger transactions, updates history, and validates the post-payroll labor distribution transactions against the original charge.

4.127 The system should enable edits to ensure that funds transferred to another account through post-payroll labor distribution do not exceed the original charge.

4.128 The system must provide the ability to affect object code changes through salary transfers. (for example, summer school pay that should have been regular pay.)

4.129 The system must provide the ability to calculate and pass to the financial system the remaining fiscal year salary encumbrances.

4.130 The system must provide the ability to calculate and pass to the financial system the remaining grant year salary encumbrances.

4.131 The system must provide the ability to calculate and pass to the financial system the remaining fiscal year or grant year staff benefits encumbrances.

4.132 The system must provide e-mail of pay advices.

4.133 The system must provide the ability to add person-specific information to advices.

4.134 The system must provide the ability to add campus-specific information on advices.

4.135 The system must support direct deposit processing / file creation.

4.136 The system must support unlimited direct deposit distributions with percents and / or amounts.

4.137 The system must provide temporary overrides to direct deposit status.

4.138 The system must provide transmission of direct deposit to financial institution on request.

4.139 The system must maintain direct deposit distributions on payroll history.

4.140 The system must provide online viewing of historical and current deduction data by deduction type for a department.

4.141 The system must support the transmission of deduction files to appropriate agencies by some automated file transfer method.

4.142 The system must interface with accounts payable to request vouchers based on deduction activity for deduction remittances.

4.143 The system should support multiple direct deposit release dates for the same pay cycle.

4.144 The system must provide the ability to sort printed output, including checks and advices, by user-specified attributes.

4.145 The system must support a weekly, biweekly, and monthly pay cycle that includes up to 27 biweekly pay periods per calendar year.

4.146 The system must provide the ability to accumulate, store, and maintain creditable service by employee in order to calculate the amount of a service award or an annual longevity payment.

4.147 The system should provide the ability to generate pay adjustments based on creditable service for a longevity payment (overtime premium).

4.148 The system must provide the ability to accumulate, store, and maintain the hours of premium overtime paid to the employee during the past year.

4.149 The system should support a payroll driven by an employee payment date and eligibility (longevity date and certification).

4.150 The system must provide the ability to run an on-demand paycheck for individual employees.

4.151 The system must provide the ability to reflect hand-drawn checks in the payroll records for individual employees.

4.152 The system must allow for the cancellation of prior payments (check cancellations) updating the payroll history, employee records, and generating the financial transactions.

4.153 The system must provide the ability to back out a payroll and re-run it.

4.154 The system must provide online field and screen level help for online transactions including valid field values.

4.155 The system must provide the ability to handle wages paid after death.

Time and Attendance

4.156 The system must allow for the online entry of hours worked.

4.157 The system must allow for the online entry of leave hours taken.

4.158 The system must allow for the online entry of an amount to be paid.

4.159 The system must provide a report containing employees who have no entry at all.

4.160 The system must support interfaces with third party time clock collection systems.

4.161 The system must provide the ability to automatically calculate an overtime premium based on hours entered.

4.162 The system must provide the ability to base overtime proration on scheduled appointment percent.

4.163 The system must provide the ability to base overtime proration on last account worked.

4.164 The system must calculate a weighted average hourly rate for overtime calculation purposes.

4.165 The system must provide for electronic approval of expenditure of funds by a responsible party.

4.166 The system must provide electronic approval of time entered.

4.167 The system must provide the ability to retain detail historical data of all activity.

4.168 The system must provide the ability to enter time for a previous pay period.

4.169 The system must allow for the validation of leave hours taken against available leave balances.

4.170 The system must allow for the validation of leave hours taken against policy benefits and maximums.

4.171 The system must allow for the validation of leave hours against eligibility rules and policies.

4.172 The system must provide the ability to enter hours worked based on daily, weekly, or clock time.

4.173 The system must provide the ability to associate a shift with the hours worked.

4.174 The system must provide the ability to generate a shift differential pay adjustment, calculated as a percent, based on shift, campus, gender, and employee title.

