

Brian Moynihan. Finding the Pulse: An Analysis of the Learning Management System Needs Assessment

Process at the UNC School of Medicine. A Master's paper for the M.S. in I.S. degree. November, 2009. 111

pages. Advisor: Jeffrey Pomerantz

This paper analyzes the University of North Carolina School of Medicine's search for a Learning Management System (LMS) as part of a larger project to upgrade its student processing application suite in 2008 and 2009. It describes the needs assessment process that the School undertook to gather requirements, the Request For Comments and other documents that resulted, and the process by which an LMS was chosen. Two LMSs were finally considered to fill this role: Blackboard, a leading proprietary system, and Sakai, an open source alternative. This paper also describes the complex factors that necessitated this needs assessment and shaped its development, the role of open source software on campus, and the larger implications of the decision for UNC Chapel Hill.

Headings:

Software -- Learning Management Systems

Instructional Technology -- Universities

Needs Assessment -- Universities

Software -- Open Source

University of North Carolina School of Medicine

FINDING THE PULSE: AN ANALYSIS OF THE LEARNING MANAGEMENT SYSTEM NEEDS  
ASSESSMENT PROCESS AT THE UNC SCHOOL OF MEDICINE

by  
Brian Frederick Moynihan

A Master's paper submitted to the faculty  
of the School of Information and Library Science  
of the University of North Carolina at Chapel Hill  
in partial fulfillment of the requirements  
for the degree of Master of Science in  
Information Science.

Chapel Hill, North Carolina  
November 2009

Approved by:

---

Advisor

## **Table of Contents**

<b>I. Introduction</b>	<b>-- p. 2</b>
<b>II. Context</b>	<b>-- p. 8</b>
<b>III. Needs Assessment</b>	<b>-- p. 22</b>
<b>IV. Analysis</b>	<b>-- p. 31</b>
<b>Bibliography</b>	<b>-- p. 47</b>
<b>Appendix</b>	<b>-- p. 49</b>

## **1. Introduction**

During the 2008-2009 school year, the School of Medicine at the University of North Carolina at Chapel Hill (UNC) performed a needs assessment to determine what software systems it should use in the future. The needs assessment was spurred by a combination of aging technologies and the need to adjust to sweeping changes to the School's technological infrastructure coming from the University. The School hoped that the needs assessment would holistically identify the needs of the Office of Medical Education, provide a forum for reviewing relevant software, and act as a foundation on which to build an integrated system by which the communication and information technologies would serve the needs of students, faculty and staff. An important component of the needs assessment document that resulted pointed toward the need for a Learning Management System (LMS) to handle many of the School's functional requirements, from educational to institutional use. These requirements included integration with existing software systems, functionality that would meet present staff workflow needs, and the ability to meet regulatory and accreditation standards. This paper analyzes the process that the School undertook to determine the best tool to meet those needs, starting with the collection of requirements and finishing with a discussion of which tool was chosen and how it was implemented.

### **Overview of the paper**

The first section of this paper provides context for the drive at the School of



Medicine (SOM) to perform the needs assessment and a description of the systems that are currently in use at the School. This part of the paper seeks to answer the question “What were the factors that led to the development of the needs assessment process, and how did they influence the goals and concerns of the School of Medicine during this process?” This section includes basic information about the SOM and how the School and its technical needs differ from other departments and schools within the University. It explores the process involved in assessing the existing software and searching for alternative solutions going forward. It also describes the changes happening with technological systems at UNC and how those affected the requirements, goals and methods employed at the SOM.

The next section tackles the central document in the needs assessment process: the official Request For Proposals (RFP).<sup>1</sup> This part of the paper seeks to answer the question: “What were the concerns expressed in the RFP, and how were vendors of Learning Management Systems able to answer those concerns?” This section breaks down the individual requirements, why they were important to the School, and how one vendor or another was or was not able to meet those criteria. This section draws on a series of documents used by the SOM to frame its search process as well as documents produced by two competing companies that sought to fulfill the School's LMS requirements. The assessment of the vendors (Unicon, a Sakai vendor, and Blackboard) and their respective offers is also explored, as well as the final decisions of the SOM regarding the LMS requirements and how best to meet them.

The final section of the paper involves a broader analysis of the reasons that the

---

<sup>1</sup> See Appendix for the full contents of this document.

SOM favored an open source LMS over the most popular commercial product. This section of the paper seeks to answer the question “What were the reasons that the School of Medicine choose a particular LMS, and how can the lessons learned from the needs assessment process be applied to wider contexts at UNC and beyond?” This analysis covers a discussion of flexibility, cost, and other factors that were key in the decision-making process, and argues that amongst the benefits provided by LMSs, flexibility in its various forms may be the most important for many institutions of higher education.

## **Methods**

This paper draws upon a number of sources to analyze the needs assessment process at the UNC School of Medicine. Documents were chosen on the basis of their relevance to the needs assessment process in what could be envisioned as concentric circles of relevance. At the center were the documents created by the School of Medicine itself and the author’s experience as a part of the needs assessment, offering an internal view of the process. At another level the paper draws on external sources relevant to the needs assessment, such as documents created by UNC and those of LMS vendors who answered the RFP. A third set of sources gathers information from outside the university to shed light on broader themes that were relevant to the SOM’s needs assessment process.

The primary source of information comes from a series of public documents created by the SOM, including those created by the Cross Project Initiative Committee, to create, structure and assess the needs assessment process. Documents such as the RFP, and models of the current system and proposed replacements play a critical role in this

process (seen in Figures 2-4). As examples throughout the paper show, these documents range from a series of constantly shifting graphics laying out an overview of the different systems affected to concrete, step-by-step assessments of gathered requirements with notes about how individual vendors are able to meet each requirement. Expanding on these documents, as well as their meaning and limitations, gives the basic outline of the School's goals.

Each of these sources was considered with a view towards understanding the larger research questions posed in this paper, trying to get at the themes that drove the School of Medicine's push towards finding a Learning Management System. The paper sought to answer how the needs assessment document represented a reflection of lessons learned from past systems, as well as the addition of functionality not present in the current system. In the case of the Request For Proposals, the main analytical focus was upon the types of functions each of the LMSs was able to deliver, and how the perspectives gained from other documents could shed light on the value of each of the needs listed. While some of the school's objectives in the needs assessment process were quite straightforward because they were explicitly described in the RFP, with analysis of several documents in light of one another it became easier to see the School's overarching desire for interoperability, for instance. The models of the present and projected systems were compared to draw out the changing conception and functionality of the applications suite over time, with a focus on how these individual systems interacted within the larger technical ecology. These themes present in the documents could then be tested against the process and results of the needs assessment itself, in order to support claims of their overall importance.

External sources, such as relevant documents produced by UNC and the literature of LMS vendors also play a crucial role in giving context to the needs assessment process. UNC was also involved in a long process of assessing alternate Learning Management Systems, effectively running two completely different LMS products at the same time. This allowed the University to gain first-hand knowledge of the benefits and drawbacks of each system, much of which was documented in the form of surveys of technical requirements as well as faculty and student evaluations. The central document that brought the University's information together into a single document was the Sakai whitepaper released in Fall 2009. Vendor responses to the RFP were also informative, giving both information about the services provided by individual vendors and a basis for comparing costs between them.

These documents are put into perspective by viewing them in light of the larger context of LMS literature more broadly, particularly the questions regarding what institutions have chosen certain products, and the sometimes volatile situations that arise when Universities are forced to change from one system to another. These documents often reflect ongoing concerns seen in the software world more broadly, such as the debate over the use of open source or the use of collaborative tools often tied in with discussions of Web 2.0. However, within institutions of higher education, the debate is also tied deeply to the questions of learning objectives and a unique mix of intellectual and practical perspectives that inform the choice of software. These perspectives give a sense of the wider context in which the SOM's LMS assessment process was given meaning. For instance, materials by Sakai Foundation's Executive Director Michael Korcuska or articles about the financial issues involved in using open source software

become important sources for understanding elements of the more local issues faced at the SOM.

Finally, the author's own experience working with SOM systems for several years provides a source for the context in which these actions took place, including the often complex factors that influenced the process and made the School's situation so unique. Being involved in evaluating the products, sitting in on vendor presentations and committee meetings over a period of time added a first-hand perspective that embeds these documents into the distinctive environment in which the process of choosing an LMS product took place.

Together, the combination of threads from within the SOM, the vendors, the University and beyond offers insights that are applicable beyond the SOM itself. Issues that arise from that particular confluence of factors cast a light on the intricate and interdependent qualities that complicate technological solutions at universities and businesses around the globe.

## **2. Context**

### **Overview**

This chapter describes the context in which the UNC School of Medicine decided to seek a Learning Management system and the factors that led to the formal Request For Proposals for products that could solve the School's needs. It explores the various influences—historical, financial, pedagogical and systemic—that played into the decision-making process, both within the SOM and at UNC more broadly. Drawing on a wide-reaching perspective that brings out the subtle influences on this process, this chapter provides a background for understanding the necessity for a Learning Management System and the processes which drove the School's search for an LMS.

### **Background**

UNC School of Medicine's assessment of Learning Management Systems began with a desire of the School's management to bring diverse technological systems together into a more coherent whole. At the same time when management was changing at the School's Office of Medical Education (OME), when different offices were being folded together for efficiency and there was a push towards standardization within the departmental structure, UNC's main campus was going through a major overhaul of its technological infrastructure. UNC decided that it would move many of the central management of courses, human resources, student data, finances and admissions over to a single unified Enterprise Resource Planning (ERP) system named PeopleSoft. The

change on main campus also brought with it a push to standardize these functions across the University, where many of these functions were being done in different pockets of the University in isolation from one another, and using non-compatible systems.

The importance of the movement towards centralization and standardization of Information Technology (IT) at the University was further underscored by a report by the global business consulting firm Bain & Company, which did a systematic analysis of the University's cost and management structure. The report was commissioned at a time when the University knew it would face budget cuts as a result of the economic downturn of 2008-2009, when faltering businesses and a swelling unemployment rate forced the State government to drastically curtail its financial support of the University. Bain & Company's final report to the University emphasized the need for streamlining and making other operational improvements that could reduce overall administrative costs. In terms of IT, the report stated that "Distributed functions often drive redundant infrastructure (hardware & software) and support capabilities," and that "nearly 50% of servers are outside of central ITS" while "many areas run their own web servers, databases, email, etc."<sup>2</sup> The report, which was highly regarded at UNC and led to active discussion across campus<sup>3</sup>, proposed solutions that sought consolidated systems that could bring cost savings, consistent platforms and tighter security.

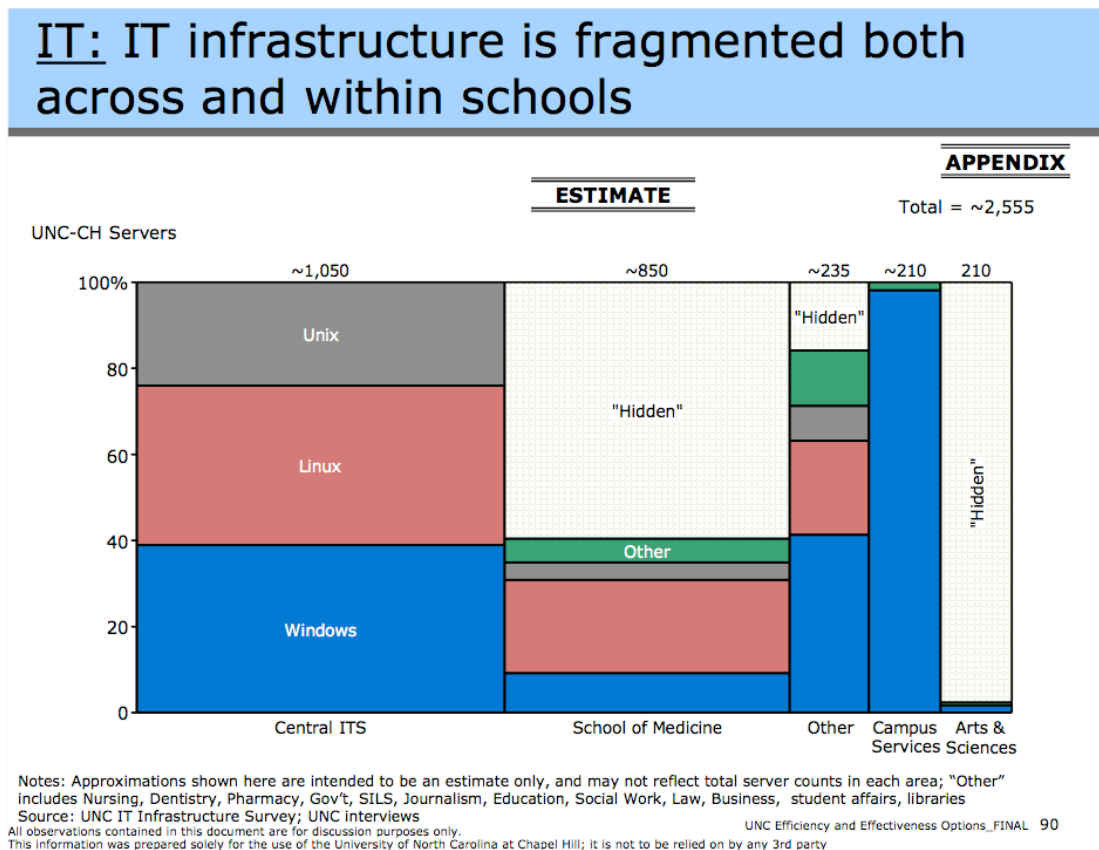
The Bain & Company report seemed to have special relevance to the School of

---

<sup>2</sup> *University of North Carolina at Chapel Hill Cost Diagnostic: Final Report*. Bain & Company, July 2009, p. 28.

<sup>3</sup> Discussion about the talk, for instance, inspired UNC's Chief Technology Officer Michael Barker's hour-long keynote speech at the Carolina Technology Consultant's annual retreat in October 2009.

Medicine, as the following graphic (Figure 1) indicates:<sup>4</sup>



**Figure 1 – Server Counts across the UNC Chapel Hill campus.**

The graphic shows that according to the UNC IT Infrastructure Survey, the School of Medicine manages about 80% as many servers as the University's central IT staff (850 to 1050). The number of SOM servers is especially noteworthy when compared to the approximately 235 servers being used by "Other" category, which represents the combined schools of Nursing, Dentistry, Pharmacy, Government, Information and Library Science, Journalism, Education, Social Work, Law, Business, as well as Student Affairs and the Libraries. These numbers are all the more remarkable when one considers that the SOM serves roughly 600 students, less than two-thirds of the number of students

<sup>4</sup> This image is taken from the *University of North Carolina at Chapel Hill Cost Diagnostic: Final Report*, p. 90.



enrolled in an introductory Spanish course in a given semester. While there are a number of factors that make the SOM unique, including security needs regarding patient data and complex systems needed for medical pedagogy, the School's management recognized the need for greater consolidation and worked towards the integration of authentication systems, email, and technical support with the University. Thus the concerns of course management software and the student information system were part of the SOM's overall movement towards consolidation, and took place partially as a response to this larger movement.

At the School of Medicine (SOM), student data from contact information and photos to exam grades was kept in a custom-built series of interconnected databases. These databases, while they served the particular needs of the School well after many years of tuning, also had their drawbacks. The large number of legacy systems that were interconnected meant that the system was not optimized for speed, nor were they easily comprehensible to any but a small team of people who had been supporting them over the years. This led to a situation where these few people, because of their institutional memory and experience, became indispensable to making the day-to-day operations of the School's information systems work. If these people were to leave their positions, the SOM would be in a difficult position because no one would have the knowledge of how the tables were structured or the workflows that had been developed to handle different needs. Maintenance of these databases was also an ongoing labor expense for the OME, and the number of hours its maintenance required meant that the systems team was unable to spend as much time on other projects. The coming of PeopleSoft was thus seen as an opportunity to outsource some of this work to main campus, while revamping the

legacy system to more closely reflect present needs. Because of many SOM-specific needs that were not covered by the scope of the PeopleSoft implementation, the old systems would not be abandoned completely, but SOM management felt they would need to be downsized and repurposed.

The student databases were not the only technological systems at the School that would be affected by the change. PeopleSoft would hold student schedules, a process also handled by a product called One45, a software used by medical schools that the SOM employed to handle various aspects of scheduling and evaluations for third- and fourth-year medical students, who serve on a complex series of clinical rotations. PeopleSoft would also need to be coordinated with student grades, personal data, and more. Because of historical reasons (largely as a result of the need for additional security at the SOM because of the quantity of private medical data that is shared), the School of Medicine also did not use the unique username and password that is used across the rest of UNC's campus (which went by the somewhat ironic moniker "the Only Name You'll Ever Need", or ONYEN), though this situation would need to change with the coming shift to PeopleSoft, as the SOMID would be abandoned for the ONYEN for authentication purposes. At the same time as these changes, One45 was being piloted for expanded use and there was discussion of updating or replacing both the Curriculum Management System and the online testing system.

With so many systemic changes on the way, the leadership of the OME and the School's Office of Information Systems (OIS), decided to bring together a task force to coordinate the integration and upgrade of the systems. In mid-summer 2008 they formed a group called the Cross Project Initiative Committee and enlisted a project manager to

oversee the process. The outline of the project's objectives and organization are listed in the Cross Project Charter.<sup>5</sup> The Cross Project Initiative Committee was composed of representatives of different technology groups within the Office of Medical Education (including representatives for the database, the data warehouse, One45, LCME requirements, PeopleSoft, etc.) and a few representatives from OIS. The committee sought to eliminate extraneous systems, identify processes to be streamlined, define requirements for the SOM's student processing and establish a roadmap for implementing the application suite. The scope of the systems that were being considered by the project is listed on the project's systems map and in the formal Request For Proposals (RFP) document, including not only systems previously mentioned but also ones used for room scheduling, data storage and external databases specific to medical schools (see Figures 2 and 3). Thus the Cross Project Initiative started an analysis of the technological requirements that would needed to be filled, a map of the requirements for planned future systems such as PeopleSoft, and the analysis of different vendors' ability to meet those requirements.<sup>6</sup>

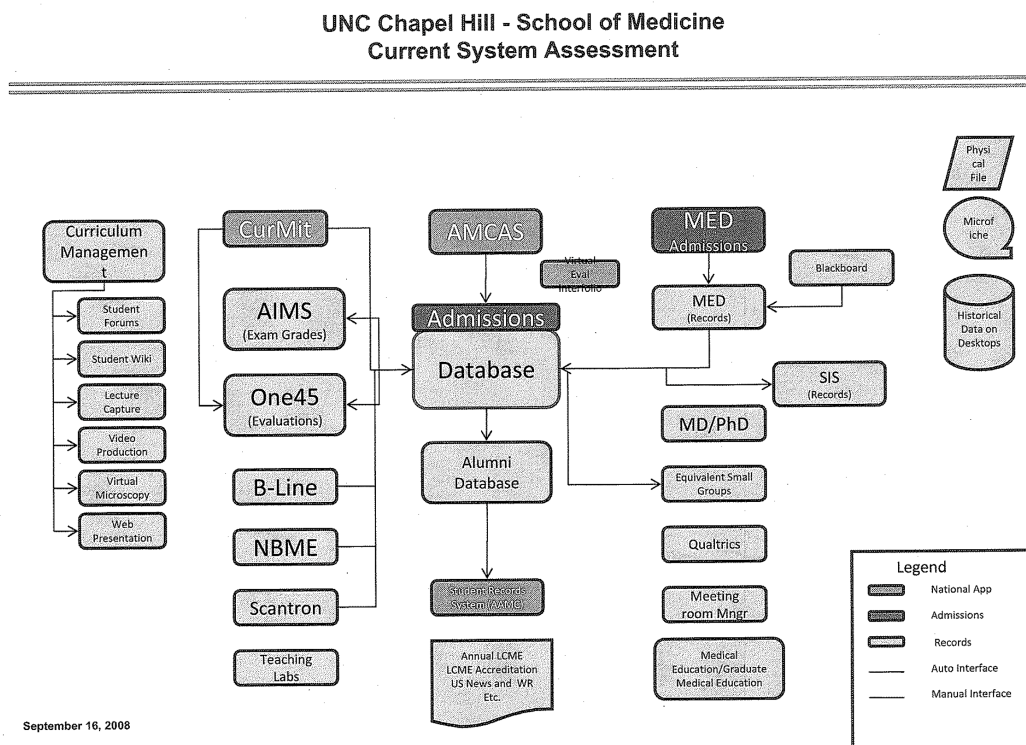
The following graphics, created by the Cross Project Initiative Committee, show the range of the software and workflow areas that were considered to be within the scope of the project. The first graphic (Figure 2) gives an assessment of the current system, showing the interactions between different aspects of the IT infrastructure as a way of visualizing the complex connections between them. Note that many of the functions that the committee sought a Learning Management System to replace were being handled by

---

<sup>5</sup> Jackson, Scott T. *Cross Project Project Charter.doc*. Rep. 2009. Print.

<sup>6</sup> The group of systems within the scope of the Cross Project Initiative was later given the overarching title "Carolina Pulse".

the Curriculum Management System at the time.



**Figure 2 – Assessment of Pre-Needs Assessment Systems at the School of Medicine**

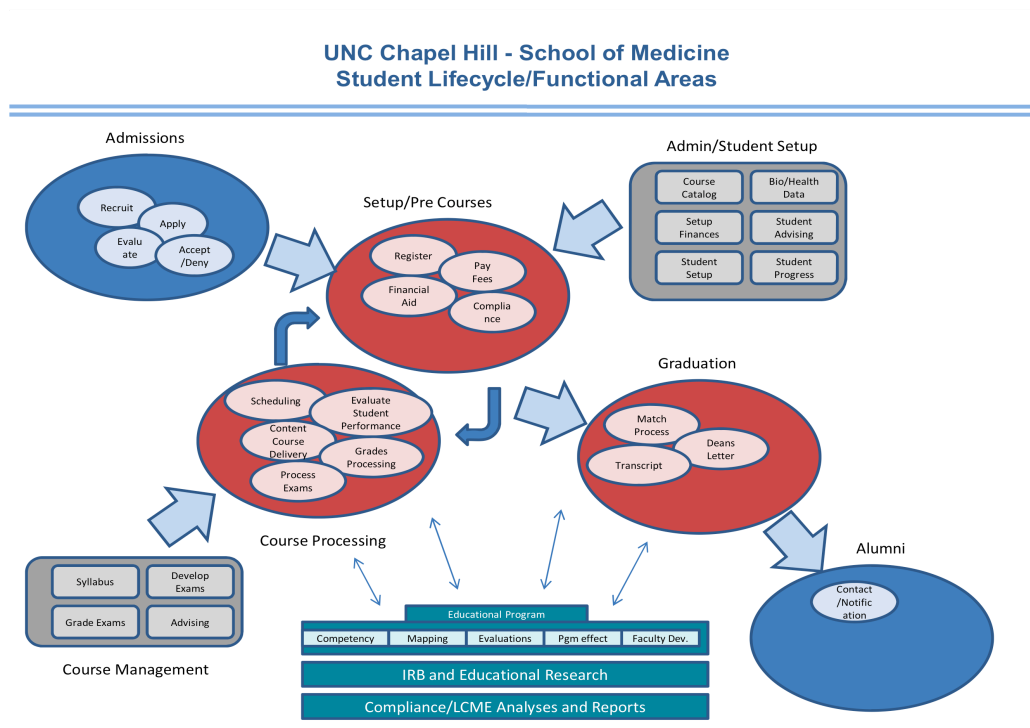
The diagram of the current system includes different pieces, some of which are internal systems and some of which are external. Testing, for instance, was done with a custom online application called AIMS,<sup>7</sup> but some testing is done as part of different systems, such as the patient simulation testing, which uses B-Line software, the National Board of Medical Examiners (NBME) standardized testing, or the occasional evaluations which are done with Scantron. External data sources include CurrMIT, the Curriculum Management and Information Tool for the American Association of Medical Colleges (AAMC), and AMCAS, the AAMC's American Medical College Application service;

<sup>7</sup> The rebuilt version of AIMS was later renamed MedSTARS.

both provide data to medical schools on a national basis. The SOM system centered around a custom database that is better described as a loose conglomeration of associated tables that developed to incorporate historical functions than a database with a fully integrated and well-structured schema. The database tied in information from a variety of sources, from room scheduling software to enrollments and grades stemming from associated programs such as the MD/PhD program and the Medical Education Development (MED) program for disadvantaged students interested in medical school.