4.175 The system must provide the ability to generate a shift differential pay adjustment, calculated as an amount increase based on shift, campus, gender, and employee title.

4.176 The system must provide the ability to designate the type of hours worked (such as work study, regular hours, or shift hours).

4.177 The system must provide the ability to associate the pay period with the hours worked.

4.178 The system must support an unlimited number of leave types.

4.179 The system must support different rules for each leave type.

4.180 The system must provide the ability to display appropriate leave balances and leave activity to employees online.

4.181 The system must provide the ability to enter a comment when entering amount or hour adjustments.

4.182 The system should automatically generate pay adjustment transactions when necessary based on data entered. (for example, retroactive hours entered cause overtime in a prior pay period).

4.183 The system must provide an online method of adjusting employee reported hours or earnings for a current or previous pay period.

4.184 The system must provide the ability for hour / earning retroactive adjustments to appropriately affect leave accruals.

4.185 The system must provide for payment amount adjustments which do not affect accruals.

4.186 The system must provide for certification of annual leave balance at employee termination for final pay computations.

4.187 The system must provide the ability to calculate final compensation due to death based on university policies.

4.188 The system must provide ability to override HR defaults (account, title code, and hourly rate) when entering hours.

4.189 The system must provide a way to verify total hours / people / earnings to be paid prior to the final generation of the payroll.

4.190 The system must provide online edit / exception reporting with print options.

4.191 The system must provide for data level security by user when displaying reports.

4.192 The system must support multiple work week schedules for employees.

4.193 The system must automatically adjust accruals for retroactive entry of hours.

Benefits Administration

4.194 The system must provide the ability to record dependent information and maintain it online.

4.195 The system must provide the ability to confirm benefits enrollment and changes to employees via e-mail.

4.196 The system must provide the ability for benefits participants and departments to view enrollment data based on security access.

4.197 The system must provide an online personal benefits statement.

4.198 The system must provide the ability to maintain one or more "salary for benefits" values.

4.199 The system must provide for the online completion of applications / enrollment / waivers for eligible employees.

4.200 The system must provide the ability to handle missed premiums by automatically prorating them over the remaining schedule for the plan year.

4.201 The system must provide the ability to handle missed premiums by a one-time catch-up method.

4.202 The system must maintain a history of benefits enrollments.

4.203 The system must support an unlimited number of plan types.

4.204 The system must support the entry of effective-dated changes.

4.205 The system must support fixed premiums as well as calculated premiums.

4.206 The system must provide the ability to calculate premiums using a variety of methods including percentages and flat rates on multiple data fields using effective dates, rules tables, salary for benefits, age, or other method.

4.207 The system must provide rules tables to determine employee eligibility.

4.208 The system must provide the ability to record premiums collected and refunds made outside the payroll process.

4.209 The system must support reimbursement checks for refunds.

4.210 The system must provide the ability to generate adjustments in financial transactions as a result of refunds.

4.211 The system must integrate with the payroll process for deductions and refunds of premiums / contributions.

4.212 The system must support suspending premiums / contributions, deferring collection to a later date.

4.213 The system must be able to associate premiums / contributions collected to coverage periods.

4.214 The system must be able to handle pre-payment of premiums and contributions.

4.215 The system must be able to recognize check cancellations and update benefits information appropriately.

4.216 The system should provide an e-mail notification to employees of pending events, eligibility changes, and enrollment periods.

4.217 The system should provide the ability to generate summary reports of deductions by benefits and coverage type.

4.218 The system should provide the ability to notify benefits vendors of employee eligibility.

4.219 The system should support multiple plan providers.

5. Portal Specifications

5.1 The portal should be integrated fully with the proposed MIS.

5.2. The portal will preferably be provided by the MIS software vendor (although integrated portal products from third-party vendors will be considered).