Confusion and inefficiencies associated with the current model, in addition to the coming of PeopleSoft to UNC which would make much of this information redundant, drove the SOM to seek out a new system of systems, sometimes playfully referred to as “one ring to rule them all” by Cross Project members. If an LMS were called upon to play the central role in the newly designed system, it would not only replace much of the Curriculum Management System functionality, but it would also need to integrate with testing systems, interact with PeopleSoft and One45, and take over some of the data storage functions found in the existing database.

The second graphic (Figure 3) visually displays the technological needs of the SOM throughout the student lifecycle, and in different functional areas. This graphic brings together the administrative requirements and the needs of the educational program into the student lifecycle from applicant to alumni, along with the needs of course management and administrative requirements.



**Figure 3 – School of Medicine systems by the Student Lifecycle and Functional Areas**

This graphic indicated the complexity of the SOM's needs, and gave an indication that the future solutions to these needs would likely also be complex. Each oval and rectangle represents an area that needs to be considered as part of the solution. A single oval could represent a highly complex and time-consuming process such as Content Course Delivery, a functional area that required the entire Curriculum Management System and the work of many faculty and staff members to support. The future LMS would thus need to fulfill most of the course management and course processing requirements of this document, and it would need to integrate well with the other systems that were involved in other functional areas. For instance, the scheduling component might originate in One45 and be held in PeopleSoft, and so the LMS would have to be able to exchange data with those two systems in order to allow for course enrollment and calendaring

without containing redundant data storage that could lead to confusion and other problems.

In many ways, the technological systems of the SOM were unique, not fitting the standard systems being used elsewhere on campus. Unlike most of the rest of UNC's campus, for instance, the School of Medicine had never really adopted a Learning Management System (LMS) for use in its courses. Instead, OIS created a custom application, based on the Zope/Plone Content Management System, to become the Curriculum Management System. Since its inception in the mid 1990s, the Curriculum Management System (CMS)<sup>8</sup> had come to serve the School's needs for document sharing and an online calendar. The CMS was a unique application optimized for the School's particular workflow, so much so that it broke with Plone's code base to the point that the application could no longer benefit from upgrades normally associated with an open-source product with such a large development and user community. Reconsidering the use of the CMS was an opportunity to create more efficient systems, introduce additional capabilities that modern LMSs have to offer, and a chance to consider technological solutions for the future. However, the unique nature of the CMS (for instance, the primacy it placed on the calendar event rather than the course as the basic organizing unit) would also lead to challenges in achieving full feature parity with a switch to an LMS that follows a different set of logic.

### **Request for Proposals**

In January of 2009, following a period of needs assessment that included

---

<sup>8</sup> Note that the term CMS in this paper is not being used to indicate a Content Management System, as the acronym CMS is commonly used elsewhere.

requirements compiled from many interested individuals across the SOM, the Cross Project Initiative issued a Request For Proposals. The RFP<sup>9</sup> was a 61-page document that stated 344 technological requirements of the School, and asked for proposals from various vendors outlining how their companies would be able to meet those needs.<sup>10</sup> Because of the widely variant technological needs of the School, the requirements document was broken into several sections, with vendors submitting proposals to meet requirements in specific sections of the document based on their software. It had become clear to members of the Cross Project Initiative Committee that given the range of features, there would be no “One ring to rule them all,” and that multiple products would be necessary to meet these needs.

Of the companies that submitted proposals to meet the requirements in the LMS/curriculum management section of the RFP, two were chosen to present their case in day long sessions during mid-April 2009. The first vendor to give a demonstration was Blackboard, a corporation that dominates the LMS industry in the United States,<sup>11</sup> and

---

<sup>9</sup> See appendix for the complete Request For Proposals document. (Jackson, Scott T. *65-RFPB629344-1.pdf*)

<sup>10</sup> Section 1.02 of the RFP gives a succinct overview of the goals of the document: “The University of North Carolina at Chapel Hill, School of Medicine (“SOM”) is embarking on a project to replace most of the applications supporting its student functions. The primary objective of the project will be to provide SOM with a fully integrated suite of components that will allow the University to deliver outstanding service in support of SOM’s mission of teaching, research and service. SOM seeks responses to provide the core functions comprising a Medical School Student Processing System: Course Scheduling, Content Course Delivery, Evaluation Processing, Student Advising, Exam Processing, Curriculum Management, Graduation Processing, and Educational Program support. SOM is in the process of installing Oracle’s PeopleSoft system and will utilize this software as the core component for handling Admissions, Course Catalog, Financial Aid, Transcripts, and Student Finances. All responses must take this into consideration and provide information regarding how your product will integrate with Oracle’s PeopleSoft.” (p.2)

<sup>11</sup> *The State of Learning Management in Higher Education Systems*. Delta Initiative.



the second vendor was Unicon, a company that provides support for Sakai, an open-source LMS<sup>12</sup> that was developed by a consortium of several high-ranking American universities and has since spread to universities around the world.

UNC already had a history with both of these companies. Blackboard served as UNC's official LMS for many years, and was the largest LMS implementation on campus. However, the Teaching and Learning Interactive division of UNC's Information Technology Services Department (ITS), the same people who provided support for Blackboard on campus, were also running a pilot to test the feasibility of Sakai.

UNC's Sakai pilot had started as a small project during the 2007-2008 school year, but by the Spring Semester 2009 it had grown considerably, with over 1,100 people participating in the pilot (over 1,000 students, 35 faculty, 100 staff).<sup>13</sup> In Fall 2009 that number would grow much larger, with as many as 900 students taking classes in a single subject. The University had chosen rSmart as its vendor of choice for the pilot, though in the summer of 2009 it would switch to using Unicon as the vendor. The pilot started a push by some groups on campus to have Sakai replace Blackboard as the University's official LMS. For various reasons, including a quick succession of Chief Information Officers at the University and the intensity of resources that were being used for the PeopleSoft initiative, Sakai had not moved beyond the pilot stage. The pilot was

---

<sup>12</sup> Within the Sakai community, Sakai is referred to as “community source” rather than open source. In this model, an independent foundation holds the copyright for the software, and individual institutions commit their resources to the community. Also, Sakai is generally self-described as a Collaborative Learning Environment (CLE) rather than a Learning Management System (LMS). However, these terms are to some degree interchangeable, and this paper the LMS label is used to describe both Blackboard and Sakai.

<sup>13</sup> *Sakai Pilot Evaluation Final Report*. UNC Chapel Hill Information Technology Services Teaching and Learning Interactive, p. 54.

continued through the 2009-2010 school year, with a growing number of students and faculty using the LMS, and so UNC continued having the two LMSs running simultaneously. In the meantime, Assistant Vice Chancellor for ITS Teaching and Learning Charlie Green and his team gathered usage and user response data from the Sakai pilot to craft a whitepaper on the adoption of Sakai on campus.<sup>14</sup>

Using an LMS product that was also being used on main campus promised a number of potential benefits for the SOM, including greater interoperability with campus systems, a better chance of benefitting from UNC-funded integrations between its software, and the opportunity to realize much lower costs for licensing, hosting, training users and supporting the software. Potential downfalls of having main campus cover those costs include the need to follow another organization's priorities for governance, and the greater difficulty of implementing SOM-specific changes to LMS configuration or codebase.

The ability for the medical school to make specific changes to the code and configuration was one of the key requirements for any system that would be considered. The requirement labeled #336 was particularly emphatic about this point, using all-capitals to drive its point home "The system MUST provide integration with all major components within the suite of medical school student processing systems. The integration must be seamless."<sup>15</sup> The reason for this emphasis is that in many respects, the particular requirements of medical education create different needs than other subjects. Unlike courses in the College of Arts and Sciences, for instance, medical school courses

---

<sup>14</sup> *Sakai Pilot Evaluation Final Report*. Rep. UNC Chapel Hill Information Technology Services Teaching and Learning Interactive.

<sup>15</sup> Jackson, Scott T. *65-RFPB629344-1.pdf*, p. 58.

require that all first- and second-year students take an identical course of study, and instead of following UNC's semester system, the School has separate calendars for each year of medical school. Rather than having a single professor in a course, medical school courses often have as many as 30 or 40 visiting professors, all of whom were given access to the Curriculum Management System so that they could upload lecture materials such as Powerpoints and Word documents. The need to create an integrated curriculum for medical school means that the SOM required a technology that offered a comprehensive search function in order to allow for extensive curriculum mapping of topics covered across every course taken in the first two years. Standardized testing that all students take during the second year of medical school produces the requirement to be able to comb through a course archived from past years in order to revisit materials covered there. This need is not reflected in the same way in other disciplines, where the ability to search across courses is generally unnecessary. In short, the SOM faced unique challenges that would require custom solutions integrated from many sources. For the medical school, then, to be locked into a system that did not allow for flexibility and particular interoperability with its other software would lead to various problems for its faculty, students and staff.

### **3. Needs Assessment**

#### **Overview**

This chapter explores the needs assessment process, from requirement gathering through the SOM's final decision about the preferred LMS product to use. It begins with a discussion of the Cross Project Initiative Committee's creation of the RFP, and continues by giving an overview of the document's structure and contents. It then delves into some of the more important requirements related to Learning Management Systems, and describes the proposals that different vendors presented to meet the SOM's requirements. Finally, this chapter describes the decision-making process by which the different vendors' LMS products were evaluated.

#### **Requirements Gathering**

Once the School of Medicine's Cross Project Initiative Committee was established, it set about creating its formal Request for Proposals document. An important step in creating the document was to gather requirements from different stakeholders within the School, including administrative and technical staff, faculty and students. The main section of the document was largely in the form of a spreadsheet divided into sections, each covering one of the 13 major functional areas that needed to be addressed: Admissions, Alumni, Admin/Student Setup, Compliance/LCME Analysis and Reports, Course Management, Course Processing, Educational Program, Graduation, IRB and

Educational Research, Security/Authorization, Setup/Pre-courses, Integration/Data Access, GME and CME, as well as a General category.<sup>16</sup> Each of these areas was then broken down into further categories (such as Content Course Delivery, Evaluate Student Performance, Patient/Procedure/Case logging, etc.), and each category was associated with specific user requirements. These requirements were all then given a unique ID from 1 to 344, and had three additional fields on the spreadsheet: a note about the proposed software system(s) that might support that particular function, a yes/no indication regarding whether a given system was able to meet the requirement, and an explanation of how the requirement would be met. The additional sections of the RFP included an overview of the project, glossary, legal requirements such as terms and conditions, and sections covering procedural aspects of how proposals would be chosen.

Representatives from around the SOM were tasked with producing the list of requirements for the particular software they worked with most closely. For instance, the central database requirements were done by the OME programming team, the scheduling requirements were done by those who worked with the scheduling system, and so on. Most of the requirements related to what became the LMS portion of the needs assessment document were produced largely by the leader of the group at OIS that worked with the Curriculum Management System. Some of the requirements for the RFP were generated from faculty input, stemming from a few sessions led by a SOM faculty member who brought a group of faculty together to produce a wish list of functions they

---

<sup>16</sup> LCME is an acronym that stands for Liaison Committee on Medical Education, the national accrediting authority for medical education programs. IRB stands for Institutional Review Board, a committee that monitors research on human subjects. GME and CME stand for the Graduate Medical Education and Continuing Medical Education divisions within the Office of Medical Education, respectively.

would like to see in a student processing system. The gathering of faculty input at the early stages was thus a relatively unstructured process that did not employ iterative feedback or exhaustive interviewing.

Five years earlier, when the School of Medicine went through the process of creating a needs assessment document to choose a product for the Curriculum Management System, the process was different. At that time, the School employed a consulting firm called CIGNEX to help with the needs assessment, and followed a more exhaustive process involving a more formalized and extensive method of gathering requirements from faculty, students and staff. In addition to differences in the needs assessment processes, there were also differences regarding the user base. When the original CMS was put into place, it would be the first time that many faculty, staff and students had ever experienced a single large-scale system for managing online content – previous to that time material was housed on a series of custom web sites managed by OIS. Since the latter needs assessment document took place in the midst of a serious national recession, one might expect that available finances might be a difference between the two cases, but actually in both cases the departments were largely expected to undergo the system change – from assessment to implementation – with little extra financial support.

While the first needs assessment was largely focused on what became the CMS, the second was larger in scope – ranging from testing tools and things covered by main campus's new student information system (SIS) to a room scheduling software, with the LMS requirements only a portion of the overall document. While the first needs assessment was precipitated by the need to improve the SOM's own systems, the second

was largely a response to changes coming on main campus. While the first involved an assessment aimed at building a custom application in-house, the second needs assessment aimed for the more modest goal of acquiring existing software to meet its requirements. The second assessment was also done under a collapsed time frame because of the need to integrate systems that followed a timeline largely being established on main campus. This shorter time period also then reduced the scope of activities involved in gathering requirements and assessing the fit of different vendors. This reduction in scope meant that the latter assessment did not draw upon an iterative process of faculty review, for example.

Another difference between the two needs assessment processes was that many of the functional requirements demanded of the LMS that were not concerns for the CMS. The latter needs assessment document included a number of requirements related to grades, exams and evaluations that were never housed on the Curriculum Management System. Instead the CMS was largely a role-based calendaring system that stored documents, rather than a single product that integrated a number of different functions into one.

Of the 344 requirements mentioned in the Cross Project Initiative's needs assessment document, roughly half were related to Learning Management Systems. The categories within the document most relevant to LMS needs were course management, course processing, and the educational program. Each requirement was given a weighting from low to high priority as a way of judging the relative importance each need. The requirements were often related to a certain feature that was required of the LMS (often a feature existing in another system such as the CMS or AIMS), such as the ability to

create question pools for exams, or to display images. Other requirements were related to a function that users or staff members would be able to use, which not only required the possibility of performing an action, but also the ability for the action to be undertaken by employees with particular roles. Finally, there were requirements related to integration with existing systems, to ensure that the LMS would not only provide support for specific functions, but that it also played well with other software used at the School. Many of the specific details of the integration between these systems were considered out of scope, however, and were not explicitly mentioned in the RFP's needs assessment document itself.

Three LMS vendors answered the Request for Proposals, and after review of the documents provided by each of the vendors, Blackboard and Unicon (a Sakai vendor) were invited to give all-day presentations at the SOM for their products. However, because of complicating factors, these presentations did not solely represent the differences of Sakai and Blackboard as software products. For instance, the third vendor that answered the RFP, a company called rSmart, also provided hosting, support and development for Sakai. rSmart was also the original vendor that was supporting UNC's Sakai pilot. However, after reviewing the RFP documents of each company and reviewing their level of service, Unicon was judged to be a better fit for the School of Medicine. The SOM's preference for Unicon over rSmart played a partial role in UNC's decision to switch its Sakai pilot vendor from rSmart to Unicon in August of 2009. It is also important to note that the functionality provided by each vendor was related to the version of its software that was proposed for adoption at UNC. The University was running Blackboard 6.3 at the time of the RFP process, though the newest release of the



product was Blackboard 9. UNC was planning an upgrade of the software, but decided to switch to Blackboard 8 instead of the latest version, which meant that the presentation had to focus on only the features that were available with that version of the software. The Sakai community was in the process of developing Sakai 3, a beta version that was being run at a small number of universities, but Unicon presented on the capabilities of Sakai 2.5, the most recent production build of the software at the time.<sup>17</sup>

Through a consideration of the formal written responses to the RFP and the presentations given by each vendor, the Cross Project team documented whether or not each vendor was able to meet each requirement with a simple yes/no notation followed by a short comment explaining how the requirement is met.

What was most striking about the assessment of the different vendors, however, was the incredible parity of features in terms of the SOM's requirements. With roughly 150 requirements being considered for each LMS, very few requirements were marked as functions that one software could provide that the other could not. Specifically, requirement #147 says that Sakai 2.5 "provides the ability to specify the topic areas/courses a faculty member can access, including the ability to set read only or read/write access."<sup>18</sup> Even this point is followed by the comment that this functionality was expected in Blackboard 9. Blackboard was also listed with PeopleSoft as being able to provide the tracking of enrollment and completion of annual HIPAA and OSHA training, while Sakai was not,<sup>19</sup> but any functionality in PeopleSoft would render another system's overlapping capability redundant. Functionally, then, the two competing LMS

---

<sup>17</sup> In Fall of 2009 UNC had Unicon upgrade the Sakai pilot software to version 2.6.

<sup>18</sup> Jackson, Scott T. *Cross\_Project\_Requirements\_v\_10.xls*.

<sup>19</sup> Ibid. See requirements #29 and #30.

systems were thus seen as remarkably equivalent in terms of the RFP.

The assessment document, then, did not tell the whole story of vendor difference; the means by which a product delivered a solution to a given requirement showed a level of depth not reflected in the assessment document. For instance, requirement #89 (the ability to deliver small groups) is marked in the RFP as a requirement fulfilled by both products, but in reality the groups provided in Blackboard do not have the same flexibility as those found within Sakai, as the Department of Romance Languages (RomL) at UNC and the SOM's own pilot of Sakai in Fall of 2009 later discovered. It was the ability to have dynamic groups within a class, run by a single coordinator with a series of individual instructors, that led RomL to move thousands of students out of Blackboard and into Sakai for the 2009-2010 school year.

In April 2009, the SOM hosted two day-long vendor presentations to review the two competing LMS products. While previously the process of requirements gathering and vendor review was largely completed by members of the Cross Project Initiative Committee and select individuals, the vendor demonstrations were opened up to a larger pool of interested parties. Attendees at the vendor presentations included OME staff, OIS systems analysts and programmers, faculty, students and others such as the library liaison to the SOM. Focused sessions during each day allowed the vendors to focus on different aspects of their products from people with varied perspectives, and each attendee was invited to ask questions, make comments about the software, and to fill out an evaluation form with comments and scores for each vendor. The head of the Cross Project Initiative Committee compiled the results of the evaluations and gave each vendor a numerical score.

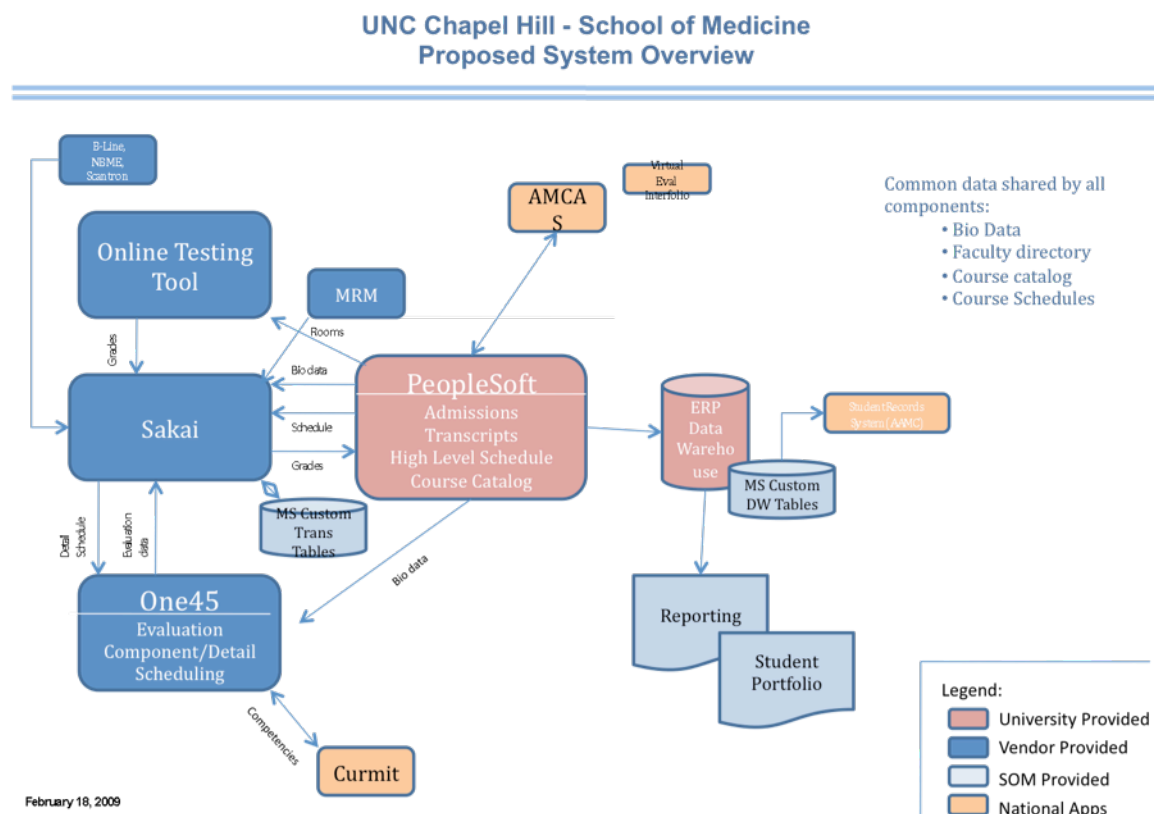
The scores for all potential vendors, both for software related to Scheduling/Evaluations and LMS/Testing were divided into several categories: functionality—divided into subsections covering handling of requirements (40 points), implementation (10 points) and intangibles (10 points)—pricing (20 points), support (15 points) and financial stability (5 points). Given that the final version of the vendor analysis document did not include a numerical point value for pricing (projected costs for the two products is discussed in Chapter 4), the highest possible point value for any given product was 80 points. Of the six companies that were evaluated for these two functional areas, the scores ranged between 34 and 55 points. Of these, Unicon scored the highest with 55 points, followed by One45, the company that was chosen to handle the Scheduling/Evaluations needs, with 51 points; Blackboard scored 46 points. Though the two LMS vendors were given equal scores in implementation (5 points each) and were closely matched in terms of the ability to meet requirements (26 points for Blackboard, 28 points for Unicon), Unicon was given higher scores for support (5 points for Blackboard, 10 points for Unicon) and intangibles (5 points for Blackboard, 8 points for Unicon). Blackboard's slight edge in financial stability (5 points for Blackboard, 4 points for Unicon), was not enough to make a substantial impact on Unicon's lead.

After weighing the merits of the different vendors, the School of Medicine chose Unicon as its preferred vendor. However, because the School's LMS implementation would need to follow the University's decision for financial reasons, no official award was ever offered to Unicon when the RFP was closed. The decision had an impact nonetheless. The SOM's preference for Unicon's implementation of Sakai over rSmart's was partially responsible for the University's shift in vendors for the Sakai pilot. Also,

the School's decision provided further support for the Sakai pilot at the University level, providing a boost to the effort to have Sakai replace Blackboard as the official LMS on campus. At the SOM, the decision would lead to a restructuring of the entire model for the integrated suite of applications that were to handle student processing needs.

## 4. Analysis

Following the formal closure of the Request For Proposals, the School of Medicine's Cross Project Initiative Committee continued its push towards crafting an integrated student processing applications suite, moving from the phases of initiation and elaboration towards those of construction and transition. In the months following the RFP's closure Sakai began to play an increasingly central role in the overall model of a student processing applications suite, as indicated in Figure 4.



**Figure 4 – A model of the proposed system for the School of Medicine**

Figure 4 shows the proposed model for the future software systems of the SOM as they relate to the Cross Project Initiative.<sup>20</sup> Note that while in the diagram of the current system (Figure 2) the database was central to the overall operations, in the proposed model Sakai has taken center stage, acting as a primary connection source with a number of documents. The SOM database has been replaced by a much smaller version here called “MS Custom Trans Tables” that interact primarily with Sakai, split from some of the SOM’s custom database tables that were moved into an area labeled “MS Custom DW Tables” designed to interact with PeopleSoft’s Data Warehouse. Outputs from B-line, NBME and Scantron sources, the Meeting Room Manager (MRM) and the Online Testing Tool feed exclusively into Sakai. Sakai is also a major hub for two-way data interactions with One45 and PeopleSoft, the two other major systems in the proposed model. The basic model has Sakai as the source for most first and second-year medical school information, the years when students are taking standard courses, while information for students in their clinical years would largely be kept in One45. Transcripts, biographical data and admissions materials would be housed in PeopleSoft. The SOM’s ultimate goal was to have all of the systems interconnect, united by data pipelines and brought together into a seamless user experience through the use of a unified single sign-on.

It is worth noting that of the three technologies at the core of the SOM’s future integrated model, two are tightly controlled, “black box”, proprietary technologies over which the SOM had relatively little control. PeopleSoft, which plays an important role in the model, was a software mandated by the University,

---

<sup>20</sup> Jackson, Scott T. *Cross Project Design Document*, v5. p. 17.

and although it was sold to the School as a solution that could handle a great deal of customization, realities of governance, project scope and economic support narrowed the range of possible customization down to a trickle by the time it began to affect the SOM in summer 2009. Aspects of data access as basic as the ability to programmatically export data or to create custom fields relevant to student information (such as locker numbers, or standardized medical test scores) were also blocked by PeopleSoft, necessitating the ongoing presence of custom database tables for the SOM in a separate database that could (at least in theory) still be combined with PeopleSoft data via reporting software in order to achieve integrated views of the data. Even the SOM's basic data entry for information that was required to be kept in PeopleSoft would have to be done largely through manual data entry rather than as part of larger batch processes.

One45 had similar problems with customization and data access. One45 was indispensable because of its ability to automate a lottery system for fourth-year scheduling or to seamlessly integrate with the AAMC's CurrMIT system; however, data export from One45 was largely limited to what was provided out of the box. This data export problem led the SOM to choose between options like using the Microsoft Excel format that cut off faculty comments about students because they exceeded the character limit for a single cell, or choosing to have the information written to HTML tables, which required writing a parser to decode the results into useable data. The database tables and the code that accessed them were completely off-limits to One45 customers, who were not given the option of XML or CSV data

formats or even an API for data access.<sup>21</sup> All customizations of One45 happened through a slow process whereby the SOM could ask for a few requests at a time, and One45 programmers would make the changes themselves, and at their own pace. High priority items such as meeting accreditation requirements took precedence over lower priority concerns, even if the latter could lead to major productivity gains and improved decision-making capacity.

Given the almost unchangeable software found in PeopleSoft and One45, two indispensable systems central to the SOM's new model, as well as the drive for the School to employ the smallest number of software products that would fit its requirements, the desire for an LMS that would provide additional flexibility became clear. Although functionally Blackboard and Sakai may have seemed equivalent, it was clear that as another system closed to customization and development, Blackboard would be more difficult to employ in the new model.

The SOM took a serious risk in placing Sakai at the center of their plans for a new system, however. The new model relied on the assumption that the School's Sakai hosting, configuration, maintenance and integration with University systems (such as single sign-on and SIS integration) would all be handled free of charge by UNC. At the time, UNC still regarded Blackboard as the official LMS of the University, and only made promises to support Sakai as a pilot program that needed to be reviewed annually. Although Sakai had experienced a growing community of faculty, staff and student users on campus, and the comparisons of the software with Blackboard were largely positive, the University's upper management had not yet

---

<sup>21</sup> XML stands for extensible Markup Language, CSV stands for Comma Separated Values, and API stands for Application Programming Interface.



decided whether Sakai was going to replace Blackboard as the official LMS. The decision was delayed by a number of factors and was expected to be resolved in late 2009, but in the meantime the SOM's Cross Project Initiative carried on with its pilot of Sakai and its plans for the new model of system integration. The possibility of the University rejecting Sakai as the new LMS was always present, and this fact was regularly noted as an issue on the Cross Project Initiative meeting agendas.

As the Cross Project Committee sought a backup plan for the new systems model, it became clear that Blackboard would not be able to play the role that Sakai was expected to play. In addition Blackboard's relative inflexibility, there were also some basic functions that Blackboard would not be able to handle.

First and foremost, the Curriculum Management System that the LMS was intended to replace was a calendar-based system; though it was a calendar with extra features like conveying course information, linking out to online resources such as lecture capture and hosting documents like Powerpoint files, the entire system revolved around the presentation of calendar-based information. Medical students, who were almost overwhelmed with information that needed to be categorized, processed and understood built their workflow around the structure of the calendar, as did the faculty teaching the courses. Over the years this structure became critical to the culture and smooth functioning of medical education in the first two years. Sakai's Schedule tool, while it did not match every feature of the custom built calendar system of the CMS, was able to replicate the most essential features of the calendar-based layout, and as a bonus offer forums, wikis, course-specific file storage, grades, quizzes, learning modules and more. Blackboard, while

it had many of the same LMS features as Sakai, was not strong in the central feature that could replace the CMS: a calendar. Blackboard does offer a calendar function, but it is so limited that ITS, UNC's central IT group that was in charge of hosting Blackboard, recommended that users do not use the calendar tool at all.

“Because the Course Calendar makes no provision for repeating events (e.g., a class meeting every Tuesday and Thursday) and doesn't allow you to include Course Links, it is also a poor solution for providing a course schedule or syllabus.”<sup>22</sup>

With such a strong suggestion from ITS against using Blackboard for course calendars, it is strange that the SOM did not consider this difficulty before the vendor presentations, but the realization about the use of the calendars in the two products was not tested until several months later.

Lacking the ability to replace the calendar aspect of the curriculum system, Blackboard would thus be functionally unable to serve the central requirement of an LMS at the School of Medicine. Indeed, Blackboard was available to the SOM for many years but was never used by any courses, because it did not meet the School's central teaching model. Useful functions found within Blackboard, such as the wiki and forum capabilities, were fulfilled with a series of standalone products such as MediaWiki and Jive Forums. An LMS could be a boon to students, faculty and staff because it could give a single integrated source for these disparate tools, all of which required separate login procedures, but no LMS would be able to serve the School's unique needs if it did not feature a strong calendar function.

If the University chose not to support Sakai, the SOM would need to continue

---

<sup>22</sup> "Blackboard: Course Calendars and Tasks." UNC Chapel Hill Information Technology Services.

to support the aging Curriculum Management System or seek its own arrangements with a Sakai vendor, but it would not be able to use Blackboard as a replacement without significant modifications. Blackboard was a proprietary product built for undergraduate courses and the implied frameworks those courses represent: courses taught by a single faculty member or involving only currently enrolled students, students taking an individual series of courses rather than an integrated one; it was not an open platform designed for use in diverse learning environments. As a result, Blackboard did not offer a robust mechanism for customizing the code base of its tools or access to its underlying databases.<sup>23</sup>

The SOM's search for a Learning Management System provides a useful test case for exploring LMS issues that affect not only UNC as a whole, but other universities as well. The issue of flexibility addressed by open source software has two important aspects for educational institutions. First, flexibility means the ability to write your own code to match the priorities, workflow needs and peculiarities of a particular institution. This would allow the SOM to create a custom view of the Sakai calendar, for instance, that color-coded different courses so that they could be distinguished in a calendar view, or allow for direct data transfer from a custom testing system without cumbersome manual processes. It would allow for updating or reading masses of data directly through database access rather than through a user interface that only gives information about one student at a time, creating

---

<sup>23</sup> Blackboard's "Building Blocks" program, borrowing from the open source model, has expanded the possibility for extending the LMS's functionality. However, flexibility is not at the core of the LMS, and Blackboard still maintains control over what parts of the code can be opened up. For all its recent moves towards openness, it is clear that Blackboard is not an open source platform.

custom fields for information not provided in a standard template, or various other alterations that improve data analysis, system responsiveness and ultimately the bottom line for so many universities. This form of flexibility is what often comes to mind when people think about open source software.

A second kind of flexibility that open source software like Sakai can provide, however, is the flexibility to use individual tools that other schools have developed for a niche project that is of little interest to most institutions, but could be the lifeline of a handful of universities. This benefit is a direct result of the open source community. Large companies such as Blackboard are focused on providing functionality that will satisfy the majority of their users, and while the tools within the product allow for a certain degree of configuration, they do not offer differing tools covering essentially the same basic function, but with a different set of features. More importantly, unless features yield a clear financial return by serving a large number of customers, profit-driven companies will not invest in developing them.

Another advantage that Sakai held over Blackboard was financial. Although the SOM would not pay for an LMS regardless of what product was chosen because it planned to receive services through the University, there was still a substantial cost difference between the two products. In the SOM's vendor analysis document that gave each product a point value for different evaluation areas (such as functionality, pricing, support and financial stability), pricing was worth 20% of the total weight.<sup>24</sup> The University's costs for running an LMS include licensing,

---

<sup>24</sup> Jackson, Scott T. *Vendor Analysis.xls*. Rep. 2009.

maintenance and support costs, training, travel, implementation service and custom development. Licensing was the area where one could see the biggest difference, of course: Blackboard would charge \$153,00-\$180,000 per year in licensing costs for the first four years, where Sakai has no associated licensing fees at all.<sup>25</sup> The implementation service category also revealed a big difference between the companies, with Blackboard costing between \$135,000-\$210,00 for this cost in year one, and between \$55,000 and \$175,000 each year after that. Unicon would charge \$29,000 for this work during the first year, without a recurring cost in this category. Custom development work, training (\$30,000 for Blackboard vs. \$7,500 for Unicon in year one) and support are also areas where Blackboard's costs seemed likely to become a burden relative to Sakai, because Blackboard has no competition for those services, whereas over a dozen commercial affiliates worldwide (including Unicon and rSmart) that compete for Sakai customers.<sup>26</sup>

This point highlights another aspect of flexibility that favored Sakai – the flexibility to avoid vendor lock-in and the associated problems, financial and otherwise, that that entails. As author Wende Morgaine writes for CampusTechnology.com:

Sakai emerges as an alternative for schools concerned about the risks of proprietary systems, including uncertain licensing costs, unresolved product roadmaps, and continued instability due to patent lawsuits. In today's technology landscape, open source applications are becoming a "safe haven" compared to the uncertainties and turmoil in the proprietary software

---

<sup>25</sup> All of the financial data listed in this paragraph derives from the vendor responses to the RFP document. See Unicon Corporation. *Unicon's Response to 65-RFPB629344* and Blackboard Corporation. *School of Medicine- Teaching and Learning Software Solution: A Technical Proposal for the University of North Carolina at Chapel Hill*.

<sup>26</sup> Korcuska, Michael. "Blackboard, Moodle and Sakai." Educause 2009 Annual Conference, 4 Nov. 2009.

marketplace.<sup>27</sup>

For Morgaine, the cold reality of the marketplace favors Sakai's open source model, because it allows an institution greater lassitude in controlling its own destiny. In addition to the reasons listed above, she also highlights the open source community's focus on open standards, which is unevenly applied in proprietary systems such as Blackboard.

Some argue that open source software does not necessarily reduce the cost of doing business compared to proprietary software. For instance, silicon.com's Steve Ranger interviewed twelve CIOs to ask them about the cost of open source.

"When asked if they had chosen open source software as a way of cutting their costs during the recession, just two of the 12-strong jury said yes. In contrast, several CIOs said the costs of migrating to open source and the associated expenditure on retraining staff serve as a disincentive for adoption."<sup>28</sup>

Indeed, UNC CIO Larry Conrad made an assessment of the migration process from Blackboard to Sakai and its costs a requirement before making any decisions about which LMS would be the University's official platform in the future. UNC developed a tool called bFree to extract information from Blackboard, which was later extended by universities like Virginia Tech in order to get this information into Sakai.<sup>29</sup> ITS Teaching and Learning Interactive group determined that by using bFree and following Virginia Tech's example, the transition of nearly all of the

---

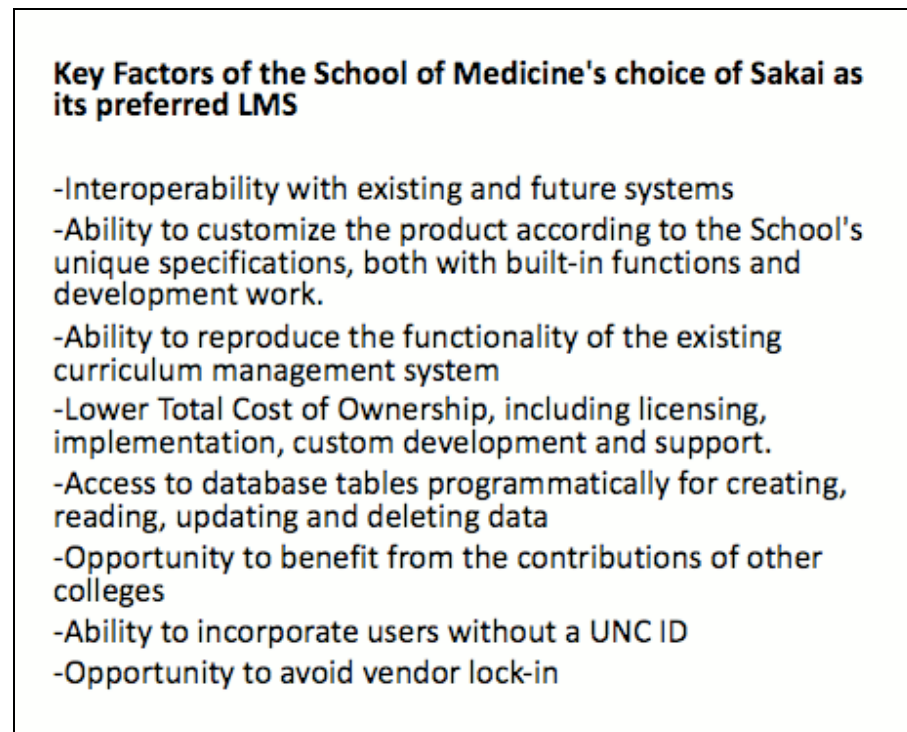
<sup>27</sup> Morgaine, Wende. "More Than Open Source: A Second Look at Sakai." *Campus Technology*, 14 Mar. 2007.

<sup>28</sup> Ranger, Steve. "Open source? No good for cost cutting, say CIOs -." *Silicon.com*. 23 Oct. 2009.

<sup>29</sup> See "'bFree' UNC-Chapel Hill's Blackboard Course Extractor now available." UNC Chapel Hill Information Technology Services, 4 Apr. 2007 and Moore, John, Teggins Summers, Will Humphries, Amber D. Evans, and David McPherson. "Virginia Tech's Transition to Sakai." Virginia Tech, July 2009.

Blackboard content (with the exception of quizzes created within Blackboard) could be done with relatively little effort. The need for training faculty and staff to use a new system would still require time and money, of course, but University administrators and many faculty and staff had already been exposed to Sakai during the course of the pilot, so that could ease some of the workload associated with the transition.

The total cost differences realized from switching from Blackboard to Sakai could thus be well into the hundreds of thousands of dollars per year- money that could be well spent hiring in-house developers to customize and further improve the product. These cost savings would quickly outweigh the potential costs associated with the switch from one LMS to another. Although cost is not the only argument or even the most important one in favor of Sakai, it nonetheless remains a compelling argument for the University. The School of Medicine, of course, would not directly bear the costs of LMS hosting and licensing in either case, but it would be strongly affected by the flexibility to customize the product to the School's unique needs.



**Figure 5 – Key Factors of the School of Medicine’s choice of Sakai as its preferred LMS**

Cost also becomes a factor when considering the degree of service that each LMS can give. With an open source model like Sakai’s, there are no additional licensing fees that need to be paid when additional users are added to the system. This restriction was a factor in UNC’s use of Blackboard, as it limited the University’s ability to host Blackboard sites with non-UNC users such as those taking training modules, or even non-course sites for interaction with scholars at other institutions. Blackboard’s licensing model is built upon the potential number of users at a given school (as measured by the size of the student body), not on actual usage. This pricing model can work against the University, especially since only a third of UNC courses use Blackboard at all, and less than half of the courses using the LMS use



anything but its most basic features.<sup>30</sup> Additionally, in order to get the full suite of tools available from Blackboard, the University would need to pay for expanded features. With Sakai, by contrast, the University was able to increase the number of users without cost, allowing for both expansion of the user base and flexibility such as cross-institutional use, while receiving the full suite of available tools at no extra cost.

## Conclusion

The School of Medicine's needs assessment process provides a microcosm for viewing the complex factors that can influence the decision for institutions of higher education implement a Learning Management System. Historical context, the need for integration with existing systems, financial factors and inter-institutional connections all played important roles in the SOM's needs assessment process, forging a unique situation that at the same time contains lessons applicable to the University as a whole and for other institutions. It is telling that for the SOM, neither cost nor feature set stood out as the biggest difference between competing LMS products, but flexibility. The microcosmic concerns thus mirror concerns that are in some ways all the more relevant for the macrocosm of the university or a large company, where concerns such as interoperability, the opportunity for customization and the ability to handle unexpected use cases become all the more critical.

As of this writing UNC has not decided whether to replace Blackboard

---

<sup>30</sup> *Sakai Pilot Evaluation Final Report*. Rep. UNC Chapel Hill Information Technology Services Teaching and Learning Interactive, 15 Oct. 2009, p. 74.

with Sakai, to end the Sakai pilot or to keep running the two systems in tandem for another school year. Given the inability of Blackboard to handle the central calendar feature that is so central to the School of Medicine's daily curricular needs, as well as other concerns for flexibility, access and interoperability, it seems unlikely that the SOM would adopt Blackboard as an LMS. However, in the absence of a switch to Blackboard or Sakai, the School would be forced to maintain and upgrade the existing Curriculum Management System, which could also be a costly process, and one that would not be likely to match the feature set of an enterprise LMS.

Although SOM leaders have always maintained their intention to implement an LMS only if the University was paying the costs of hosting, maintenance and management, it is not impossible that the SOM could choose to work with Unicon to implement the LMS for the School alone. Though the principal resistance to this process has been the expense related to implementing an LMS, cost could become less of a factor should the students and staff – accustomed to the features and interface of Sakai from the pilot courses taught using the system – express their desire to see more features than are available in the CMS. Furthermore, if the projected expenses related to upgrading and maintaining the CMS over the coming years begin to mount, a securely hosted implementation of a license-free, constantly updated and expanded LMS could prove the most prudent course of action for the School.

This issue is mirrored on the University level, raising the question of whether a certain combination of factors might push UNC's leadership to promote a migration from Blackboard to Sakai. Sakai already has the support of ITS's Teaching

and Learning Interactive, the group that supports both LMSs on campus, with the group's leader actively campaigning for the changeover. The group has already responded to CIO Larry Conrad's request to evaluate the difficulty of migrating course content from Blackboard to Sakai, saying that the process would be relatively painless and automated. Further, the results of the Sakai pilot assessments for the 2007-2008 and 2008-2009 school years have shown that a growing number of faculty, students and staff have been using Sakai, and that their level of satisfaction with the software is greater than that of Blackboard. Videos of positive faculty testimonies have been collected on UNC's official Sakai blog, support tickets for Sakai beyond course creation and user management have been virtually non-existent, the School of Medicine has thrown its support behind the switch and the Department of Romance Languages has found a use case for why Sakai is almost necessary for some of the largest courses on campus. Overall costs for Sakai are likely to be lower than Blackboard, and PeopleSoft - the largest software system implementation in the history of the University - was partially designed for interoperability with Sakai. However, to date these factors have not been enough to push ITS's upper management to make the switch.

What else would need to happen to make the University throw its support behind Sakai as its preferred LMS? The answer is unknowable, but there are indications that if there was a strong push by faculty to make the change, that could be the deciding factor. While students typically only attend the University for a short period of time, and the younger generation of users is far more adaptable and likely to embrace new technologies, faculty members tend to be busy people with little

interest in investing the time to learn another technology. Furthermore, as a top research university, UNC strongly values its faculty for the prestige it brings to the institution, leading faculty voices to often play an important role in University decisions. If a groundswell of support rises for Sakai from faculty members, as well as other students and staff across UNC, there would be a good chance that it could become the new LMS. If support for Sakai is lackluster, inertia and the costs of transition will likely mean an extension of Blackboard's favored status as the School's LMS. In either case though, ITS will sooner or later have to face the problem that it has been expanding two LMSs simultaneously, providing support and resources to both, a situation which will likely lead to problems in the future. The University will eventually be forced to choose between the LMSs, and the other will need to be phased out.

If Sakai is adopted at UNC, it will have been strongly influenced by the School of Medicine's push for its adoption. As a school that would move its entire student body to use the LMS overnight, the SOM would give substantial support for Sakai. The needs assessment process that the SOM underwent was critical in promoting Sakai, elevating the role of Unicon, and emphasizing the importance of flexible, interoperable systems that can be modified to fit individual needs. Though the SOM's choice of Sakai as its preferred LMS may not ultimately result in a change of Learning Management Systems at UNC, the results of the School's needs assessment process and the its reasons for favoring Sakai underscore the potential for open source software to have a strong impact on the LMS market in the coming years.

## Bibliography

Barker, Michael. "I Drank What? -The IT of Socrates, of Jim Jones." Carolina Technology Consultants Retreat 2009. University of North Carolina at Chapel Hill, Chapel Hill. 23 Oct. 2009. Lecture.

Berg, Alan M., and Michael Korcуска. *Sakai Courseware Management: The Official Guide*. Packt, 2009. Print.

""bFree" UNC-Chapel Hill's Blackboard Course Extractor now available." UNC Chapel Hill Information Technology Services, 4 Apr. 2007. Web.  
<<http://its.unc.edu/BBNews/index.htm?subCatId=26>>.

Blackboard Corporation. *School of Medicine- Teaching and Learning Software Solution: A Technical Proposal for the University of North Carolina at Chapel Hill*. Rep. 2009. Print.

"Blackboard: Course Calendars and Tasks." UNC Chapel Hill Information Technology Services, 29 Oct. 2009. Web. <<http://help.unc.edu/5528>>.

Jackson, Scott T. *65-RFPB629344-1.pdf*. Rep. 2009. Print.

Jackson, Scott T. *Cross Project Design Document, v5*. Rep. 2009. Print.

Jackson, Scott T. *Cross Project Project Charter.doc*. Rep. 2009. Print.

Jackson, Scott T. *Cross\_Project\_Requirements\_v\_10.xls*. Rep. 2009. Print.

Jackson, Scott T. *Vendor Analysis.xls*. Rep. 2009. Print.

Korcuska, Michael. "Blackboard, Moodle and Sakai." Educause 2009 Annual Conference, 4 Nov. 2009. Web. <<http://ow.ly/zj5j>>.

Moore, John, Teggin Summers, Will Humphries, Amber D. Evans, and David McPherson. "Virginia Tech's Transition to Sakai." Virginia Tech, July 2009. Web.  
<[confluence.sakaiproject.org/download/attachments/63341103/Virginia+Tech's+Transition+to+Sakai.pptx](http://confluence.sakaiproject.org/download/attachments/63341103/Virginia+Tech's+Transition+to+Sakai.pptx)>.

Morgaine, Wende. "More Than Open Source: A Second Look at Sakai." Campus Technology, 14 Mar. 2007. Web.