5.3 The portal should include single sign-on technology to allow the PMU to integrate all three MIS applications and other campus applications such as the Library Information System (LIS), campus e-mail, and calendaring.

5.4 The portal should allow campus news to be distributed to target audiences.

5.5 The portal should be customizable to allow individuals to have customized access. Individuals only see items they need, and individuals should be able to subscribe to desired content.

5.6 The portal should be compatible with the university's IT infrastructure including the campus directory.

5.7 The portal should include content management capability or the ability to integrate information from a content management system.

5.8 The portal should facilitate administrative tasks required to maintain the portal (for example, creation of new portal users should be automatic and integrated with the MIS).

5.9 The portal should facilitate Web accessibility and meet all local guidelines.

5.10 The portal should easily provide access to students, faculty, and staff based on roles.

5.11 The portal should support applicable portal standards such as JSR-168.

5.12 The portal should include search capability to allow users to search portal content.

5.13 The portal should allow the look-and-feel to be easily customizable. The portal should facilitate branding by allowing a consistent PMU look and feel.

5.14 The portal should allow news feeds to be easily integrated.

5.15 The portal should allow custom channels to be easily developed.

5.16 The portal should have a wide range of commercial or open source channels that are available.

5.17 Portal security should include authentication and authorization to limit access to portal content. Authentication and authorization should be based on the campus directory.

5.18 The portal repository database should be flexible to maintain PMU user information and portal content information as required to support PMU's portal needs.

5.19 The portal should include collaborative applications such as chat and an address book.

5.20 The portal IT architecture including the relational database should be very similar to the MIS architecture.

5.21 The portal must be advertising free.

5.22 The portal should allow for the creation of campus communities of interest.

5.23 The portal should facilitate password management both within the portal itself and integrated applications.

5.24 The portal should be easily accessible to the campus community including support of wireless devices.

V. SPECIFICATIONS FOR SYSTEM IMPLEMENTATION

A. IMPLEMENTATION SCHEDULE

The MIS that meets the criteria detailed above will provide support for the administration of the PMU. By the time the university is in full operation with an enrollment that is near the planned number of students, all these systems should be operational.

Staged Implementation Recommended: It may be most cost effective that the purchase of all the management information systems modules for the PMU be requested, negotiated, and contracted as a total package. However, it is recommended that implementation be completed in stages. This will allow for system modules to be implemented as they become critical to the administration of the PMU. It also will allow for staffing in the CIO area and other administrative offices to be increased in stages as systems and services are added.

The information below outlines a recommended, logical progression of MIS implementation and staff growth that reflects increasing services for a growing student body. Note that the CIO office staffing needs do not include technology infrastructure staffing. The needs of infrastructure staffing are described in an appendix to the report *PMU Infrastructure Specifications.*

Staff Descriptions in Appendices C and D: An organizational chart for the MIS component of the IT Department is presented in Appendix C of this report. Appendix D contains position descriptions for each staff position in the MIS group.

Gantt Charts in Appendix E: The schedules recommended below are illustrated in Appendix E of this report by Gantt charts titled "PMU Management Information System: Technical Staffing" and "PMU Management Information System: MIS System Module Implementation."

The Gantt chart for staffing demonstrates the time necessary to recruit staff members before their recommended start dates.

The Gantt chart for system implementation demonstrates the time necessary from start to finish for each implementation of individual modules of the MIS system.

1. **Year Zero – 2005-2006**
   Preparing for Opening

   a. **Student Information System**

      The following modules are implemented this year:

      - **Recruitment** – to manage, track, and communicate with prospective students. This implementation should begin September 1, 2005, and be completed by December 1, 2005.
      - **Admissions** – to accept, track, and decide upon applications for admission. This implementation should begin January 1, 2006, and be completed by May 1, 2006.
      - **Registration and Academic Records (part one)** – to define courses, create the class schedule, register students into classes, and prepare to grade students in those classes. This implementation should begin May 1, 2006, and be completed by August 1, 2006.

   b. **Financial Information System**

      No modules are implemented this year. Required functions are handled manually, with appropriate desktop software, or through outsourcing.

   c. **Human Resources System**

      No modules are implemented this year. Required functions are handled manually, with appropriate desktop software, or through outsourcing.

   d. **Staffing Needs**

      The following staff members should be hired this year:

      - **CIO Division**:

        MIS Application Manager / Senior Systems Analyst for Student Systems – Hire by September 1, 2005.

        Analyst / Programmer for Student Systems – Hire by September 1, 2005.

        Senior Database Administrator – Hire by September 1, 2005.

        Database Administrator – Hire by September 1, 2005.

2. Year One – 2006-2007
Initial Students In Preparation Program

a. Student Information System

The following modules are implemented this year:

- **Academic Records (part two)** – to grade the students in their classes and maintain transcripts. This implementation should begin September 1, 2006 and be completed by December 1, 2006.
- **Student Accounts** – to create and track student accounts receivable, to calculate tuition and fees, to bill students, and to apply payments. This implementation should begin September 1, 2006 and be completed by December 1, 2006, in order to invoice for the spring semester. This implies that the first semester (fall of 2006) billing and payments will be handled by other means.
- **Self-Service / Portal** – to provide students secure, Web-based access to information resources including the LIS, class schedules, registration for classes, grades, student account balance, demographic data, etc. This implementation should begin January 1, 2007, and be completed by May 1, 2007, to be ready for the following year. This implies that during Year One students will not have access to these processes electronically and will have to be serviced through interim processes designed by the various administrative offices.

b. Financial Information System

The following modules are implemented this year:

- **General Ledger / Chart of Accounts** – to define the chart of accounts as a basis for implementation of other financial and human resources modules and to provide journal processing and financial reporting. This implementation should begin September 1, 2006, and be completed by January 1, 2007, so that conversion to the PMU chart of accounts can occur at that time and be extended as other Financial System modules are being implemented.
- **Purchasing** – to provide efficient management of suppliers and the purchasing of materials, goods, and services including online creation of requisitions and purchase orders. This implementation should begin January 1, 2007, and be completed by May 1, 2007.
- **Accounts Payable** – to allow for purchases payments with appropriate controls. This implementation should begin January 1, 2007, and be completed by May 1, 2007.

c. Human Resources System

The following modules are implemented this year:

- **Payroll** – to calculate gross and net pay according to Saudi Arabian requirements and produce appropriate pay checks / notices and reports. This implementation should begin September 1, 2006, and be completed by December 1, 2006, in order to start processing January 1, 2007.
- **Benefits Administration** – to manage multiple employee benefits programs including leave tracking. This implementation should begin September 1, 2006, and be completed by December 1, 2006, in order to start processing with payroll January 1, 2007.
- **Human Resources Administration** – to track and manage employee information including that specific to faculty employees. This implementation should begin September 1, 2006, and be completed by December 1, 2006, in conjunction with the payroll module.
- **Self-Service / Portal** – to provide employees secure, Web-based access to information resources including the demographic data, pay history, benefits enrollments and history. This implementation should begin January 1, 2007, and be completed by May 1, 2007, with the comparable student system module.

d. Staffing Needs

The following staff members should be hired this year:

- **CIO Division**:

  Senior Systems Analyst for Financial Systems – Hire by August 1, 2006.

  Analyst / Programmer for Financial Systems – Hire by August 1, 2006.

  Senior Systems Analyst for Human Resources Systems – Hire by August 1, 2006.

  Analyst / Programmer for Human Resources Systems – Hire by August 1, 2006.

  Technical Trainer for MIS – Hire by August 1, 2006.

  Analyst / Programmer for Student Systems (second) – Hire by September 1, 2006.