<<http://campustechnology.com/Articles/2007/03/More-Than-Open-Source-A-Second-Look-at-Sakai.aspx?Page=1>>.

*Oracle Academic Enterprise Solutions: An Oracle White Paper*. Rep. Oracle Corporation, Feb. 2009. Web. <[www.oracle.com/industries/education/academic-enterprise-whitepaper.pdf](http://www.oracle.com/industries/education/academic-enterprise-whitepaper.pdf)>.

Ranger, Steve. "Open source? No good for cost cutting, say CIOs -." *Silicon.com*. 23 Oct. 2009. Web.  
<[http://management.silicon.com/itdirector/0,39024673,39594568,00.htm?s\\_cid=545](http://management.silicon.com/itdirector/0,39024673,39594568,00.htm?s_cid=545)>.

*Sakai Pilot Evaluation Final Report*. Rep. UNC Chapel Hill Information Technology Services Teaching and Learning Interactive, 15 Oct. 2009. Web.  
<[www.unc.edu/sakaipilot/evaluation/FinalRept-Oct15-09-sm.pdf](http://www.unc.edu/sakaipilot/evaluation/FinalRept-Oct15-09-sm.pdf)>.

*The State of Learning Management in Higher Education Systems*. Rep. Delta Initiative, 11 Aug. 2009. Web.  
<<http://www.deltainitiative.com/picts/pdf/deltainitiativeLmswebinar09-2.pdf>>.

Unicon Corporation. *Unicon's Response to 65-RFPB629344*. Rep. 2009. Print.

*University of North Carolina at Chapel Hill Cost Diagnostic: Final Report*. Rep. Bain & Company, July 2009. Web.  
<[universityrelations.unc.edu/budget/documents/2009/UNC%20Efficiency%20and%20Effectiveness%20Options\\_FINAL.pdf](http://universityrelations.unc.edu/budget/documents/2009/UNC%20Efficiency%20and%20Effectiveness%20Options_FINAL.pdf)>.

Venkatesh, Vinodh. "Facebook as a Course Management System: Web 2.0 and the Classroom." North Carolina, Chapel Hill. 16 Sept. 2009. Lecture.

"The Wired Campus - Blackboard and Angel Learning Officials Try to Reassure Skeptical Clients - The Chronicle of Higher Education." *The Chronicle of Higher Education*. Web. 07 Nov. 2009.  
<<http://chronicle.com/blogPost/BlackboardAngel-Learning/7163/>>.

# Appendix

## REQUEST FOR PROPOSAL

---

PROPOSAL NUMBER: 65-RFPB629344

ISSUE DATE: January 16, 2009

---

TITLE: School of Medicine Student Processing Software  
for The University of North Carolina at Chapel Hill

---

ISSUING AGENCY: UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  
PURCHASING SERVICES  
104 AIRPORT DRIVE, SUITE 2700, CB #1100  
CHAPEL HILL, NORTH CAROLINA 27599-1100  
ATTENTION: Mr. Dale Poole  
Phone: 919.962.3477 Fax: 919.962.0636 Email: Dale\_Poole@unc.edu

---

USING DEPARTMENT: UNC School of Medicine

---

**IMPORTANT:** This is a **TWO-STEP RFP** process. Technical and cost proposals shall be placed in separately sealed envelopes with the following information printed on the outside of each envelope: complete name of the Offerors company/firm; the Request For Proposal (RFP) number; and whether it is the "technical proposal" or the "cost proposal" enclosed. The two envelopes may then be placed into one envelope/package for delivery purposes. Ensure that you have the RFP number printed on your address label so that it can be properly identified upon arrival at the Issuing Agency address.

Sealed proposals shall be received until **3:00 p.m. on February 23, 2009** for furnishing the services described herein at the address indicated above as the Issuing Agency. Proposals not received by **3:00 p.m. on February 23, 2009** shall not be considered. No details of the proposals will be divulged at the time of opening.

No contact (regarding this RFP) with the using department during the bid process is allowed. Unauthorized contact with the using department during the bid process may subject your proposal to rejection. Answers to questions regarding the content and interpretation of this Request for Proposal shall be valid only when submitted in writing to the Issuing Agency by **2:00 PM January 30, 2009**, according to the guidelines set forth below.

All questions concerning this RFP must be submitted via email as a **Microsoft word document** to **Dale\_Poole@unc.edu**, no later than **2:00 p.m. on January 30, 2009**. The subject line of the submitted email must indicate, "Questions for RFP 65-RFPB629344" to ensure the email will be properly identified and not discarded as possible spam. A summary of all questions and answers will be posted on the Internet or emailed as an addendum..

*It is the Offeror's responsibility to assure that all addenda, if any, have been reviewed, signed and returned.*

## ARTICLE I GENERAL PROVISIONS

### Section 1.01 PURPOSE:

This Request for Proposal (RFP) is being issued to obtain a contract to provide software products and services for the University of North Carolina at Chapel Hill, School of Medicine.

### Section 1.02 BACKGROUND:

The University of North Carolina at Chapel Hill, School of Medicine (“**SOM**”) is embarking on a project to replace most of the applications supporting its student functions. The primary objective of the project will be to provide SOM with a fully integrated suite of components that will allow the University to deliver outstanding service in support of SOM’s mission of teaching, research and service. SOM seeks responses to provide the core functions comprising a Medical School Student Processing System: Course Scheduling, Content Course Delivery, Evaluation Processing, Student Advising, Exam Processing, Curriculum Management, Graduation Processing, and Educational Program support. SOM is in the process of installing Oracle’s PeopleSoft system and will utilize this software as the core component for handling Admissions, Course Catalog, Financial Aid, Transcripts, and Student Finances. All responses must take this into consideration and provide information regarding how your product will integrate with Oracle’s PeopleSoft.

### Project Approach:

The SOM intends to perform a detailed implementation project following the selection of the software vendor(s). The project will be phased as follows:

- Design Phase – Immediately following vendor selection, a SOM technical team will perform a system design which will focus on the integration of all components
- Development/Customization – Any required customization will occur during this phase
- Implementation – Testing, Training and rollout will occur during this phase SOM intends to perform installation of the major component no later than **February 2010**.
- All dates provided herein are subject to change at the discretion of the Issuing Agency.]

### Section 1.03 SOM PROVIDED MATERIALS:

SOM shall provide the following:

- Student Lifecycle/Functional Areas overview – This document describes the overall process for Medical School student processing
- Comprehensive requirements document – This document lists the identified requirements for each component of the desired system. **This document is available in Microsoft Excel, which contains three worksheets (tabs) within the document. To request a copy of the Microsoft Excel file, send an email to: [Dale\\_Poole@unc.edu](mailto:Dale_Poole@unc.edu).** The document has the following columns:
  - Functional Area – Maps back to the Student Lifecycle/Functional Area document
  - ID – Requirement number
  - Category - Maps back to the Student Lifecycle/Functional Area document
  - User Requirement – Specific user requirement
  - Supporting System – Defines where PeopleSoft will be utilized
  - The Comprehensive Requirements contains a Vendor Response section:
    - Meets Requirements (Y/N) – indicates if the vendor can meet the requirement and must be filled in by the Vendor according to the instructions set forth in that Section.
    - Explain how the requirement is met – If the answer to the previous column is “Y” and explanation must be entered as to how the vendor product will meet the requirement

### Section 1.04 DUTIES AND RESPONSIBILITIES OF SOM:

The general responsibility of the SOM is to aid and assist the Vendor in facilitating the work to be performed under this contract as specified. Specific responsibilities are limited to the following:

- A. The SOM shall provide necessary staff for the design phase and a dedicated project manager for the duration of the project.



## **ARTICLE II DEFINITIONS**

As used in this agreement, the following terms shall have the meanings indicated below:

**Section 2.01 UNIVERSITY:** "University" shall mean, The University of North Carolina at Chapel Hill for its *School of Medicine ("SOM")*.

**Section 2.02 OFFEROR:** "Offeror" shall mean a company/firm submitting a proposal in response to this Request for Proposals.

**Section 2.03 CONTRACTOR:** "Contractor" shall mean the Contractor or Vendor that will provide the professional services for the University.

**Section 2.04 TERM:** "Term" shall refer to the length of time the contract will be valid.

**Section 2.05 CONTRACT ADMINISTRATOR:** "Contract Administrator" shall mean the University representative who shall be the direct liaison between the Contractor and the University for this contract.

**Section 2.06 UNIVERSITY HOLIDAY SCHEDULE:** The University's Holiday Schedule is maintained at <http://hr.unc.edu/Data/SPA/records/schedules/holidayschedule> and shall be considered the official posting for all University recognized holidays.

### **ARTICLE III DUTIES AND RESPONSIBILITIES OF CONTRACTOR**

The Contractor hereby agrees to work directly with the University, or its designated Contract Administrator, in connection with carrying out and conducting all of the following duties and responsibilities during the term of this agreement.

**Section 3.01** The Contractor shall furnish all software and software licenses to support the product.

**Section 3.02** The Contractor shall provide all necessary documentation to support the product.

**Section 3.03** The Contractor shall ensure that installation and support for the product are in place in accordance to the schedule(s) set forth in the contract.

**Section 3.04** The Contractor shall be responsible for installation, testing, satisfactory integration, and training related to the provided product.

**Section 3.05** The Contractor shall comply with all applicable laws in connection with these services, including but not limited to N.C.G.S. § 90-210 and statutes regarding privacy and security including, but not limited to, the North Carolina Identity Theft Protection Act of 2005, the State Personnel Act, the Health Insurance Portability and Accountability Act (HIPAA), the Family Educational Rights and Privacy Act (FERPA), the Gramm Leach Bliley Act (GLBA), the Payment Card Industry(PCI) Data Security Standard and any information deemed “confidential” under the North Carolina Public Records Act, as well as any information that is protected by University policy from unauthorized access.

**Section 3.06** Before the contract is awarded, the Contractor will have to sign the attached Business Associate Agreement. Do not submit a proposal if the Contractor agency will not be able to sign this agreement as is.

**Section 3.07** The Contractor shall be required to conduct extensive criminal checks on all employees working on Campus and provide a copy to the designated Contract Administrator. This will apply to any new employees hired after the contract has been awarded.

## ARTICLE IV THE PROCUREMENT PROCESS

### Section 4.01 PROPOSALS

All proposals are subject to the terms and conditions outlined herein. All responses shall be controlled by such terms and conditions and the submission of other terms and conditions and other documents as part of an Offeror's response will be waived and have no effect either on this RFP or any contract that may be awarded resulting from this solicitation. The submission of any other terms and conditions by an Offeror may be grounds for rejection of the Offeror's proposal. Offeror specifically agrees to the conditions set forth in this paragraph by the signature of its authorized representative on the execution of the proposal page contained herein.

### Section 4.02 Vendor Presentations

All vendors who meet the minimum requirements of the functional components will be required to provide an onsite demonstration of their product which will include reviewing how the product can meet each requirement. Minimum requirements are based on meeting specified requirements within the Comprehensive Student Processing Requirements document that is attached. A vendor with a focused product, for example, one who specializes in testing, will not need to meet all requirements in order to meet the minimum requirements. However, this vendor must meet the requirements within his or her specialized area. Again, preference will be given to the vendor(s) with responses that address the integration with other components. It is the University's desire to receive one comprehensive proposal from a single source, and the University recognizes this may require a combined "team" approach from multiple companies.

### Section 4.03 SELECTION PROCESS

Following is a general description of the process by which a Contractor will be selected to provide required services:

- A. Request for Proposal (RFP) is issued.
- B. Offerors shall submit in writing any questions they may have.
- C. **Proposals shall be received from each Offeror in two (2) separately sealed envelopes; one (1) original and nine (9) copies of the technical proposal; and one (1) original and two (2) copies of the cost proposal. Each separately sealed envelop must also contain electronic media (i.e., USB thumb drive, CD-ROM) that contain the pertinent file(s) in a format that may be duplicated. The entire proposal (technical and cost) may be placed together in one package for mailing purposes.**
- D. The proposal must be received by the Issuing Agency no later than the date and time specified on the cover of the RFP.
- E. At that date and time all technical proposals from each responding firm shall be publicly opened and the name of each Offeror shall be announced publicly and annotated on a bid tabulation form.
- F. The technical proposal is checked to ensure that the Execution of Proposal page is present and has been signed and dated by an official authorized to bind the firm.
- G. Proposals shall be reviewed by a selection committee comprised of functional and technical, faculty and staff. Offerors satisfying the specifications may be required to make an on-site presentation.
- H. After all technical proposals have been evaluated by the Issuing Agency and the selection committee, only the cost proposals of those Offerors satisfying the specifications shall be publicly opened at later date.
- I. The Offerors with acceptable technical proposals shall be notified of the time and place for the opening of the cost proposals. At least two (2) working days notice shall be given prior to the opening of the cost proposals.
- J. Award shall be made to the responsible, responsive Offeror(s) whose proposal is most advantageous to the University in accordance with the specifications set forth in this RFP.
- K. A Contractor will be selected based on the following criteria and corresponding weighting for the criteria:
  - Functionality (based on Comprehensive Student Processing Requirements) - 60%
  - Pricing - 20%
  - Product Support - 15%
  - Company Stability - 5%

#### Section 4.04 REQUIRED PROPOSAL CONTENT

Qualified firms are encouraged to submit a proposal for performing the services described herein. All proposals must be submitted strictly in accordance with the requirements of this RFP. **Failure to include any required information in the proposal may disqualify an Offeror as a potential Contractor.** Proposals shall include a concise description of the Offeror's abilities to satisfy the requirements of this RFP. Emphasis shall be on completeness and clarity of content. The information shall be prepared, tabbed and submitted in the order given below. The proposal shall be of sufficient detail to describe the following:

#### TECHNICAL PROPOSAL

- A. Utilizing the Comprehensive Requirements document, the Offeror should indicate next to each specific requirement how he can provide the functionality for the requirement. If the Offeror cannot satisfy certain requirements he should so indicate in the column provided. An Offeror will not be required to meet ALL requirements. SOM understands that certain Offerors have targeted solutions and encourages responses for these targeted solutions.
- B. SOM highly encourages vendors to partner with other vendors in order to provide the most robust integrated solution possible. SOM understands that there currently is no single solution on the market to provide for all aspects of the requested system, therefore, we encourage a partnership approach.
- C. The Offeror should provide a detailed explanation of how their component can be integrated with other components, and with Oracle's PeopleSoft. PeopleSoft will be utilized for core student processing including Admissions, Course Catalog, Financial Aid, and Student Finances.
- D. The Offeror shall list a minimum of three (3) references. For each reference, Offeror shall provide a brief, but inclusive, description of the software and services provided, a point of contact, phone number and address. At least one reference must be from a university comparable to the University of North Carolina at Chapel Hill. A medical school is a preferred reference.
- E. The Offeror shall provide copies of insurance certificates with respect to each of the insurance policies to be maintained in compliance with the provisions of **Article V**.
- F. The Offeror shall provide a signed copy of the **Execution of Proposal** page with the technical proposal. The Execution of Proposal page is located directly after Article VII, Terms and Conditions.
- G. The Offeror shall provide a completed copy of the **WHERE SERVICE CONTRACTS WILL BE PERFORMED** page with the technical proposal. The WHERE SERVICE CONTRACTS WILL BE PERFORMED page is located directly after the Execution of Proposal page.
- H. The Offeror shall provide a completed copy of the **CRIMINAL BACKGROUND STATEMENT** page with the technical proposal. The CRIMINAL BACKGROUND STATEMENT page is located directly after the WHERE SERVICE CONTRACTS WILL BE PERFORMED page.
- I. The Offeror shall provide records indicating financial stability including financial statement for the previous five years.
- J. The Offeror shall provide a complete outline of the project management and implementation team(s), and shall include resumes for all key personnel.
- K. The Offeror shall provide a description of the support model indicating levels of support and availability of the support team.

#### COST PROPOSAL

Section VI, **PRICING SCHEDULE**, shall be completed and included in the proposal. All blank spaces in Section VI, **PRICING SCHEDULE**, must be filled in.

#### **Section 4.05 PROPOSAL SUBMISSION AND OPENING**

The technical and cost proposals must be received by the Issuing Agency no later than the date and time specified on the cover of this RFP. Each technical and cost proposal shall be placed in separately sealed envelopes with the following information printed on the outside of each envelope; complete name of the Offeror's company/firm, the RFP number and whether it is the "technical proposal" or the "cost proposal" that is enclosed. The two envelopes may then be placed into one envelope/package for delivery purposes. The Offeror should ensure that the RFP number is printed on its address label so that it can be properly identified upon arrival at the Issuing Agency address.

#### **Section 4.06 EVALUATION OF PROPOSALS**

The Offeror's proposal shall be submitted at the time specified. The selection committee shall evaluate the proposals and will consider the following factors in recommending award to a qualified Offeror. These factors are not necessarily listed in order of priority.

- A. Offeror's ability to satisfy technical requirements and provide desired functionality
- B. Experience and/or credentials of the proposed personnel in providing the professional services required.
- C. Overall experience and qualifications of the Offeror and performance of the Offeror as evaluated by the references supplied
- D. Pricing

Offerors are cautioned that this is a request for proposal, not a request to contract, and the University reserves the unqualified right to reject any and/or all proposals or offers to contract when such a rejection is deemed to be in the best interest of the University. The award of a contract to one Offeror does not mean that the other proposals lack merit but that, with all factors considered, the selected proposal was most advantageous to the University. Requirements included in this proposal are the minimum acceptable functionality or performance level sought by the University.

#### **Section 4.07 ELABORATE PROPOSALS**

Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired.

In an effort to support the sustainability efforts of the University we solicit your cooperation in this endeavor.

It is desirable that all responses meet the following requirements:

- All copies are printed double sided.
- All submittals and copies are printed on recycled paper with a minimum post-consumer content of 30% and indicate this information accordingly on the response.
- Unless absolutely necessary, all submittals and copies should minimize or eliminate use of non-recyclable or non-reusable materials such as plastic report covers, plastic dividers, vinyl sleeves and GBC binding. Three ringed binders, glued materials, paper clips and staples are acceptable.
- Materials should be submitted in a format which allows for easy removal and recycling of paper material.

#### **Section 4.08 ORAL EXPLANATIONS**

The University at its option may request oral presentations or discussions with any or all Offerors for the purpose of clarification or to amplify the material presented in any part of the technical proposal. However, Offerors are cautioned that the University is not required to request clarification; therefore, all proposals should be complete and concise and reflect the most favorable terms available from the Offeror. The University shall not be bound by oral explanations or instructions given at any time during the competitive process prior to award.

#### **Section 4.09 REFERENCE TO OTHER DATA**

Only information which is received in response to this RFP shall be evaluated. References to information previously submitted shall not be evaluated.

#### **Section 4.10 RIGHT TO SUBMITTED MATERIALS**

All responses, inquiries, or correspondence relating to or in reference to this RFP, and all other reports, charts, displays, schedules, exhibits, and other documentation submitted by the Offerors shall become the property of the University when received.

#### **Section 4.11 COST OF PROPOSAL PREPARATION**

Any costs incurred by the Offeror in preparing or submitting proposals is the Offeror's sole responsibility. The University shall not reimburse any Offeror for any costs incurred prior to award.

#### **Section 4.12 CONFIDENTIAL INFORMATION**

To promote maximum competition and to protect the public bidding procedure from being used to obtain information that would normally not be available otherwise, the University shall maintain the confidentiality of certain types of information (i.e., trade secrets) in accordance with North Carolina law. All such information which are intended to be kept confidential must be designated by the Contractor in writing "Confidential." The obligations of non-disclosure shall not apply to the following:

- A. Information which, at the time of disclosure is in the public knowledge;
- B. Information which, after disclosure becomes part of the public knowledge by publication or otherwise, except by breach of this Agreement;
- C. Information which was in the possession of the University at the time of disclosure and which was not acquired, directly or indirectly by recipient from the disclosing party, and which prior possession can be proven by documentary evidence;
- D. Information received from third parties, provided such information was not obtained to their knowledge by said third parties, directly or indirectly, on a confidential basis;
- E. Information which is independently developed by the University's personnel not privy to the Information.
- F. Information contained in the Pricing Schedule, **Article VI**.

#### **Section 4.13 ADVERTISING**

In submitting the proposal, the Offeror agrees not to use the results there from as a part of any news release or commercial advertising without prior written approval of the University.

#### **Section 4.14 TITLES**

Titles and headings in this RFP and any subsequent contract are for convenience only and shall have no binding force or effect.

#### **Section 4.15 OFFEROR'S REPRESENTATIVE**

Offeror shall submit the name, address, and telephone number of the person(s) with the authority to bind the Offeror and answer questions or provide clarification concerning the Offeror's proposal.

#### **Section 4.16 COMPETITIVE OFFER**

Under penalty of perjury, the signer of any proposal submitted in response to this RFP thereby certifies that its proposal has not been arrived at collusively or otherwise in violation of Federal or North Carolina antitrust laws. In submitting the proposal, the Offeror agrees not to discuss or otherwise reveal its technical or cost information to any other sources, government or private, until after the award of the contract. Offerors not in compliance with this provision may be disqualified.

#### **Section 4.17 DECLINE TO OFFER**

Any Offeror which received a copy of the RFP through the mail, but which declines to make an offer is requested to send a formal "Decline to Offer" to the University. Failure to respond as requested may subject the Offeror to

removal from consideration on future requirements. If the RFP is received electronically a formal "Decline to Offer" is not necessary.

#### **Section 4.18 AWARD OR REJECTION**

All qualified proposals will be evaluated and an award made to that Offeror whose proposal is deemed to be the most advantageous to the University. The University reserves the unqualified right to reject any or all offers, waive any informality in the proposal and, unless otherwise specified by the Offeror, to accept any item or part of the proposal if determined to be in the best interest of the University.

#### **Section 4.19 SUBCONTRACTING**

Offerors may propose to subcontract portions of the work provided that their proposals clearly indicate what work they plan to subcontract and to whom and that all information required about the prime contractor is also included for each proposed subcontractor. After the award of the contract, additional subcontracts may only be used with the prior written consent of the University. The selected Vendor shall remain solely responsible for the performance of its subcontractors. Subcontractors, if any, shall adhere to the same standards required of the selected Vendor. Any contracts made by the Vendor with a subcontractor shall include an affirmative statement that the University is an intended third party beneficiary of the contract; that the subcontractor has no agreement with the University; and that the University shall be indemnified by the Vendor for any claim presented by the subcontractor. Notwithstanding any other term herein, Vendor shall timely exercise its contractual remedies against any non-performing subcontractor and, when appropriate, substitute another subcontractor, subject to the University's approval.

#### **Section 4.20 PROPOSAL ACCEPTANCE PERIOD**

This proposal shall be binding upon the Offeror for ninety (90) calendar days following the bid opening date. Any proposal on which the Offeror shortens the acceptance period may be rejected.

#### **Section 4.21 HISTORICALLY UNDERUTILIZED BUSINESS**

Pursuant to G.S. 143-48 and Executive Order No. 150, the University invites and encourages participation in this procurement by businesses owned by minorities, women and the disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled.

#### **Section 4.22 RECIPROCAL PREFERENCE**

This RFP and the resulting contract are subject to General Statute 143-59 which establishes a reciprocal preference law to discourage other states from applying in-state preferences against North Carolina's resident Offerors. The "Principal Place of Business" is defined as the principal place from which the trade of business of the Offeror is directed or managed.

#### **Section 4.23 EXAMINATION OF CONDITIONS**

It shall be understood and mutually agreed that by submitting a proposal, the Offeror acknowledges that they have carefully examined all pertinent documents, the general location, and has satisfied themselves as to the nature of the work to include if necessary the condition of existing buildings and their accessory structures; conformation of the ground; character, quality and quantity of the materials to be encountered; general and local conditions, construction hazards, parking and transportation requirements and all other matters which can in any way affect the work under the contract. It is further mutually agreed that by submitting a proposal the Offeror acknowledges that they have satisfied themselves as to the feasibility and meaning of these specifications and any associated documents relative to the work and that they accept all the terms, conditions and stipulations contained therein; and that they are prepared to work in cooperation with other Contractors or University employees performing work at any location on campus.

#### **Section 4.24 PROTEST PROCEDURES**

When an Offeror wants to protest a contract awarded pursuant to this solicitation it must submit a written request to the Director, Material and Disbursement Services, University of North Carolina at Chapel Hill, 104 Airport Drive, Suite 2700, CB 1100, Chapel Hill NC 27599-1100. This request must be received in the University Purchasing

Office within thirty (30) consecutive calendar days from the date of the contract award, and must contain specific, sound reasons and any supporting documentation for the protest. NOTE: Contract award notices are sent only to those actually awarded contracts and not to every person or firm responding to this solicitation. Offerors may call the University to obtain an oral status of contract award. All protests will be handled pursuant to the North Carolina Administrative Code, Title 1, Department of Administration, Chapter 5, Purchase and Contract, Section 5B.1519.

#### **Section 4.25 OUTSOURCING**

Prior written approval must be obtained from the University If the Vendor wishes to outsource any portion of the work under this contract to a location outside the United States. The Offeror must detail the manner in which it intends to utilize resources or workers located outside of the United States, and the University will evaluate the additional risks, costs and other factors associated with such utilization to make the award for this proposal as deemed by the awarding authority to be in the best interest of the University.

For any proposed or actual utilization or contract performance outside of the United States, the Offeror's proposal must include:

- a) the location of work performed under a state contract by the vendor, any subcontractors, employees, or other persons performing the contract; and
- b) the corporate structure and location of corporate employees and activities of the vendors, its affiliates or any subcontractors.

The University may initiate proceedings to debar a vendor from participation in the bid process and from contract award as authorized by North Carolina law if it is determined that the Offeror has refused to disclose or has falsified any such information in its proposal.

#### **Section 4.26 INCREASES OR DECREASES TO CONTRACT**

The services included in this contract are listed in the appendices of this RFP with the Offeror providing individual contract price for the services therefore also designated. The University reserves the right to add or delete services as required. Any services added or deleted by the University shall result in an equitable adjustment to the contract price. If a service is added, the price shall be negotiated by the Contract Administrator and the Contractor and the price shall be prorated over the remainder of the term of the contract. If a service is deleted, the price shall be subtracted from the contractual amount due under this contract.



## **ARTICLE V INSURANCE REQUIREMENTS**

### **Section 5.01 CONTRACTOR'S OBLIGATION**

Contractor shall, at its own expense, obtain and maintain throughout the term of this agreement, at least the following policies of insurance from an insurance company duly authorized to do business in North Carolina:

- (a) Comprehensive general liability insurance insuring against loss arising from personal or bodily injury or death of any person and arising from property damage for occurrences on or in University property while conducting professional services. Such policy of insurance shall be issued by a company or companies with at least an "A" Best Rating or rating equivalent and qualified to do business in the State of North Carolina and with \$1,000,000 combined single limit per occurrence for bodily injury and property damage and a \$1,000,000 aggregate limit.
- (b) Automobile Liability insurance including \$1,000,000 combined single limit per occurrence for bodily injury and property damage covering owned, not owned and hired vehicles.
- (c) Worker's compensation insurance, if required by applicable law, for all persons employed by company for any purpose on University property and company shall pay any and all contributions, taxes and costs of such insurance and benefits payable thereunder which are required to be withheld and/or paid by any employer under the provision of any applicable present or future law, ruling and regulation.

### **Section 5.02 EVIDENCE OF INSURANCE**

Contractor shall provide copies of insurance binders (or certificates in lieu thereof) with respect to each of the insurance policies to be maintained, with the **Technical Proposal**. Each binder and policy required to be obtained and maintained pursuant to this Article V shall provide that it may not be amended, modified or canceled without a minimum of forty-five (45) days' notice to the University.

**ARTICLE VI  
PRICING SCHEDULE**

**Section 6.01** The Offeror shall propose the costs to furnish the services in accordance with this RFP. Award will be made to the Contractor(s) whose proposal is most advantageous to the University in accordance with **Section 4.06**.

Pricing for the RFP will be based on license fees, support costs, and any required custom development of integration work. The license fees should be based on annual costs. The custom development should be based on an hourly rate with an estimate of effort required.

The following is the pricing proposal format:

ITEM	Year One	Year Two	Year Three	Year Four
Licensing (Please indicate third party software licensing pricing, if applicable)				
Maintenance & Support costs (Please indicate third party software support pricing, if applicable)				
Training				
Travel				
Implementation Service (Please indicate hourly rate(s) and estimated totals)				
Custom Development (Please indicate hourly rate(s) and estimated totals)				
Other				

← - - - Formatted: Centered

Company Name: \_\_\_\_\_

**ARTICLE VII**  
**TERMS AND CONDITIONS THAT SHALL GOVERN THE CONTRACT**

**Section 7.01 TERM**

(A) This agreement shall be binding on both parties for a one (1) year period beginning on the date of contract award. The University shall have the option of extending the contract for four (4) additional one (1) year terms. The University shall give the Contractor written notice of its intent to renew no less than ninety (90) days prior to the expiration and if the University elects to renew, the terms of said renewal shall be specified in writing as part of the written notice. Contractor shall respond within thirty (30) days of this notice with any exceptions or changes to the original contract terms. The exceptions shall be negotiated between the University and the Contractor during the remaining sixty (60) days of the notice period. The total term of this contract shall not exceed five (5) years.

**Section 7.02 GOVERNING LAW**

This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.

**Section 7.03 SITUS**

The place of this contract, its situs and forum, shall be North Carolina, where all matters, whether sounding in contract or tort, relating to its validity, construction, interpretation and enforcement shall be determined. Offeror agrees and submits, solely for matters relating to this contract, to the jurisdiction of the courts of the State of North Carolina, and stipulates that Orange County shall be the proper venue for all matters.

**Section 7.04 PAYMENT**

- A. All invoices shall be submitted to the University's Disbursement Services Department unless otherwise instructed on the face of the purchase order. Invoices shall clearly show the University's purchase order number. Payment terms for deliverables are Net Thirty (30) days after the University's acceptance of the deliverables and the University's receipt of a correct invoice.
- B. Payment terms for services are due and payable the month following the month in which charges accrue or in accordance with the contract payment schedule. For software purchases, the total license fee and the support and maintenance fee (provided the University subscribes to or purchases such services) for the first year shall be invoiced upon delivery of the software. The software support and maintenance fee for subsequent contract years, if any, will be invoiced annually sixty (60) days prior to the anniversary date beginning each subsequent year

**Section 7.05 REGULATIONS**

The University and Contractor shall comply with all Federal, State and local laws, statutes, ordinances and regulations as applicable to this agreement. These shall include the rules, regulations, and interpretations of the North Carolina Department of Labor relative to Occupational Safety and Health Standards pertinent to the work specified herein. By signing and submitting a proposal, the Contractor certifies its compliance with all applicable local, state and federal laws and regulations including, but not limited to, the Omnibus Transportation Act of 1991 and its implementing regulations. At the request of the University, the Contractor shall provide evidence of compliance.

**Section 7.06**

**DEFAULT**

Should the University determine that the Contractor is not satisfactorily providing services as outlined within this agreement, the University may, by written notice to the Contractor, demand that the Contractor provide the service(s) in question in a satisfactory manner. The Contractor shall respond via phone or fax within 24 hours after receipt of the cure notice to assure the Issuing Agency that the Contractor has the notice and understands the situation. If the Contractor fails to cure the problems detailed in the cure notice within the time specified in the notice, the University may terminate the entire contract or only the part of the contract in question. In the event the University terminates this contract as provided herein, it may procure, in such a manner as it deems reasonable and appropriate, such services as required by this agreement and the Contractor shall be liable for any cost for such

services. However, if this agreement is terminated in part, the Contractor shall be required to continue the performance of this agreement to the extent not terminated under the provisions of this clause, while remaining liable for any cost of services obtained by the University to cover services canceled due to unsatisfactory services from the Contractor under this agreement.

#### **Section 7.07 TERMINATION**

The University may terminate this contract without penalty for any reason upon thirty (30) days written notice to the Contractor. In that event, all finished or unfinished deliverable items prepared by the Contractor under this contract shall, at the option of the University, become its property. If the contract is terminated by the University as provided herein, the Contractor shall be paid for services satisfactorily completed and deliverables the University has already accepted, less payment or compensation previously made.

#### **Section 7.08 INDEMNIFICATION AGREEMENT**

The Contractor shall indemnify the University against any and all liability, claims, and costs of whatsoever kind and nature, for injury to or death of any persons, for loss or damage to any property in connection with or in any way incident to or arising out of the occupancy, use, service, operations, or performance of work in connection with this agreement resulting in whole, or in part from the acts or omissions of the Contractor, or any employee, agent, or representative of the Contractor, and too, the Contractor shall pay all royalties and license fees and shall defend all suits or claims for infringement of any patent rights or copyright rights and shall save the University from loss on account thereof.

#### **Section 7.09 BANKRUPTCY**

Upon entry of a judgment of bankruptcy or insolvency by or against the Contractor, the University may terminate this contract for cause. The Parties agree that the University shall be entitled to all rights and benefits of the Federal Intellectual Property Bankruptcy Protection Act, Public Law 100-506, codified at 11 U.S.C. 365(n), and any amendments thereto.

#### **Section 7.10 AFFIRMATIVE ACTION**

The Contractor shall take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin or disability.

#### **Section 7.11 CONTRACT DOCUMENT**

The contract shall be deemed to include, by incorporation, the following documents:

- a. The Contractor's technical and cost proposals to the extent not inconsistent with this RFP.
- b. This Request For Proposal.
- c. Any written amendments to the contract, which may be issued from time to time.
- d. The University of North Carolina at Chapel Hill General Terms and Conditions for Procurements of Information Technology Goods and Services.
- e. The Purchase Order.

In accordance with **Section 4.01**, to the extent the Contractor's proposal conflicts with this RFP, this RFP shall govern the conduct of the parties. Changes to the contract, or any of its terms and conditions, may be made only by written amendments stipulating the changes to be made and the effective date. Each amendment must be signed by both the Contractor and the University's Purchasing Office.

#### **Section 7.12 APPROPRIATIONS**

The Contractor agrees and understands that payment as specified in the resulting contract for the period set forth herein, or any extensions or renewal thereof is dependent upon and subject to the appropriation, allocation or availability of funds for this purpose and the contract shall automatically terminate upon depletion of such funds.

#### **Section 7.13 INDEPENDENT CONTRACTOR**

The Contractor shall be considered to be an independent contractor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the University.

#### **Section 7.14 ACCESS TO PERSONS AND RECORDS**

The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by the University in accordance with General Statute 147-64.7.

#### **Section 7.15 ASSIGNMENT**

No assignment of the Contractor's obligations or the Contractor's right to receive payment hereunder shall be permitted. However, upon written request approved by the University and solely as a convenience to the Contractor, the University may:

- A. Forward the Contractor's payment check directly to any person or entity designated by the Contractor, and
- B. Include any person or entity designated by Contractor as a joint payee on the Contractor's payment check.

In no event shall such approval and action obligate the University to anyone other than the Contractor and the Contractor shall remain responsible for fulfillment of all contract obligations.

#### **Section 7.16 DEBARMENT STATUS**

By submitting a proposal, the Contractor certifies that it is not currently debarred from bidding on contracts by any agency of the State of North Carolina or any agency of the Federal Government, nor is it an agent of any person or entity that is currently debarred from submitting bids on contracts by any agency of the State of North Carolina or any agency of the Federal Government.

#### **Section 7.17 CONFIDENTIALITY**

The Contractor shall protect the confidentiality of any files, data or other materials provided by the University and shall restrict their use to purposes of performing the contract and none other. The Contractor shall take all steps necessary to safeguard any data, files, reports or other information from loss, destruction or erasure. Any costs or expenses of replacing or damages resulting from the loss of such data shall be borne by the Contractor when such loss or damage occurred through its negligence.

#### **Section 7.18 KEY PERSONNEL**

The Contractor shall not substitute key personnel assigned to the performance of this contract without prior written approval from the University. The individuals designated as key personnel for the purposes of this contract are those specified in the Contractor's proposal. Any desired substitution shall be noticed to the University's contract administrator accompanied by the names and references of Contractor's recommended substitute personnel. The University will approve or disapprove the requested substitution in a timely manner. The University may, in its sole discretion, terminate the services of any person providing services under this contract. Upon such termination, the University may request acceptable substitute personnel to be provided by Contractor.

#### **Section 7.19 WARRANTIES AND REPRESENTATIONS**

- A. Vendor shall assign all applicable third party warranties for deliverables to the University.
- B. Vendor warrants that non-software deliverables will operate substantially in conformity with specifications as defined in the RFP (except for minor defects or errors which are not material to the University) for a period of one hundred and twenty (120) days from the date of acceptance ("Warranty Period"). If the non-software deliverables do not perform in accordance with such specifications during the Warranty Period, Vendor will use best efforts to correct any deficiencies in the deliverables so that it will perform in accordance with or substantially in accordance with such specifications.

- C. If the Vendor is not the manufacturer of the deliverables, Vendor warrants that it has been designated by the manufacturer as an authorized reseller of the deliverables and any manufacturer warranties and manufacturer indemnities will pass from the manufacturer through the Vendor and inure to the benefit of the University. In the event such manufacturer warranties or manufacturer indemnities fail, for whatever reason, to pass through the Vendor and inure to the benefit of the University, the Vendor shall pay, indemnify and hold the University harmless from all losses, damages and expenses resulting from such failure.
- D. Vendor represents and warrants to University that for a period of one hundred and twenty (120) days from the date of acceptance ("Warranty Period") the licensed Software shall perform in good working order in accordance with industry practices and standards and shall fulfill the University's requirements as set forth in the Solicitation Document. Following receipt of written notice thereof, Vendor promptly shall respond to any failure to comply with the representations and warranties in this subsection, and Vendor promptly shall repair, replace or correct the licensed Software at Vendor's sole cost and expense.
- E. Vendor represents and warrants to University that, to the best of its knowledge: (i) the licensed Software and associated materials do not infringe any intellectual property rights of any third party; (ii) there are no actual or threatened actions arising from, or alleged under, any intellectual property rights of any third party; (iii) the licensed Software and associated materials do not contain any surreptitious programming codes, viruses, Trojan Horses, "back doors" or other means to facilitate or allow unauthorized access to the University's information systems.; and (iv) the licensed Software and associated materials do not contain any timer, counter, lock or similar device (other than security features specifically approved by Customer in the Specifications) that inhibits or in any way limits the licensed Software's ability to operate.
- F. Vendor represents and warrants to the University that the licensed Software demonstrated to the University during Vendor's on-campus demonstrations: (i) represents a generally available version of the licensed Software; and (ii) was configured but not otherwise modified by Vendor or otherwise manipulated in any way to display features or functions that do not exist in a generally available version of the licensed Software as of the date of the Vendor's demonstrations.
- G. The remedies set forth in this **Section 7.19** shall be in addition to any other rights and remedies that may be available to University.

#### **Section 7.20 LIMITATION OF LIABILITY**

IN NO EVENT SHALL CONTRACTOR BE LIABLE TO THE UNIVERSITY FOR ANY INCIDENTAL, INDIRECT, SPECIAL, EXEMPLARY, CONSEQUENTIAL OR PUNITIVE DAMAGES, REGARDLESS OF THE NATURE OF THE CLAIM, INCLUDING, WITHOUT LIMITATION, LOST PROFITS, COSTS OF DELAY, ANY FAILURE OF DELIVERY, BUSINESS INTERRUPTION, COSTS OF LOST OR DAMAGED DATA OR DOCUMENTATION OR LIABILITIES TO THIRD PARTIES ARISING FROM ANY SOURCE, EVEN IF CONTRACTOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY DOES NOT APPLY TO SECTION 7.26, "INFRINGEMENT."

#### **Section 7.21 SOFTWARE MIGRATION**

If Vendor promotes and/or markets to any similarly situated customer a different application, hardware configuration, operating system, database platform, data storage device, emulation software and/or other infrastructure as a preferred solution when compared to any of the same categories of such items as were supplied by Vendor to the University as part of the licensed Software, then Vendor shall:

- A. provide the University with an option to acquire a successor product with credits equal to one hundred percent (100%) of all fees paid by the University to Vendor for the licensed Software;
- B. assist University with implementing the successor product; and
- C. provide a discount of fifty percent (50%) off the then-applicable service rates for services needed for such migration.

#### **Section 7.22 REDUCTIONS IN FUNCTIONALITY**

If Vendor eliminates in any future enhancement of the licensed Software any business functionality as implemented by University, then at University's request and at no cost or expense to University, Vendor will either: (i) provide a substantially equivalent replacement functionality to University that is reasonably acceptable to University through another Vendor product; or (ii) modify, adjust or customize the licensed Software for the University so that the applicable business functionality remains available to University.

#### **Section 7.23 ESCROW OF CODE**

Vendor has established an Escrow Agreement ("Escrow Agreement") for the licensed Software with a third party escrow agent acceptable to the University. Within thirty (30) days from the effective date of the agreement, Vendor will add the University as a beneficiary to such Escrow Agreement. In the event (i) this agreement is terminated due to insolvency or the filing of involuntary bankruptcy proceedings pursuant to Chapter 7 of the U.S. Bankruptcy Code, and (ii) Vendor no longer offers support or maintenance services for the Software (both (i) and (ii) constituting the release condition ("Release Condition") under the Escrow Agreement), the licensed Software code deposited in accordance with the Escrow Agreement (the "Deposit Materials") shall be delivered to the University and the University shall be granted a license to use the Deposit Materials solely to repair, maintain and support the licensed Software, pursuant to this agreement. The license to the Deposit Materials under this Section shall terminate upon the termination or cure of the Release Condition.

#### **Section 7.24 SOFTWARE LICENSE**

Contractor hereby grants to the University a perpetual, non-exclusive, non-transferable and non-sublicensable license to (i) install, execute, access, run, or otherwise interact with the licensed Software, including associated documentation, solely for University's own internal operations; (ii) make a reasonable number of additional copies of the licensed Software to be used solely for non-productive archival purposes, so long as neither the original and a copy nor two copies of the same license are in use at the same time; and (iii) make copies of the documentation as reasonably necessary to support its authorized users in their use of the licensed Software. Each copy of the licensed Software and documentation must contain all titles, trademarks, copyrights and restricted rights notices as in the original; and (iv) Contractor shall provide all necessary license keys required for the operation of the licensed Software.

#### **Section 7.25 RESTRICTIONS ON SOFTWARE LICENSE**

The University's use of the licensed Software is restricted as follows:

- A. no title or ownership of intellectual property rights to the licensed Software are transferred to the University under this contract;
- B. the University shall not disassemble, reverse compile, reverse engineer or otherwise translate the licensed Software; provided, however, that University shall have the right to use the licensed Software for purposes of creating Custom Developments; and
- C. the University shall include Vendor's and its licensors' copyright, trademark, service mark and other proprietary notices on any complete or partial copies of the licensed Software. If University operates the licensed Software from a data center outside the United States, University shall: (i) notify Vendor in writing of the location of such data center; and (ii) comply with all export control laws, provided that Vendor provides University with all applicable export control law classification numbers.

#### **Section 7.26 INFRINGEMENT**

- A. Contractor shall indemnify, defend and hold harmless the University from and against any claim asserted against the University alleging that the licensed Software, or any part thereof, or use of the licensed Software by the University or any services provided by Contractor, constitute a misappropriation of any proprietary or trade secret information or infringement of any intellectual property right, provided that the University gives Contractor (i) prompt written notice of such claim; (ii) authority to control and direct the defense and/or settlement of such claim; and (iii) such information and assistance as Contractor may reasonably request, at Contractor's expense, in connection with such defense and/or settlement. If Contractor reasonably believes that any such claim with respect to the licensed Software may be successful, at no additional cost or expense to the University. Contractor shall either: (a) procure for the University the right to continue using the portion of the licensed Software subject to such claim; or (b) replace or modify the licensed Software

so that it no longer is subject to any such claim while maintaining equivalent or better functionality and performance capabilities of the licensed Software.

- B. No undertaking of Contractor under this **Section 7.26** shall extend to any alleged infringement or violation to the extent that such infringement or violation relates to (1) uses of the capabilities in combination with other systems, furnished either by Contractor or others, which combination was not recommended or otherwise approved by Contractor, where the lack of the combination would not, in and of itself, be infringing; (2) modifications to the licensed Software, which modifications are not made by Contractor; (3) failure to use updates to the licensed Software provided by Contractor; or (4) use of the licensed Software except in accordance with any applicable Documentation.
- C. No settlement of a claim that involves a remedy other than the payment of money by Contractor along with standard settlement terms, specifically including a dismissal of all claims with prejudice as well as a non-admission of liability or other wrongdoing on the part of the University, shall be entered into by Contractor without the prior written consent of the University. In no event shall an acknowledgment of guilt or fault by, or an adverse judgment be entered against, the University as part of a settlement without its express written consent.
- D. If Contractor is required to indemnify the University in accordance with the terms of this **Section 7.26**, then Contractor shall be responsible for paying all liabilities, obligations, judgments, settlements, damages, costs and expenses, including all litigation expenses incurred by the University.
- E. Notwithstanding anything contained in this Agreement to the contrary, the terms of any Limitations on Liability clauses contained in this Agreement shall not apply to Contractor indemnification obligations under this **Section 7.26**. The obligations set forth in this **Section 7.26** shall constitute Contractor's entire liability and the University's sole remedy for any actual or alleged infringement or misappropriation

#### **7.27 SUPPORT AND MAINTENANCE**

Unless otherwise provided in the University's Solicitation Document, or in an attachment hereto, for the first year and all subsequent years during the term of this Agreement, Vendor agrees to provide the following services for the current version and one previous version of any licensed Software provided with the deliverables and/or Services, commencing upon installation of the licensed Software:

- A. Error Correction. Upon notice by University of a problem with the licensed Software (which problem can be verified), Vendor shall use reasonable efforts to correct or provide a working solution for the problem. The University shall comply with all reasonable instructions or requests of Vendor in attempts to correct an error or defect in the licensed Software program. Vendor and the University shall act promptly and in a reasonably timely manner in communicating error or problem logs, other related information, proposed solutions or workarounds, and any action as may be necessary or proper to obtain or effect maintenance services under this section.
- B. Vendor shall notify the University of any material errors or defects in the licensed Software known, or made known to Vendor from any source during the term of this contract that could cause the production of inaccurate, or otherwise materially incorrect, results. Vendor shall initiate actions as may be commercially necessary or proper to effect corrections of any such errors or defects.
- C. Updates. Vendor shall provide to the University, at no additional charge, all new releases and bug fixes for any licensed Software developed or published by Vendor and made generally available to its other customers at no additional charge. All such Updates shall be a part of the licensed Software program and documentation and, as such, shall be governed by the provisions of this contract.
- D. Telephone Assistance. Vendor shall provide the University with telephone access to technical support engineers for assistance in the proper installation and use of the licensed Software, and to report and resolve licensed Software problems, during normal business hours, 6:00 AM - 6:00 PM Eastern Time, Monday-Friday. Vendor shall respond to the telephone requests for licensed Software program maintenance service, within four (4) hours, for calls made at any time.