3. Year Two – 2007-2008
Initial Students are Freshmen

a. Student Information System

The following modules are implemented this year:

- **Degree Audit** – to provide an advisement tool to ensure students follow desired paths toward their chosen degrees. This system will also provide graduation certification at the appropriate time. This implementation should begin August 1, 2007, and be completed by January 1, 2008, to be available for students in the spring of 2008.

b. Financial Information System

The following modules are implemented this year:

- **Budgeting** – to plan, execute, and control budgets at the desired levels and to provide end-users with online access to their budgets. This implementation should begin August 1, 2007, and be completed by January 1, 2008, in order to be ready to budget for the 2008-2009 year in the spring of 2008.
- **Fixed Assets / Inventory** – to record, track, and value the physical assets of the PMU and to plan asset replacement and acquisition. This implementation should begin January 1, 2008, and be completed by May 1, 2008.

c. Human Resources System

The following modules are implemented this year:

- **Recruitment**– to provide a comprehensive recruitment solution including posting of positions, application and resume submission and status tracking. This implementation should begin August 1, 2007, and be completed by November 1, 2007, in order to use to fill positions for the 2008-2009 academic year.
- **Position Control** – to plan, budget, and track faculty and staff positions. This implementation should begin August 1, 2007, and be completed by January 1, 2008.

B. IMPLEMENTATION VENDOR REQUIREMENTS

The selected implementation vendor will provide assistance to PMU staff to successfully implement the MIS. As described above in Section V.A. Implementation Schedule, the vendor will need to provide assistance as needed to meet the proposed schedule. The schedule may be revised and finalized during the contract negotiations period.

The vendor will supply the following information regarding the implementation of the management information system proposed for the PMU. Please address each topic and provide information in the sequence provided.

- The vendor will provide an executive summary of the proposed implementation methodology
- The vendor will assist PMU staff in installation of the MIS software in PMU's data center.
- The vendor will assist PMU staff with a rapid implementation of each major MIS module.
- The vendor will provide a proposed consultant staffing plan for each of the major module's of the MIS
- The vendor will provide training to PMU staff during the implementation process. The vendor will also provide end-user training to functional department staff prior to each module's "Go Live" date.
- The vendor will assist with data conversion if data can be imported from PMU's temporary systems

VI. CONTRACT TERM AND PRICING

A. CONTRACT TERM

The PMU should seek a perpetual license to use the MIS software, with an initial contract term of two years. The PMU may optionally renew the contract on an annual basis for a period of an additional three years. The maximum contract length will be five years unless the contract is extended by mutual agreement of PMU and the vendor(s).

B. MIS SOFTWARE PRICING

The vendor should complete the following pricing table for the software components of the MIS. The PMU will prefer to fix maintenance costs for the five-year contract period. PMU will prefer to have the option to renew maintenance on an annual basis.

The PMU may license the Student Information System and Portal at the beginning of Year 0, and the PMU may license the Finance and HR systems at the beginning of Year 1.

Software	License Cost	Year 1 Maint.	Year 2 Maint.	Year 3 Maint.	Year 4 Maint.	Year 5 Maint.
Student Information System						
Finance Information System						
HR Information System						
Portal						
Required Third-Party Products						
Recommended Products (e.g., reporting tool)						

C. IMPLEMENTATION SERVICES PRICING

PMU will prefer a fixed-price proposal from the vendor for the initial two-year contract period. During this period, the vendor will provide assistance to deploy the MIS as stated in the schedule above. The vendor's proposal should include a proposed timeline stating the period when each vendor staff member will be assigned to the PMU project

After the initial two-year period, PMU may optionally obtain services from the vendor to maintain and support the MIS (for example, to upgrade the MIS to the next version). The vendor may propose hourly time and materials services during this period.

D. DATABASE LICENSE PRICING

If the vendor resells the relational database product that has been proposed for PMU, the vendor should state pricing information in this section. PMU will prefer campus-wide pricing that will allow all PMU faculty, staff, and students to use the MIS. The vendor may propose multiple pricing models including a campus-wide site license and per-processor pricing.