#### **7.28 SUPPORT AND MAINTENANCE FEES**



Increases in Vendor's annual support and maintenance fees shall not exceed five percent (5%) over the support and maintenance fees for the previous year. In no event shall the support and maintenance fee rate paid by University exceed Vendor's then-current support and maintenance rate charged to any of its similarly-situated customers. If the University fails to pay or chooses not to pay for support and maintenance services for the licensed Software, the University may continue to use the licensed Software pursuant to the license granted hereunder, but will not be entitled to receive routine support and maintenance services for such licensed Software.

#### **Section 7.29 KNOWLEDGE SHARING**

As part of the Services provided by Vendor, and with respect to the day-to-day operation and support and maintenance of the licensed Software, Vendor shall provide the University with Know-How, defined as "means concepts, techniques, information, reports, programs, program materials, documentation, diagrams, notes, outlines, flow charts, user interfaces, software programs, technology, formulas, processes and algorithms that are used to effectively use, implement, support and/or maintain the licensed Software or other deliverables installed or provided by Vendor with respect to the functions, features, operation, configuration and support and maintenance of the licensed Software or other deliverables provided by Vendor to enable University to become reasonably self-reliant."

#### **Section 7.30 UNIVERSITY PROPERTY AND INTANGIBLES RIGHTS**

The parties acknowledge and agree that the University shall own all right, title and interest in and to the copyright in any and all custom development. To the extent that any Vendor technology is contained in any of the custom developments, the Vendor hereby grants the University a royalty-free, fully paid, worldwide, perpetual, non-exclusive license to use such Vendor technology in connection with the custom developments for the University's internal business purposes. The University hereby grants Vendor a royalty-free, fully paid, worldwide, perpetual, non-exclusive license to non-confidential custom developments.

#### **Section 7.31 DISPUTE RESOLUTION**

The parties agree that it is in their mutual interest to resolve disputes informally. A claim by the Vendor shall be submitted in writing to the University's contract administrator for decision. A claim by the University shall be submitted in writing to the Vendor's contract administrator for decision. The parties shall negotiate in good faith and use all reasonable efforts to resolve such dispute(s). Each party's performance obligations shall continue unabated during the duration of the dispute resolution. If a dispute cannot be resolved between the parties within thirty (30) days after delivery of notice, either party may elect to exercise any other remedies available at law or in equity. This term shall not constitute an agreement by either party to mediate or arbitrate any dispute.

#### **Section 7.32 CARE OF PROPERTY**

The Contractor agrees that it shall be responsible for the proper custody and care of any property furnished it for use in connection with the performance of this contract or purchased by the University for this contract and will reimburse the University for loss of damage of such property.

#### **Section 7.33 COPYRIGHT**

The deliverable items produced in whole or in part under this agreement constitute a work for hire. The University shall own the deliverable items and all rights pertaining thereto. The Contractor shall have no rights in and to said deliverables, nor shall any of said deliverable item(s) be the subject of an application for copyright by or on behalf of the Contractor. Should the deliverable items produced in whole or in part under this agreement not be "works for hire" as defined by the United States Copyright Act, the Contractor hereby assigns the copyright and all its right, title and interest in the deliverable items to the University.

#### **Section 7.34 WORK INSPECTION**

It is a condition of this contract that the work described herein shall be subject to inspection by the designated official representatives of the University, and those persons required by state law to test special work for official approval. Unless otherwise specified, work shall be inspected during the normal working hours of 8:00 A.M. to 4:00 P.M.

#### **Section 7.35 NON EXCLUSIVENESS OF CONTRACT**

At any point during the term of the contract the University reserves the right to enter into other contracts with this or other contractors for the same or similar services when it is deemed to be in the best interest of the University.

#### **Section 7.36 CRIMINAL CONVICTIONS CHECKS**

This University is committed to providing a crime free environment for its faculty, staff and students. Due to the contractual requirements as set forth in Section III of this RFP, your personnel will have access to various areas of this University. The University reserves the right to require a criminal convictions check on owners, officers, employees and any other workers of the Contractor and its subcontractors at any time upon written request. The Contractor or the Contractor's direct representative shall accompany all new employees to the jobsite and present them to the Contract Administrator. At that time, if a criminal convictions check has been requested, the Contractor shall provide a criminal history (not a letter) including traffic records, by presenting a document from a reputable company providing statewide searches covering a minimum of the last seven (7) years to the Contract Administrator. The criminal history shall match the name on the government issued picture identification card. Out of state searches shall be required for persons living in the state of North Carolina for less than seven (7) years. The names, addresses and birth date of each person who enters University property (including the owners and subcontractors) in the performance of this contract shall be supplied with the criminal history on company letterhead signed by a representative duly authorized to sign on behalf of the Contractor. This history shall be provided to the Contract Administrator at least twenty-four (24) hours prior to any employee performing work under this contract. Persons without this criminal history may be turned away and not allowed to work on any property owned or utilized by the University until proper documentation is submitted and approved by the Contract Administrator.

The University reserves the right to keep any person from being assigned to work on its property if that person (1) has been convicted of a criminal offense since the age of eighteen (18); or (2) been found at any time to have an outstanding warrant or a pending court case; or (3) if related to his/her work at the University, has current habitual problems with traffic related issues such as no driver's license, no vehicle tags, and/or no insurance. The Contractor must disclose the criminal convictions records of all persons proposed to work on campus with the designated University official.

During the term of this contract, the Contractor shall comply with these procedures for any new owner, officer, employee and any other worker of the Contractor and their subcontractors upon proper written notification by the Contract Administrator.

The Contract Administrator shall maintain all criminal conviction checks in a secure locked container for the term of the contract. At the end of the contract period the Contract Administrator shall ensure that the files have been returned to Contractor or certify the destruction of such files in a manner as to prevent disclosure of any kind.

## **EXECUTION OF PROPOSAL**

**TITLE:** SOFTWARE PRODUCTS AND SERVICES CONTRACT  
FOR THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

**PROPOSAL NUMBER: 65-RFPB629344 NUMBER**

---

**Certification:** By executing this proposal, the signer certifies that this proposal is submitted competitively and without collusion (G.S. 143-54), that none of its officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and that it is not an ineligible vendor as set forth in G.S. 143-59.1. False certification is a Class 1 felony.

**Will any of the work under this contract be performed outside of the United States?**

\_\_\_\_\_ Yes \_\_\_\_\_ No *If your answer was yes, then in your proposal you shall describe in detail what part of the work will be performed outside of the United States as well as what percentage of the total contract that work represents by completing the attached document entitled "WHERE SERVICE CONTRACTS WILL BE PERFORMED".*

**FIRM NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**CITY, STATE, ZIP CODE:** \_\_\_\_\_

**PHONE NUMBER:** \_\_\_\_\_ **FAX NUMBER:** \_\_\_\_\_

**NAME:** \_\_\_\_\_ **TITLE:** \_\_\_\_\_

**SIGNATURE (IN INK):** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**FEDERAL TAX IDENTIFICATION NUMBER:** Please complete the following "VENDOR MASTERFILE RECORD DATA FORM" and attach it with this page.

**THIS PAGE AND THE ONE FOLLOWING MUST BE COMPLETELY FILLED OUT, SIGNED AND RETURNED WITHIN YOUR PROPOSAL.**

**UNSIGNED PROPOSALS SHALL NOT BE CONSIDERED.**

## **VENDOR MASTERFILE RECORD DATA FORM**

### **IRS INFORMATION:**

In order to comply with Internal Revenue Service (IRS) regulations, we are required to obtain your Social Security Number (SSN) or Federal Tax Identification Number (TIN/EIN) to satisfy IRS Form 1099 reporting requirements. Failure to provide this information may subject all payments made to you to the 31% backup withholding as required by the IRS.

Enter your TIN in the appropriate box below. For individuals, this is your SSN. For sole proprietors you must show your individual name, but you may also enter your business or 'doing business as' name. You may use either your SSN or EIN. For partnerships you must show the name filed first on the partnership papers. For other entities, it is your EIN.

SOCIAL SECURITY NUMBER	EMPLOYER ID NUMBER
_____ - _____ - _____	_____ - _____

### **TYPE OF BUSINESS:**

\_\_\_\_ Individual/Sole Proprietor    \_\_\_\_ Partnership    \_\_\_\_ Corporation    \_\_\_\_ Other  
\_\_\_\_ Small ( < 500 employees)    \_\_\_\_ Small ( < 500 employees)

### **ELECTRONIC PAYMENT INFORMATION: (THIS IS THE PREFERRED METHOD OF PAYMENT)**

☐ Check here if prefer to not receive payment electronically or complete below.

Bank Name: \_\_\_\_\_

Routing #: \_\_\_\_\_ Account #: \_\_\_\_\_

### **CONTACT INFORMATION:**

REMIT TO:	ORDER FROM (Same as remit to; yes   no   )
Vendor Name: _____	Vendor Name: _____
Contact Name: _____	Contact Name: _____
Address 1: _____	Address 1: _____
Address 2: _____	Address 2: _____
City: _____ State: _____ Zip: _____	City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____	Phone: _____ Fax: _____
E-Mail: _____	E-Mail: _____
Website: _____	Website: _____

### **HUB INFORMATION: (OWNERSHIP OF 51% OR GREATER BY THE FOLLOWING)**

\_\_\_\_ Minority    \_\_\_\_ Women    \_\_\_\_ Disabled    \_\_\_\_ N/A

*I CERTIFY THAT (1) I AM DULY AUTHORIZED TO COMPLETE THIS FORM; (2) THE LEGAL ORGANIZATION AND TAX IDENTIFICATION NUMBER SHOWN ON THIS FORM ARE CORRECT, AND (3) I AM NOT SUBJECT TO BACKUP WITHHOLDING. AN ORIGINAL SIGNATURE IS REQUIRED BY THE IRS.*

SIGNATURE	TITLE	DATE
-----------	-------	------

*This form shall be removed from the public file and maintained in a secure file system within the University's Disbursement Services Department.*

UNC-CHAPEL HILL USE ONLY		
New Vendor	Change	V#:
Address Line:		

## **WHERE SERVICE CONTRACTS WILL BE PERFORMED**

In accordance with NC General Statute 143-59.4 (Session Law 2005-169),  
this form is to be completed and submitted with the Offeror's Technical Proposal.

---

**TITLE:** SOFTWARE PRODUCTS AND SERVICES CONTRACT  
FOR THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

**PROPOSAL NUMBER: 65-RFPB629344 NUMBER**

**ISSUING AGENCY:** UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  
PURCHASING SERVICES  
104 AIRPORT DRIVE, SUITE 2700, CB #1100  
CHAPEL HILL, NORTH CAROLINA 27599-1100  
ATTENTION: Mr. Dale Poole  
Phone: 919.962.9463 Fax: 919.962.0636

---

**FIRM NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**CITY, STATE, ZIP CODE:** \_\_\_\_\_

---

Location(s) from which services will be performed by the contractor:

Service	City/Province/State	Country
---------	---------------------	---------

_____	_____	_____
_____	_____	_____

Location(s) from which services are anticipated to be performed outside the U.S. by the contractor:

_____	_____	_____
_____	_____	_____

Location(s) from which services will be performed by subcontractor(s):

Service	Subcontractor	City/Province/State	Country
---------	---------------	---------------------	---------

_____	_____	_____	_____
_____	_____	_____	_____

Location(s) from which services are anticipated to be performed outside the U.S. by the subcontractor(s):

_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional pages if necessary.)

## **CRIMINAL BACKGROUND STATEMENT**

**TITLE:** SOFTWARE PRODUCTS AND SERVICES CONTRACT  
FOR THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

**PROPOSAL NUMBER:** 65-RFPB629344 NUMBER

---

The Offeror hereby certifies that it performs and maintains criminal background checks on **all employees and will not allow any contractor employees to work on University/Endowment property that has a criminal background without first notifying and obtaining approval from the contract administrator.**

**FIRM NAME:** \_\_\_\_\_

**NAME:** \_\_\_\_\_ **TITLE:** \_\_\_\_\_

**SIGNATURE (IN INK):** \_\_\_\_\_ **DATE:** \_\_\_\_\_

---

**THIS PAGE MUST BE COMPLETELY FILLED OUT, SIGNED AND  
RETURNED WITHIN YOUR TECHNICAL PROPOSAL.**

**Failure to include this information in the technical proposal may  
disqualify an Offeror as a potential Contractor.**

## HIPPA REQUIREMENTS PAGE

If the below paragraphs are noted in Section III of this RFP. Or if an Offeror knows that the rules under Health Insurance Portability and Accountability Act (HIPAA) should apply because of the type of work required under a subsequent contract, the Offeror shall be required to go to <http://www.unc.edu/hipaa/Forms-Policies.htm> and fill out the proper Business Associate Agreement (BAA) form listed on the web page and submit it with your Technical Proposal.

### A. Sample of Section III paragraphs:

**Section 3.** The Contractor shall comply with all applicable laws in connection with these services, including but not limited to N.C.G.S. § 90-210 and HIPAA requirements regarding privacy and security.

**Section 3.** Before the contract is awarded, the Contractor will have to sign the attached Business Agreement. Do not submit a proposal if the Contractor agency will not be able to sign this agreement as is.

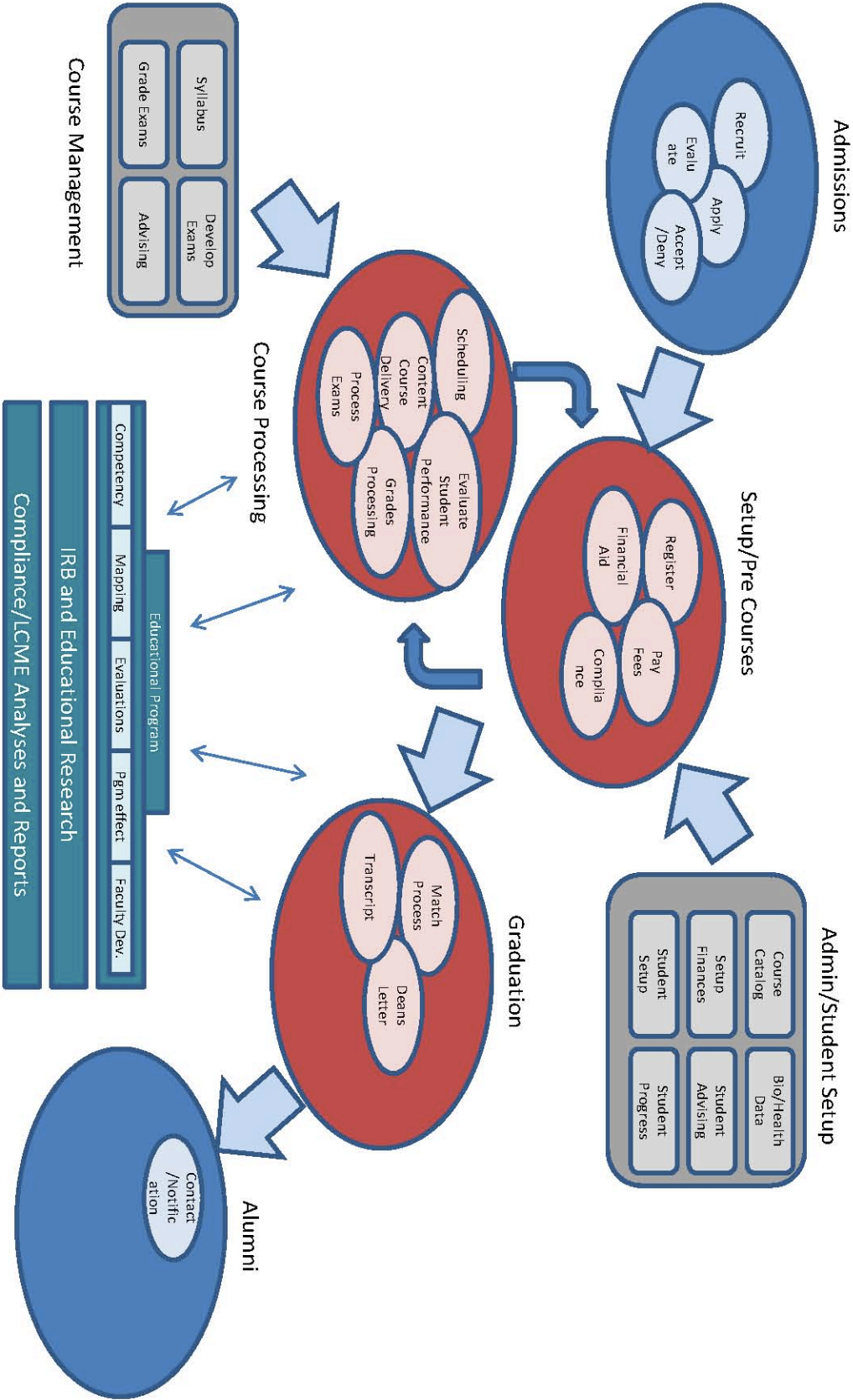
### B. Partial sample of BAA Form:

Agreement renews or expires on: \_\_\_\_\_

University of North Carolina at Chapel Hill  
BUSINESS ASSOCIATE AGREEMENT

This Agreement is made effective the \_\_\_\_ of \_\_\_\_\_, 2009, by and between The University of North Carolina at Chapel Hill, on behalf of its \_\_\_\_\_, hereinafter referred to as "Covered Entity", and \_\_\_\_\_, hereinafter referred to as "Business Associate", (individually, a "Party" and collectively, the "Parties"). This Agreement supersedes any previously executed Business Associate Agreement between the parties.

# UNC Chapel Hill - School of Medicine Student Lifecycle/Functional Areas





MED Program	The MED program is a UNC specific program that provides an opportunity for disadvantaged individuals to take a 9 week pre-med series of courses at UNC.
MESH Headings	<b>Medical Subject Headings (MeSH)</b> is a huge controlled vocabulary (or metadata system) for the purpose of indexing journal articles and books in the life sciences
LCME	The <b>Liaison Committee on Medical Education (LCME)</b> is an accrediting body for educational programs at schools of medicine in the United States and Canada
Competency	As it relates to the LCME, these are the competencies that must be met by the medical education
SOM	School of Medicine

**UNC Chapel Hill - School of Medicine  
Comprehensive Student Processing Requirements**

					Vendor Responses	
					Meets Requirement (Y/N)	Explain how the requirement is met
Functional Area	ID	Category	User Requirement	Supporting System		
<b>Admissions</b>						
			Provide the capability for applicants to apply online to the Medical Education Development (MED) program (pre medical school applicants entering a 9 week summer program) which is separate from the MID program.			
Admissions	1	Recruit				
Admissions	2	Recruit	Provide the capability to evaluate MED applicants online			
Admissions	3	Recruit	Ability to track candidates interested in Medical School prior to applying	PeopleSoft		
Admissions	4	Apply	Data is downloaded from the AMCAS system, as well as import data from other external systems.	PeopleSoft		
Admissions	5	Apply	Allows Display and Editing of Applicant Information.	PeopleSoft		
Admissions	6	Apply	Provide the capability to electronically capture ALL applicant related documents.	PeopleSoft		
Admissions	7	Apply	Provide the capability to complete and accept the "Technical Standards" form online (will need to get legal validation on this)			
Admissions	8	Evaluate	Provides selection of Applicants by processing status.	PeopleSoft		
Admissions	9	Evaluate	Provides batch emailing of personalized messages and communication to applicants.	PeopleSoft		
Admissions	10	Evaluate	Provides sophisticated search capability to select individuals or groups based on a large number of demographic, academic, and applicant status fields.	PeopleSoft		
Admissions	11	Evaluate	Allows scheduling of Committee and Faculty Interviews and tracking the results of those interviews.	PeopleSoft		
Admissions	12	Evaluate	Organizes and moves the applicants through the various required "steps" in the UNC Admissions process individually or in batches. Need to be able to target and track applicants through this process as well	PeopleSoft		
Admissions	13	Evaluate	Provide the capability to perform cross-sectional evaluations of recruits/applicants/students across years	PeopleSoft		

**UNC Chapel Hill - School of Medicine  
Comprehensive Student Processing Requirements**

Vendor Responses				
Functional Area	ID	Category	User Requirement	Supporting System
Admissions	14	Accept/Deny	Provide the capability to update AMCAS with the accept/deny status from PeopleSoft, and export to other external systems	PeopleSoft
Admissions	15	Apply	Track admitted applicants, choice of school, and perception of UNC and admissions process	
Alumni			Provide the capability to integrate with the university's "Development" System - Blackbaud	
Alumni	16	Contact/Notification	Provide the capability for alumni to access the system and update specific information like bio information and career information	
Alumni	17	Contact/Notification	Allow for batch e-mailing to alumni	
Alumni	18	Contact/Notification	Alumni should have an individualized portal of access to the SOM including linkage with CME programs	
Alumni	19	Contact/Notification	Need the ability to develop reports on alumni including type of practice and geographic location for curricular outcomes analysis and reports to the state on workforce	
Alumni	20	Contact/Notification		
Admin/Student Setup			Provides the capability to insert pictures of the students and allows the pictures to be viewed by appropriate users	
Admin/Student Setup	21	Bio/Health data	Be able to sort by small groups and have pictures display with selected student	PeopleSoft
Admin/Student Setup	22	Bio/Health data	Provides the capability to record the spoken name of the student and allows the recording to be played by appropriate users	
Admin/Student Setup	23	Bio/Health data	Capability to track and report on transfer students and visiting students	PeopleSoft

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
				Meets Requirement (Y/N)	Explain how the requirement is met	
Functional Area	ID	Category	User Requirement	Supporting System		
Admin/Student Setup			Capability to process the various health and immunization requirements that students must have in order to enter and/or proceed through the medical school. This must be accomplished through electronic means including utilizing Document Management processing curriculum. - Provide Integration with the PeopleSoft Document Management system - ImageNow			
Admin/Student Setup	24	Bio/Health data	Tracks Varicella, Hepatitis B series, and Tetanus boosters by immunization dates and results and full evidence.			
Admin/Student Setup	25	Bio/Health data	Records health insurance status and dates.			
Admin/Student Setup	26	Bio/Health data	Records disability insurance status including dates acquired. Capability to track group and individual insurance. Includes the capability to track if the student has received their policy			
Admin/Student Setup	27	Bio/Health data	Tracks mask fit testing dates, mask sizes, and related mask information.			
Admin/Student Setup	28	Bio/Health data	Tracks the status of the health and safety form	PeopleSoft		
Admin/Student Setup	29	Bio/Health data	Tracks enrollment and completion of annual HIPAA Training			
Admin/Student Setup	30	Bio/Health data	Tracks enrollment and completion of annual OSHA Training			
Admin/Student Setup	31	Bio/Health data	"Directory" information for students should include their HIPAA training status (e.g., current, expired, etc.)			
Admin/Student Setup	32	Bio/Health data	Integration with the campus student health system - eClinical Works. This includes access to student health information in the eClinical Works system			
Admin/Student Setup	33	Bio/Health data	Allows individual or batch emailing to students to inform them of their compliance			
Admin/Student Setup	34	Bio/Health data	Need ability to centrally track visiting students including application, status of immunization and other requirements and grading. Visiting students should be able to apply on-line.			
Admin/Student Setup	35	Bio/Health data				

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Admin/Student Setup	36	Course Catalog	Allows academic year specific details to be added to course catalog.	PeopleSoft		
Admin/Student Setup	37	Course Catalog	Provides the capability to track historical information for all years.	PeopleSoft		
Admin/Student Setup	38	Course Catalog	Allows for creation of new courses.	PeopleSoft		
Admin/Student Setup	39	Course Catalog	Provides for course catalog to be copied into a new year, and then provides for date adjustments.	PeopleSoft		
Admin/Student Setup	40	Course Catalog	A course description will be included in the current and historical entries for each course in the course catalog	PeopleSoft		
Admin/Student Setup	41	Course Catalog	Searchable index of electives: ability to search by department, faculty, location, dates offered, keywords	PeopleSoft		
Admin/Student Setup	42	Course Catalog	Provide the capability to create and track MED courses			
Admin/Student Setup	43	Student Advising	Capability to enter, modify and track faculty/staff assigned to students and students assigned to faculty and staff			
Admin/Student Setup	44	Student Advising	A detailed Search Engine for bringing up specific sets of students and their support persons.			
Admin/Student Setup	45	Student Advising	Capability to create and update a student "portfolio" which would include comments and attachments. The portfolio would have a "public" and "private" component. The portfolio could be accessed by the student post graduation and exported in a standard, portable, format.			
Admin/Student Setup	46	Student Advising	Scheduling engine - a component to schedule student sessions with their advisor and track that the appointment was completed. Students, advisors, or administrative assistants could create the schedule. The scheduling tool should be able to be utilized in various other scheduling functions			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Admin/Student Setup	47	Student Advising	Advisor access - two options: 1) Advisors have access to all students information and an audit trail is initiated when an advisor accesses a student record; 2) One advisor can "grant" temporary access to another advisor			
Admin/Student Setup	48	Student Advising	Capability for the following communication paths: advisor-to-advisor; student-to-student; student-to-advisor; advisor-broadcast message			
Admin/Student Setup	49	Student Advising	Capability to enter specific (preselected) student skills and allow the student to select skills they have achieved. The skills would then need to be approved by a specified user through workflow processing			
Admin/Student Setup	50	Student Advising	Capability to capture harassment issues anonymously and have the ability to provide statistical reports on this data.			
Admin/Student Setup	51	Student Progress	Provide online and print version of a transcript like report which tracks and indicates a medical student's progress in the four year curriculum. This major summary report is used to make decisions about student academic progress.			
Admin/Student Setup	52	Student Progress	Tracks student Step Exam scores			
Admin/Student Setup	53	Student Setup	Tracks and processes medical student Leave of Absence and Return of Leave of Absences, including dates.	PeopleSoft		
Admin/Student Setup	54	Student Setup	Tracks student preparation including required meetings and forms prior to entering a leave status.	PeopleSoft		
Admin/Student Setup	55	Student Setup	Allows comments to be recorded about student leave details.	PeopleSoft		
Admin/Student Setup	56	Student Setup	Tracks planned return status and dates.	PeopleSoft		
Admin/Student Setup	57	Student Setup	Provides searching of students based on biographic, pre-leave, and leave-return dates or statuses.	PeopleSoft		
Admin/Student Setup	58	Student Setup	Capability to associate students with lab and study groups and track those students	PeopleSoft		



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Admin/Student Setup	59	Student Setup	Tracks student and faculty committee, membership, dates and roles			
Admin/Student Setup	60	Student Setup	Central document repository with ability to drag and drop documents into various folders/files	SharePoint		
Admin/Student Setup	61	Student Setup	Capability to capture and store student related documents in specific folders/files	Document Management		
Admin/Student Setup	62	Student Setup	Capability to enter and track the student locker number and lock combination			
Admin/Student Setup	63	Student Setup	Capability to enter and track student mail boxes			
Admin/Student Setup	64	Student Setup	Capability to enter and track student desk assignments			
Admin/Student Setup	65	Student Setup	Provide a way to ensure that SOM students are eligible for Campus Services (SHS/Library/One Card) even if it does not fall during a regular University semester/year.	PeopleSoft		
Compliance/LCME Analysis and Reports						
Compliance	66	Compliance	Ability to produce reliable and various discriminative statistical outputs/reports.			
Compliance	67	Compliance	Allows for exports to UNC systems such as PeopleSoft and One45.			
Course Management						
Course Management	68	Develop Exams	Ability to display images, including multiple images per question in the main stem of the question or as part of the distracters in the question.			
Course Management	69	Develop Exams	Ability to browse to an image and up load directly to testing system. User should be able to see images in real time and see the image the way it will appear in final copy within the system. The testing system should allow some editing ability to make reasonable change to the image or graph.			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses					
				Meets Requirement (Y/N)	Explain how the requirement is met
Functional Area	ID	Category	User Requirement	Supporting System	
Course Management	70	Develop Exams	Capability to be able to add a flag or arrow to point out a site on the image within the testing system; instead of having to use Photoshop to place the arrow where you need it and then import the image every time you want to use it. It would be helpful if you could use the same image but adding a pointer to different sites in the image for different questions.		
Course Management	71	Develop Exams	Ability to independently randomize the order of exam questions delivered to each student during a live exam.		
Course Management	72	Develop Exams	Ability to define and classify questions based on custom defined content areas.		
Course Management	73	Develop Exams	Ability to cross-categorized questions, i.e. classify an individual question under multiple searchable content areas		
			Allows for variable exam administration practices  For example: 1. Allows for uploading or building of exams one or more days before actual exam 2. Allows for simultaneous login of all students into exam, no proctor required to individually log in students		
Course Management	74	Develop Exams			
Course Management	75	Develop Exams	Allows users to create question, prepare exams and generate reports using standard word processing text and image formats within the system in a manner that is not cumbersome and time consuming.  Faculty and Administrative staff should be able to use the system with minimal training or instruction.		
Course Management	76	Develop Exams			
Course Management	77	Develop Exams	Testing System must support graphics in multiple formats		
Course Management	78	Develop Exams	Ability to be used for "take-home" exams in additional to in-class assessments		



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Management	79	Develop Exams	Ability to handle and store results for more than 40 exams (i.e., for MSI and MS2) taken throughout the academic year - <i>provide ability to store all exams taken and results - at least to retain all exams throughout a student's medical school career</i>			
Course Management	80	Develop Exams	Ability to search Question Bank efficiently by Key word or custom defined content areas. Provide an advanced search capability where you could limit search to specific course or multiple courses that cover a specific content area of the curriculum.			
Course Management	81	Develop Exams	Ability to store a bank of questions that can be used, either randomly or systematically, for an individual exam.			
Course Management			Ability to map questions to course content and competencies, skills or knowledge base.			
Course Management	82	Develop Exams	Note: This item will also be assessed by the curriculum mapping committee.			
Course Management	83	Develop Exams	The ability to track edits made to existing questions in the item bank and keep audit trail of changes. It would desirable if the testing system would allow digital copy of exam responses for a practical exam to be uploaded to the testing system from a handheld device. This would make it more efficient to generate grades for courses that have a written and a practical exam.			
Course Management	84	Develop Exams				
Course Management	85	Develop Exams	Provide capability of pulling random questions from sets of "banks"/groups.			
Course Management	86	Develop Exams	Provide for flexibility in scoring exams. For a question: 1. Allow for multiple correct answers or 2. Allow for question to be thrown out			
Course Management	87	Advising	See Student Advising			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Management	88	Grade Exams	See Process Exams			
Course Processing						
Course Processing	89	Content Course Delivery	Content delivery must have the capability to deliver to "small groups"			
Course Processing	90	Content Course Delivery	Access must abide by HIPAA, FERPA, and copyright laws/policies			
Course Processing	91	Content Course Delivery	System features/materials (to the extent possible) should be downloadable to handheld devices			
Course Processing	92	Content Course Delivery	Managing/editing/administration tools should be built into the system (e.g., users shouldn't have to rely on 3rd party editors to edit manage their information			
Course Processing	93	Content Course Delivery	System must work across all four years (MS1-MS4)			
Course Processing	94	Content Course Delivery	Course administrators (e.g., faculty) should be able to go to a centralized area (i.e., portal) where they can view/edit/manage courses and events to which they've been assigned and resources they own			
Course Processing	95	Content Course Delivery	Course members should be able to see all other course members and their "directory" information (including contact info and photos) (both students and faculty)			
Course Processing	96	Content Course Delivery	System must have an analytics feature that tracks user (student) experiences, actions, awards, publications, research over the years			
Course Processing	97	Content Course Delivery	Master curriculum schedule should integrate into the curriculum mgt.system/component			
Course Processing	98	Content Course Delivery	Each course must have its own course schedule			
Course Processing	99	Content Course Delivery	Users should be able to filter specific event types (e.g., quizzes, exams, assignments)			
Course Processing	100	Content Course Delivery	Each course schedule must include a topic/event date, time, topic type, topic title, location, and lecturer/speaker			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	101	Content Course Delivery	In the schedule, lecturers'/speakers' names should link to a "directory" which contains photo and contact info			
Course Processing	102	Content Course Delivery	Curriculum mgt system/component should have the capability to provide a live schedule feed (e.g., for personal calendars, 3rd party systems, handheld devices, etc.)			
Course Processing	103	Content Course Delivery	System must provide an intuitive web interface for uploading/downloading resources such as files, links, and work packages (e.g., folders that contain a ppt and an accompanying video) to specific topics/events			
Course Processing	104	Content Course Delivery	Users should have the ability to move and/or cut/copy/paste resources throughout the course system			
Course Processing	105	Content Course Delivery	Every course should have an area that they can post general course resources (not related to a specific topic/event)			
Course Processing	106	Content Course Delivery	Upon adding a topic/event or course resource, users should be required to include the following information: resource type (lecture presentation, quiz, assignment, etc.), resource title, url or the ability to upload a file from their computer, resource description.			
Course Processing	107	Content Course Delivery	Users should have the ability to activate/deactivate resources (e.g., time in/time out)			
Course Processing	108	Content Course Delivery	Users should be able to see a "day view" schedule for each course. This view should include all topics/events for that day with all associated topic/event resources.			
Course Processing	109	Content Course Delivery	The system should notify users (e.g., students) of any revised or new resources			
Course Processing	110	Content Course Delivery	Users should have the ability to go to a centralized area where they can view all course resources and/or choose to print selected resources			
Course Processing	111	Content Course Delivery	Users should be able to revise a resource and provide a comment related to that revision			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses					
				Meets Requirement (Y/N)	Explain how the requirement is met
Functional Area	ID	Category	User Requirement	Supporting System	
			Each course should be required to provide the following course information (determined by the administration, this may change): overview, objectives and goals, grading/evaluation policy, small group information, text books, course directors, faculty list.[Note: These required fields may be optional for small group "courses"] Courses should also be able to provide any additional information relevant to the course (that may not fit in those pre-determined categories)		
Course Processing	112	Content Course Delivery	Users should be able to view upcoming event captures (by course)		
Course Processing	113	Content Course Delivery	Users should be able to search the entire curriculum system via metadata and full text searching, as well as by course, year (MS1 - MS4) or by faculty member		
Course Processing	114	Content Course Delivery	Users should only see search results that they are allowed to see based on roles/permissions (e.g., if a student is in small group A, he/she should not have search results from small group B)		
Course Processing	115	Content Course Delivery	Users should only see their assignments		
Course Processing	116	Content Course Delivery	The system should notify users about upcoming assignments		
Course Processing	117	Content Course Delivery	The system should notify users if they have missed the deadline for an assignment		
Course Processing	118	Content Course Delivery	Users should be notified when their assignment has been graded		
Course Processing	119	Content Course Delivery	Users should be able to see their grade and the grader's comments		
Course Processing	120	Content Course Delivery	Users should be able to download their graded assignments with faculty permission.		
Course Processing	121	Content Course Delivery	Once an assignment is submitted, the system should notify the relevant party (e.g., grader, course director, etc.)		
Course Processing	122	Content Course Delivery	Designated roles should be able to make (and assign) assignments to groups and/or courses		
Course Processing	123	Content Course Delivery			



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	124	Content Course Delivery	Users should be able to upload (or otherwise submit) their assignments via the system			
Course Processing	125	Content Course Delivery	The assignment grader should be able to make notes on assignments (electronically) and submit the graded assignment along with all notes to the student			
Course Processing	126	Content Course Delivery	Collaboration space should be available for group assignments, faculty and students			
Course Processing	127	Content Course Delivery	Users should be able to work on documents at the same time (if possible) and/or check-in/check-out documents for editing			
Course Processing	128	Content Course Delivery	Files in the collaboration spaces should have version control capabilities			
Course Processing	129	Content Course Delivery	Designated users (e.g., course directors, administration) should be able to create/manage collaboration spaces and grant access, roles, and permission			
Course Processing	130	Content Course Delivery	Users should be able to easily email their notification group			
Course Processing	131	Content Course Delivery	Each collaboration space should have an area for discussion			
Course Processing	132	Content Course Delivery	Each course/yr should have it's own discussion area			
Course Processing	133	Content Course Delivery	Users should have the ability to see all discussion items and respond to each item			
Course Processing	134	Content Course Delivery	The system should be able to retain resources from year to year (i.e., a course director should be able to easily transfer selected/all resources from one year to the next w/out having to re-upload the resources)			
Course Processing	135	Content Course Delivery	The system should retain a web accessible/editable copy of the previous academic year materials (including schedules, course materials, etc)			
Course Processing	136	Content Course Delivery	Beyond the archived previous academic year, the system should provide a readable version of previous years up to 2 years prior (including the initial previous year)			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	137	Content Course Delivery	The system should provide the capability to link their overall course objectives to the school's core competencies			
Course Processing	138	Content Course Delivery	The system should be able to generate reports about courses objectives and their mapping to core competencies			
Course Processing	139	Content Course Delivery	The system should include the ability for courses and/or the administration to make curriculum related announcements (e.g., via email or a portal-ish area)			
Course Processing	140	Content Course Delivery	Users should be able to schedule announcements (e.g., our testing administrators can schedule test reminders) Users should be able to go to a centralized, personal area that includes all announcements relevant to them (e.g., course announcements, assignment announcements/notifications, etc.)			
Course Processing	141	Content Course Delivery	The system should provide the ability to create/manage small groups			
Course Processing	142	Content Course Delivery	Each small group should have it's own collaboration space			
Course Processing	143	Content Course Delivery				
Course Processing	144	Content Course Delivery	Small groups should have the same features as other courses (e.g., schedule, discussion space, etc.)			
Course Processing	145	Content Course Delivery	Small group "courses" should be the children of a parent course (e.g., HSS small groups should be associated with the HSS course)			
Course Processing	146	Content Course Delivery	Small groups schedules should be automatically integrated with the parent course (e.g., when looking at the Structure and Devt schedule, you should see the small group schedules as well as the overall course schedule)			
Course Processing	147	Content Course Delivery	Provides the ability to specify the topic areas/courses a faculty member can access, including the ability to set read only or read/write access.			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	148	Content Course Delivery	Allow for "sticky notes" by students on lectures/presentations. Viewed by students only.			
Course Processing	149	Evaluate Student Performance	Comments by the grader are seen by the student and retained (although the assignment itself may not be, depending on its confidentiality status)			
Course Processing	150	Evaluate Student Performance	Scores should be linked to CMS content to provide feedback on teaching effectiveness			
Course Processing	151	Evaluate Student Performance	Based on role, students, course directors and advisors should have access to the aggregated evaluation information and summary reports (equivalent to transcript)			
Course Processing	152	Evaluate Student Performance	Test scores, evaluation of written work, and general evaluations (such as at the end of a rotation or professionalism in ICM) should be stored on the system, and available to students, but with careful consideration of who else can see what			
Course Processing	153	Evaluate Student Performance	Provide the capability for external users to perform evaluations including medical school residents			
Course Processing	154	Evaluate Student Performance	Allows display and editing of final written evaluation for clerkships and other clinical courses or electives.			
Course Processing	155	Evaluate Student Performance	Ability to create write-ups and progress notes, and to retain in student portfolio			
Course Processing	156	Evaluate Student Performance	Ability to capture behavioral comments			
Course Processing	157	Evaluate Student Performance	Include student pictures on evaluations			
Course Processing	158	Evaluate Student Performance	Flexible reporting of student performance addressing student, student affairs, and faculty needs. Must be able to report student performance by clinical course, one page per student, including: student name faculty name formative comments summative (dean's letter) comments final course grades dates course taken			
Course Processing	159	Evaluate Student Performance				

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	160	Evaluate Student Performance	Ability to flag low performing students based on user specified parameters. Must be able to document that the student is aware of low performance concerns			
Course Processing	161	Evaluate Student Performance	Automatically notify specified personnel of a low performance flag.			
Course Processing	162	Evaluate Student Performance	Ability to track low performance by students consistent with feed forward policy. - provide indicator that the student has been informed			
Course Processing	163	Evaluate Student Performance	Ability to feed forward low performance issues.			
Course Processing	164	Evaluate Student Performance	Provide the capability to download national testing exam results and other external sources, like Shelf exam (NBME), Step1 and Step2 (USMLE) into the system and associate with the student			
Course Processing	165	Evaluate Student Performance	Import clinical skill assessment data from B-Line, including OSCE and CPX scores.			
Course Processing			Provide the capability to import final grade/course grade and comments from an MS Excel spreadsheet which is used by the faculty and course directors for student's grading data. This data will be used on the transcript and the Dean's letters. This needs to be available to specific role which will be the "official" signoff for the grades			
Course Processing	166	Evaluate Student Performance	Allow for self-assessments in addition to take-home exams.			
Course Processing	167	Evaluate Student Performance				
Course Processing	168	Patient/Procedure/Case logging	Ability to specify log patient encounters/cases/procedures by course or overall			
Course Processing	169	Patient/Procedure/Case logging	Ability to set parameters for numbers of encounters/cases/procedures by course or overall			
Course Processing	170	Patient/Procedure/Case logging	Ability to report progress on patient encounters/cases/procedures			
Course Processing	171	Patient/Procedure/Case logging	Provide the capability to perform aggregate reporting			
Course Processing	172	Patient/Procedure/Case logging	Ability to have log signed off on by observing faculty.			



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	173	Grades Processing	Manages the display and editing of all final course grades and scores.	PeopleSoft		
Course Processing	174	Grades Processing	Tracks any temporary grade decisions such as Incomplete, or Conditional Grades.	PeopleSoft		
Course Processing	175	Grades Processing	Tracked Grades include: H, HP, P, LP, F, IN, CO, CO/P, CO/F and track superscripts	PeopleSoft		
Course Processing	176	Grades Processing	Provide for a summation score of overall year-end grade. Yrs 1-2: Average of Final Year Course Scores Yrs 3-4: Numeric score to grades (clerkship rankings)			
Course Processing	177	Grades Processing	Provide for the ability to have the weighted courses.			
Course Processing	178	Grades Processing	Ability to determine which grades are released to students.			
Course Processing	179	Grades Processing	Ability to release/unrelease grades.			
Admin/Student Setup	180	Grades Processing	Provide the capability to track the primary person responsible for providing final course grades			
Admin/Student Setup	181	Grades Processing	Ability to notify administration that grades have been submitted/have NOT been submitted.			
Admin/Student Setup	182	Grades Processing	Provide the capability to track end of year grades	PeopleSoft		
Admin/Student Setup	183	Grades Processing	Provide for calculation of student grade at anytime the student requests.			
Admin/Student Setup	184	Grades Processing	Tracks course directors and faculty (contact information) from other medical schools that need reports of visiting student registrations and grades.	PeopleSoft		
Course Processing	185	Process Exams	Ability to generate immediate feedback to the students and generate a raw score.			
Course Processing	186	Process Exams	Produces student course/grades/scores "summary report"	PeopleSoft		
Course Processing	187	Process Exams	Calculates Midterm and Year-End Averages across courses for each class.			
Course Processing	188	Process Exams	Sets Score Cut-Offs for calculation of Grades			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	189	Process Exams	Computes Grades and scores for individual student exams			
Course Processing	190	Process Exams	Computes Grades and scores from multiple weighted Exams			
Course Processing	191	Process Exams	Scores official exam statistics including: number of students, mean and standard deviation.			
Course Processing	192	Process Exams	Groups specific Exams and calculates final Grade and Score			
Course Processing	193	Process Exams	Provide student score and question numbers and question categories for all questions missed on-line via a portal.			
Course Processing	194	Process Exams	Provide class averages and student's own exam score online via a portal.			
Course Processing	195	Process Exams	Exam questions should be generated from within the CMS or within the system used for testing (or easily imported to the testing system.			
Course Processing	196	Process Exams	Imports Exam data from encrypted Email			
Course Processing	197	Process Exams	Provides a search engine for bringing up specific sets of Exams			
Course Processing	198	Process Exams	Imports and reports exam data from Scantron files.			
Course Processing	199	Process Exams	Protect the integrity of the exams submitted by the students.			
Course Processing	200	Process Exams	Ability to restrict students to taking a scheduled, secure exam from a specified, approved location. Ability to specify multiple approved locations for any given exam.			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	201	Process Exams	The software used by students for taking a secure exam must not allow other applications to run or be launched while the exam software is active for that student. The software must also prevent virtual machine capabilities from being used on the student's computer while taking an exam. Exiting this software application prior to completion of the exam (completion defined as student submit or exam time-out) should be recorded by the exam system software.			
Course Processing	202	Process Exams	Ability for faculty to log into the testing system and see reports online and be able to download or print reports.			
Course Processing	203	Process Exams	Ability to re-grade the exam and recalculate the grade, in the event that a test question is not interpreted by the students the way faculty intended or to eliminate a bad test question.			
Course Processing	204	Process Exams	Ability to handle various question types (i.e., multiple choice questions, extended matching, short answers/essays)			
Course Processing	205	Process Exams	Ability to print hardcopy of exam			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
			Ability to store statistics about each question for future reference, including: 1. Last time question was used 2. Total times question has been used 3. % of students who got the correct answer for each question on current exam 4. Difficulty index (by current exam), i.e. performance of top 25% of class vs. performance of bottom 25% of class (class ranking judged by the exam being administered) 5. Difficulty index (global), i.e. performance of top 25% of class vs. performance of bottom 25% of class (class ranking judged by overall performance in the course to-date)			
Course Processing	206	Process Exams				
			The ability to "break out" performance reports on a subset of questions for a curriculum component that is integrated in the courses and is critical for assessing student performance. Also to generate performance reports for a subset of students.			
Course Processing	207	Process Exams				
			Provides students with access to a simple calculator while taking exam.			
Course Processing	208	Process Exams				
			Provides a way to post one or more tables of "standard values" that students can access and refer to during the exam from multiple questions.  Note: The table can be a text or image file.			
Course Processing	209	Process Exams				
			A system that can store exam grades and possibly import grades from other sources. That could serve a repository for grade and where final grades can be calculated and exported to One45 or PeopleSoft.			
Course Processing	210	Process Exams				

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	211	Process Exams	Testing system that can report grades in a web-based manner. Where students can log on and access exam grades for one course or multiple courses.			
Course Processing	212	Scheduling	Provides setting of available registration slots by course and by schedule blocks as input into the scheduling algorithm			
Course Processing	213	Scheduling	Provides an algorithm the schedule 3rd and 4th year students based on the selection criteria entered during registration			
Course Processing	214	Scheduling	Ability to override criteria to accommodate for special circumstances.			
Course Processing	215	Scheduling	Allows batch processing for a course for students in various categories including "regular students", "visiting students", and "special students". Also batch by year	PeopleSoft		
Course Processing	216	Scheduling	Allows random numbers to be assigned to a 4 <sup>th</sup> year class for lottery-type processing. Multiple random numbers are used for assigning different selective courses.			
Course Processing	217	Scheduling	Provides a scheduling algorithm to calculate schedules for all four years. Input is based on criteria provided by student preferences, registration, and slots available			
Course Processing	218	Scheduling	Third & fourth year schedules can be "swapped" between two students as course swaps, half-year swaps, and full year schedule exchanges with final approval by the registrar's office.			
Course Processing	219	Scheduling	Allows a student to "give away" a complete schedule to another student without receiving a replacement schedule.			
Course Processing	220	Scheduling	Ability for administration to approve or deny swaps.			
Course Processing	221	Scheduling	Multiple calendar views, including a view limited to a specific course			



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Course Processing	222	Scheduling	Provides an algorithm to schedule rooms, equipment, and staff support for the student schedules. The results must provide for override capability			
	223	Scheduling	Ability to set staffing levels/capacity for courses by course and block.			
Course Processing	224	Scheduling	Ability to schedule clinical skills center			
	225	Scheduling	Ability to schedule the CPX based on student preferences.			
Course Processing	226	Scheduling	Room scheduling, with option of adding auxiliary rooms			
Course Processing	227	Scheduling	Provide the capability to batch schedule MED students			
Course Processing	228	Scheduling	Ability to schedule courses at multiple levels of specificity - from general course to specific service			
Course Processing	229	Scheduling	Flexibility to schedule different courses at the most appropriate unit of time for that course - from month long blocks to individual days.			
Course Processing	230	Scheduling	Ability to schedule a course across multiple time periods.			
Course Processing	231	Scheduling	Ability to specify start and end dates of a course on a student by student, course by course basis.	PeopleSoft		
			Ability to display/report schedules based on user specified parameters such as: location student course			
Course Processing	232	Scheduling	time period (session)			
Course Processing	233	Scheduling	Ability to notify selected personnel when a change is made to the schedule.			
Course Processing	234	Scheduling	Users should have the ability to see and print a comprehensive for all years			
Course Processing	235	Scheduling	Users should be able to sync schedules to handheld devices			
Educational Program						

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Educational Program	236	All segments	The system will provide the capability to create, deliver, and track respondents of a customizable survey allowing the entry of specific questions			
Educational Program	237	All segments	The system will interface with the scheduling engine, defined previously, to deliver the survey to students and faculty at specific locations and courses  The system will have the capability of both exporting the collected data for custom reporting and generate simple reports that include for each questions the number, frequencies of responses, means and standard deviations. It should also report responses to yes/no questions.			
Educational Program	238	All segments	Resulting survey data will be sorted in a database and easily accessible for reporting. This data will be integrated with additional data including student bio and course data for reporting			
Educational Program	239	All segments				
Educational Program	240	All segments	The system will allow the capability to modify/correct data that was submitted incorrectly on the survey.  The system will provide the capability to download/integrate various data sources including national data sources like AAMC surveys, MSQ, GQ and NBME STEP exams for mapping integrate with CurMilt and school competencies			
Educational Program	241	All segments	Multiple sets of competencies, Mesh headings, knowledge, skills & attitudes should be available or be able to be imported into the system for mapping purposes.			
Educational Program	242	All segments	All data needs to be able to be extracted or integrated with third party analytical tools like MS Excel and other statistical analysis tools			
Educational Program	243	All segments	Each educational unit should be linked to Mesh headings, KSA (knowledge, skills, attitude), competencies			
Educational Program	244	Competency				

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Educational Program	245	Competency	Faculty should be able to design and run reports concerning the curriculum, including content and evaluations			
Educational Program	246	Competency	Provide the capability to track "class" requirements for every class year			
Educational Program	247	Competency	Provide the capability to track graduation requirements for each student (courses completed and/or courses to be completed)			
			Ability to produce cumulative and longitudinal reports of student performance across a specific course, academic year or medical school career.			
Educational Program	248	Competency	1. Ability to see grades across specific course 2. Ability to see grades across an academic year 3. Ability to see grades across a medical school career			
Educational Program	249	Evaluations	Develop, import and edit evaluation instruments.			
Educational Program	250	Evaluations	Allow for multiple question types on evaluation forms.			
Educational Program	251	Evaluations	Allow flexibility in assigning numeric values to scales used on evaluation forms, including decimal values.			
Educational Program	252	Evaluations	Ability to create computations from items selected on forms and have them reported as grades.			
Educational Program	253	Evaluations	Allow data collected on forms to directly feed to other parts of the system, such as grade information.			
Educational Program	254	Evaluations	Ability to generate the distribution of a follow-up form based on a value selected on one form.			
Educational Program	255	Evaluations	Allow multiple evaluations per course, administered by different units.			



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Educational Program	256	Evaluations	Allow students to determine electronically who appropriate evaluators are and vice versa - allow evaluators to determine which students to evaluate and allow for approval or deletions of evaluations by course directors.			
Educational Program	257	Evaluations	Allow a faculty member or support staff to electronically distribute evaluation forms to appropriate evaluators.			
Educational Program	258	Evaluations	Adjust evaluations to accommodate variations in schedule.			
Educational Program	259	Evaluations	Follow-up/track evaluations/send reminders.			
Educational Program	260	Evaluations	Ability to report evaluations by course, block, site, service.			
Educational Program	261	Evaluations	Ability to report comparisons on course, block, site service. Report descriptive statistics for all closed-ended evaluation questions, including: frequency (by question) mean standard deviation min/max # selecting "did not rate"			
Educational Program	262	Evaluations	# selecting "did not rate"			
Educational Program	263	Evaluations	Report comments with statistics or comments only (identified).			
Educational Program	264	Evaluations	Ability for course/program directors and coordinators to moderate or annotate forms submitted by course faculty.			
Educational Program	265	Evaluations	Ability to create summary evaluations based on evaluations submitted by multiple faculty members.			
Educational Program	266	Evaluations	Ability to create comparative reports based on user specified fields and comparisons.			
Educational Program	267	Evaluations	Provide for student peer evaluations			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
			Students should be able to evaluate faculty and residents involved with their education on-line (includes photos) and a summary report for individual faculty and residents should be available to the faculty member and resident (as formative feedback), to the chair, and to the Office of Faculty Affairs. These summary reports can be used by the faculty promotion committee			
Educational Program	268	Evaluations				
Educational Program	269	Mapping	Mapping should be uniform across courses			
Educational Program	270	Mapping	Track changes in topics over a period of years			
			Need ability to generate standardized report on course and clerkships including student performance, linkage with institutional educational objectives, student evaluation of course and clerkships. Data on student evaluation of courses and clerkships should be available on-line to curriculum and unit committees, course and clerkship directors and administration			
Educational Program	271	Mapping				
Educational Program	272	Mapping	Provide the capability to enter program competencies and program Objectives into the system			
Educational Program	273	Mapping	Provide the capability to enter "topics" and associate the topics with specific courses and clerkships			
Educational Program	274	Mapping	Provide the capability to associate exams to objectives			
Educational Program	275	Mapping	Provide the capability to display the topics on the syllabus or within the Course Content component			
			Provide the capability to associate key words within the program objectives to specified topics and vice-versa. These topics are mapped back to courses and clerkships as indicated in the previous requirement, but are also mapped back to the objective and competency			
Educational Program	276	Mapping				

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Educational Program	277	Mapping	Provide the capability to associate the topics with student evaluations			
Educational Program	278	Program Evaluation	Need to be able to generate a report on achievement of institutional goals and objectives (curricular outcomes) including student performance on internal and external exams and post-graduation follow-up Target a subset of students in each educational unit to submit detailed evaluation; possibly based on attendance or on later viewing of a podcast			
Course Processing	279	Program Evaluation				
Graduation	280	Dean's Letter	Tracks Dean's meeting results (comments)			
Graduation	281	Dean's Letter	Schedules student meetings with faculty and Dean			
Graduation	282	Dean's Letter	Tracks status (progress) of development of Dean's Letter			
Graduation	283	Dean's Letter	Faculty and staff should have access to read the Dean's Letter (not available on student record until after Nov 1)			
Graduation	284	Dean's Letter	Provide letters in template format			
	285		Collect comments related to grades allowing for drag & drop, plus editing, for dean's letter content. Provide reports on students course summaries per year and comments.			
Graduation	286	Dean's Letter				
Graduation	287	Match Process	Allow for multiple matches.			
Graduation	288	Match Process	Create student record files for interfaces automatically (update NRM/GradTrac)			
Graduation	289	Match Process	Create *.pdf and hardcopy delivery packets			
Graduation	290	Match Process	Allow for files to be imported from NRM/ for match reports (Dean/public/statistics for state), form letters, and updating match information for tracking in-house. Availability to manually update a student's match (instead of the file import from NRM/) for those for early match			
Graduation	291	Match Process				
Graduation	292	Match Process	Be able to track/submit non-active students who wish to sign-up for matching.			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Graduation	293	Match Process	Be able to track/re-submit students who matched for a preliminary placement, but not a main placement at a later date.			
Graduation	294	Transcript	Displays and prints the official medical school student transcript.	PeopleSoft		
Graduation	295	Transcript	Transcript should have the ability to add a student picture.	PeopleSoft		
Graduation	296	Transcript	Transcript should have the ability to display/print the final grades with the following possible options (and the ability to change as necessary) H, HP, P, LP, F, IN, CO, CO/P, CO/F and print superscripts	PeopleSoft		
Graduation	297	Transcript	Transcripts should be available to print immediately after grades are approved.	PeopleSoft		
Graduation	298	Transcript	Transcript will allow for actual dates to go on the transcript instead of semester terms central campus has.	PeopleSoft		
Graduation	299	Transcript	Transcripts will print an overall year-end grade for each year. This appears at the end of the academic year of coursework. Yr 1 = P/F, Yrs 2 - 4 = H/P/F.	PeopleSoft		
Graduation	300	Transcript	Have the ability to print superscripts with the Condition grade (CO). Have the ability to provide a legend for the superscripts on the back of each official transcript.	PeopleSoft		
<b>IRB and Educational Research</b>						
Institutional Research	301		Capability to integrate with university systems that house Institutional Research data. Integrate with curriculum, evaluation and administrative OME data.			
Educational Research	302		NA			
IRB	303		NA			
<b>Security/Authorization</b>						
Security/Authorization	304	Authorization	Provides security mechanism to prevent unauthorized access to the system.			

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Security/Authorization	305	Authorization	Ability to work reliably within the UNC SOM network and with the laptop requirements - should really be network and computer independent - work on any network with any computer, even Mac and LINUX.			
Security/Authorization	306	Authorization	Provide security mechanism to protect the integrity of the exam questions and stored data.			
			Note: Provide security system that is consistent with the SOM security system, which is not completely a standard security system. Whatever security system is part of the testing software has to interact with what is available.			
			Security mechanism for unauthorized access has to be hierarchical system where you set access or permission at different levels for secretaries, faculty, and grant access to test questions by course or author.			
			Ensure proper user authentication to the system with a minimum of user name and password.			
Security/Authorization	307	Authorization	Provide logging capability to be able to track access and changes to the system.			
Security/Authorization	308	Authorization	Provide real time alerts to systems administrators for various abnormalities, such as repeated attempts for unauthorized access.			
Security/Authorization	309	Authorization	Provide the ability to access the system in a secure manner for administrative purposes from off-site. (web-based system) Access to the system (for administrative purposes) should require no more than a web browser with common settings.			
Security/Authorization	310	Authorization	Note: If faculty or administrator wants to access the exam from home, you should not have to make any changes in settings or "tweaking", just use a browser with common setting and log on securely.			



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

Vendor Responses						
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Security/Authorization	311	Authorization	Provide the capability for a potential system user to submit an online request for user access. This request must go through a workflow process for approval			
Security/Authorization	312	Authorization	Provide completely secure authentication stream where clear text passwords are not stored.			
Security/Authorization	313	Authorization	Permit authentication with user's primary authenticating authority - allowing for single sign-on across organizational boundaries (i.e. shibboleth-based authentication).			
Security/Authorization	314	Roles	System should include a role table that will be responsible for assigning authorization. Membership system should track the following information: <ul style="list-style-type: none"><li>• User demographic information</li><li>• Role information</li><li>• "PID"</li><li>• ONYEN - UNC Standard user name</li><li>• Maps "SOMId" (School of Medicine ID) or ONYEN to roles at login</li></ul>			
Security/Authorization	315	Roles	The system will provide the capability to allow the user to "invite" other individual users or groups of users to have access to specific functions within the system. For example, a faculty member may invite a small user group to have access to specific course work.			
Security/Authorization	316	Roles				
Setup/Pre courses						
Setup/Pre courses	317	Register	Provide the capability for the student to enter selection criteria for their preference on 3rd and 4th year rotations. This selection criteria will include selection by: location, time/date, elective, course			
Setup/Pre courses	318	Register	Tracks the number of slots available for students per course at different times. Includes maxs and mins.	PeopleSoft		
Setup/Pre courses	319	Register	Displays all student course registrations.	PeopleSoft		

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Setup/Pre courses	320	Register	Allows editing of registration status and details by administrators	PeopleSoft		
Setup/Pre courses	321	Register	This program generates student course registrations and student schedules for medical students for all four years. The course registrations are put into the table which the Grades Application manages.	PeopleSoft		
Setup/Pre courses	322	Register	Provides single student and batch registrations for courses.			
Setup/Pre courses	323	Register	Provides view of final registration results for the students			
Setup/Pre courses	324	Register	Allows batch changes of course dates for existing registrations.	PeopleSoft		
Setup/Pre courses	325	Register	Allows for manual registration for individual students while keeping course slot counts for rolling from year-to-year	PeopleSoft		
Setup/Pre Courses	326	Pay Fees	Allow for non-PeopleSoft alumni to have the ability to pay for transcripts on-line. Allow for students to pay on-line for accounts/fees specific to the School of Medicine fees such as: Supplemental Application Fee Disability Fee Transcripts International Application Fee (insurance) International Transfer Fee Mailbox Fee (lost keys) Locker Fee (Cleanup) Microscopy Fee Fax Usage Fee Miscellaneous Copy of Permanent Record (Currently UNC only allows for payment of tuition & standard fees on-line - athletic/computer lab)	PeopleSoft		
Setup/Pre Courses	328	Financial Aid	Provide a way to indicate whether or not a student received financial aid in relation w/ Disability Fees	PeopleSoft		

**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Setup/Pre Courses	329	Financial Aid	Automatically provide status reminder e-mails to students on their financial aid application and related reports to administration.	PeopleSoft		
Setup/Pre Courses	330	Financial Aid	Allow SoM to match and track FAFSA applicants starting Jan 1 (currently March)	PeopleSoft		
Setup/Pre Courses	331	Financial Aid	Provide the flexibility to add-in specific SoM requirements/wording in Award Letters that are generated.	PeopleSoft		
Setup/Pre Courses	332	Financial Aid	Provide an integrated solution to billing students who may choose to delay their 3rd year rotation a month. Currently coordination needs to take place between the SPD, SIS & Financial Aid to bill appropriately.	PeopleSoft		
Setup/Pre Courses	333	Financial Aid	Provide solution which allows SoM to change parameters on how the cost of education is calculated (per student, per calendar year, per class year). This is currently created on a spreadsheet.	PeopleSoft		
Setup/Pre Courses	334	Financial Aid	Allow the SoM to setup scholarships within an application (administrative rights to increase/update a scholarship)	PeopleSoft		
Setup/Pre courses	335	Financial Aid	Need ability to track debt status of students in relation to aid provided versus loans. Also Financial Aid office needs access to reports on aid received by student, class year, academic year, and aid type and source.			
Integration/Data Access						
Integration/Data Access	336	Integration	The system MUST provide integration with all major components within the suite of medical school student processing systems. The integration must be seamless.			
Integration/Data Access	337	Integration	The system will provide data integration to retrieve data from major national sites like CurMlt, AAMC, NBME, etc.			
Integration/Data Access	338	Integration	The system must provide built-in integration with PeopleSoft			
Integration/Data Access	339	Integration	The system will provide notification capability across all components			



**UNC Chapel Hill - School of Medicine**  
**Comprehensive Student Processing Requirements**

					Vendor Responses	
Functional Area	ID	Category	User Requirement	Supporting System	Meets Requirement (Y/N)	Explain how the requirement is met
Integration/Data Access	340	Data Access	All data must be accessible with common reporting tools such as WebFocus. Data may reside in alternative data stores but must be accessible in a seamless manner			
GME and CME						
GME and CME	341	Graduate Medical Education	No current requirements for processing			
GME and CME	342	Continuing Medical Education	Provide a robust system component for managing and processing Continuing Medical Education			
All						
General	343	Reporting	Provide graphs/reports based on cumulative statistical data on students of any corresponding year.			
General	344	Reporting	All exported data must contain a unique student identifier (i.e. PID)			

**UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  
INSTRUCTIONS TO BIDDERS**

**1. READ, REVIEW AND COMPLY:** It shall be the bidder's responsibility to read this entire document, review all enclosures and attachments, and comply with all requirements specified herein.

**2. NOTICE TO BIDDERS:** All bids are subject to the provisions of the General Terms and Conditions For Commodities and Services/Procurements of Information Technology Goods and Services/Construction, and the specifications. The University objects to and will not evaluate or consider any additional terms and conditions submitted with a bidder's response. This applies to any language appearing in or attached to the document as part of the bidder's response. **DO NOT ATTACH ANY ADDITIONAL TERMS AND CONDITIONS.** By execution and delivery of this document, the bidder agrees that any additional terms and conditions, whether submitted purposely or inadvertently, shall have no force or effect.

**3. EXECUTION:** Failure to sign under EXECUTION or Signature section will render bid invalid.

**4. TABULATIONS:** Verbal tabulations of bids and award information can be obtained by calling the purchaser named on the cover page. Requests for lengthy or written tabulations cannot be honored.

**5. TIME FOR CONSIDERATION:** Unless otherwise indicated on the first page of this document, bidder's offer shall be valid for 45 days from the date of bid opening. Preference may be given to the bids allowing not less than 45 days for consideration and acceptance.

**6. PROMPT PAYMENT DISCOUNTS:** Bidders are urged to compute all discounts into the price offered. The University's standard payment terms are net, 30 days. If a prompt payment discount is offered, it will not be considered in the award of the contract except as a factor to aid in resolving cases of identical prices.

**7. MAILING INSTRUCTIONS:** Mail only one fully executed bid document, unless otherwise instructed, and only one bid per envelope. Address envelope and insert bid number as shown below: **RFP No 65-RFPB629344 UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, PURCHASING SERVICES, 104 AIRPORT DRIVE, ROOM #2700, CB 1100, CHAPEL HILL NC 27599-1100** **It is the responsibility of the bidder to have the bid in this office by the specified time and date of opening.**

**8. SPECIFICATIONS:** Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and bidder will be held responsible therefore. Deviations shall be explained in detail. **The bidder shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**

**9. ORDER OF PRECEDENCE:** In cases of conflict between specific provisions in this RFP, the order of precedence shall be (1) special terms and conditions specific to this RFP, (2) specifications, and (3) General Terms and Conditions For Commodities and Services/Procurements of Information Technology Goods and Services/Construction

**10. INFORMATION AND DESCRIPTIVE LITERATURE:** Bidder is to furnish all information requested and in the spaces provided in this document. Further, if required elsewhere in this bid, each bidder must submit with their bid sketches, descriptive literature and/or complete specifications covering the products offered. Reference to literature submitted with a previous bid will not satisfy this provision. Bids which do not comply with these requirements will be subject to rejection.

**11. RECYCLING AND SOURCE REDUCTION:** It is the policy of this University to encourage and promote the purchase of products with recycled content to the extent economically practicable, and to purchase items which are reusable, refillable, repairable, more durable, and less toxic to the extent that the purchase or use is practicable and cost-effective. The University encourages and promotes using minimal packaging and the use of recycled/recyclable products in the packaging of commodities purchased. However, no sacrifice in quality of packaging will be acceptable. The bidder remains responsible for providing packaging that will protect the commodity and contain it for its intended use. Bidders are strongly urged to bring to the attention of the purchasers in the University's Purchasing Division those products or packaging they offer which have recycled content and that are recyclable.

**12. CLARIFICATIONS/INTERPRETATIONS:** Any and all questions regarding this document must be addressed to the purchaser named on the cover sheet of this document. Do not contact the user directly. Any and all revisions to this document shall be made only by written addendum from the University's Purchasing Division. The bidder is cautioned that the requirements of this bid can be altered only by written addendum and that verbal communications from whatever source are of no effect.

**13. REFERENCES:** The University reserves the right to require a list of users of the exact item offered. The University may contact these users concerning these items. Such information may be considered in the evaluation of the bid.

**14. HISTORICALLY UNDERUTILIZED BUSINESSES:** Pursuant to General Statute 143-48 and Executive Order #77, the University invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled business enterprises, and non-profit work centers for the blind and severely disabled.

**15. AWARD OF CONTRACT:** Qualified bids will be evaluated and acceptance made of the lowest and best bid most advantageous to the University as determined upon consideration of such factors as: prices offered; the quality of the articles offered; the general reputation and performance capabilities of the bidders; the substantial conformity with the specifications and other conditions set forth in the bid; the suitability of the articles for the intended use; the related services needed; the date or dates of delivery and performance; and such other factors deemed by the University to be pertinent or peculiar to the purchase in question. The University reserves the right to reject any and all bids, to waive any informality in bids and, unless otherwise specified by the bidder, to accept any item in the bid. Unless otherwise specified by the University or the bidder, the University reserves the right to accept any item or group of items on a multi-item bid. If either a unit price or extended price is obviously in error and the other is obviously correct, the incorrect price will be disregarded.

**16. CONFIDENTIAL INFORMATION:** As provided by statute and rule, the University will consider keeping confidential those trade secrets which the bidder does not wish disclosed. Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL" by the bidder. Cost information shall not be deemed confidential. In spite of what is labeled as a trade secret, the determination of whether it is or not confidential will be determined by North Carolina law. The obligations of non-disclosure shall not apply to the following:

Information which, at the time of disclosure is in the public knowledge;

Information which, after disclosure becomes part of the public knowledge by publication or otherwise, except by breach of this agreement;

Information which was in the possession of the University at the time of disclosure and which was not acquired, directly or indirectly by recipient from the disclosing party, and which prior possession can be proven by documentary evidence;

Information received from third parties, provided such information was not obtained to their knowledge by said third parties, directly or indirectly, on a confidential basis;

Information which is independently developed by the University's personnel not privy to the information.

**17. TAXES:** Except for construction bids, taxes shall not be included in bid prices. Prices offered shall not include any personal property taxes, nor any sales or use tax (or fees) unless required by the North Carolina Department of Revenue. The University of North Carolina at Chapel Hill, being an agency of the State of North Carolina, is exempt from the Federal Excise Tax.

**18. SAMPLES:** Sample of items, when required, must be furnished as stipulated herein, free of expense, and if not destroyed will, upon request be returned at the bidder's expense. Request for the return of samples must be made within 10 days following date of bid opening. Otherwise the samples will become University property. Each individual sample must be labeled with the bidder's name, bid number, and item number. A sample on which an award is made, will be retained until the purchase order is completed, and then returned, if requested, as specified above.

**19. MANUFACTURERS' NAMES:** Except for requirements identified as "brand specific," any manufacturers' names, trade names, brand names, information and/or catalog numbers used herein are for purpose(s) of description and establishing general quality levels. Such references are not intended to be restrictive and products of any manufacturer may be offered.

**20. MISCELLANEOUS:** Masculine pronouns shall be read to include feminine pronouns, and the singular of any word or phrase shall be read to include the plural and vice versa.

**21. OWNERSHIP:** For printing services, all copy, art, negatives, photos, etc., that are required for this job remain or become the property of the University and shall be returned to the University upon request in excellent, reusable condition. Any charge for this shall be included in all prices quoted herein. Printer shall be held liable for any/all damages to materials.

**22. PROTEST PROCEDURES:** A party wanting to protest a contract award pursuant to this solicitation must submit a written request to the University Purchasing Director at the address given in the instruction above entitled "Mailing Instructions." This request must be received in the University Purchasing Office within thirty (30) consecutive calendar days from the date of contract award, and must contain specific sound reasons and any supporting documentation for the protest. **Note:** Contract award notices are sent **only** to those actually awarded contracts and not to every person or firm responding to the solicitation. Offerors may call the purchaser listed on the first page of this document to obtain verbal status of contract award. All protests will be handled pursuant to the North Carolina Administrative Code, Title 1, Department of Administration, Chapter 5, Purchase and Contract, Section 5B.1519.

*Revised 1/08*