

Nebraska Information Technology Commission

Project Proposal Form

**New or Additional State Funding Requests
For Information Technology Projects**

FY2009-2011 Biennium

Project Title	Student Information System Replacement 11/07/2008
Agency/Entity	University of Nebraska and Nebraska State College System

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Notes about this form:

1. **USE.** The Nebraska Information Technology Commission ("NITC") is required by statute to "make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested." Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled "Guidance on Information Technology Related Budget Requests" available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by September 15, 2006 (the same date budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

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Section 1: General Information

Project Title	Joint Student Information System NeSIS Replacement Project
Agency (or entity)	University of Nebraska and Nebraska State College System

Contact Information for this
Project:

Name	Dr. Linda Pratt – UN EVP and Provost Executive Sponsor (NeSIS)
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Section 2: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

Reference is made to the Nebraska Information Technology Report to the Governor and Legislature regarding “Recommendations on Technology Investments for the FY2007-2009 Biennium”, dated November 15 and subsequently updated on November 27, 2006.

The NITC commissioners report recommended both project number 50-01 from the Nebraska State College System and project number 51-01 from the University of Nebraska and their requests for Student Information Systems be given:

- A Tier 1 recommendation (Highly recommended. Mission critical project for the agency and/or the state.)
- That the NITC strongly recommends that the University of Nebraska and the State College System collaborate on these projects in the areas of data element definitions, data warehouse design, data sharing, networking, hardware, and implementation.
- That the systems should be interoperable.

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- That the University of Nebraska and the State College System work closely with the Technical Panel and provide periodic project reviews

The partnership between the University of Nebraska and the Nebraska State College System has gotten off to a very good start. The two entities have come together working shoulder to shoulder in the development of the Request for Proposal for the new system and also in evaluating the various responding vendors. This collaboration and hard work resulted in the anonymous selection of the Oracle/PeopleSoft system that will meet the needs of both institutions over the next 15-20 years.

This University and State College partnership has already resulted in and identified some rather significant areas where we were able to hold the cost down to levels that would not have been possible had each institution decided to go it alone in selecting and implementing their own Student Information System. For example:

Working together the University and the Nebraska State College System clearly achieved a much lower total cost in the area of PeopleSoft application software licensing as well as the required Oracle database components.

- Significantly lower long-term maintenance costs for the application software and the database software were negotiated for and achieved at rates, which never could have been attained had we acted separately.
- We now have the ability to share a common and uniform hardware platform that can serve both institutions at a much lower cost than if each entity were to do it by themselves.
- Working together we have also been able to attain a much lower unit cost for technical and functional training as both entities are now able to share common training courses offered in Omaha as well as training materials.
- By having a unified negotiating position the University and the Nebraska State College System were able to negotiate a very favorable fixed price contract for the implementation of the system.
- Implementation costs will also be significantly lower by sharing consulting and project space, and because both institutions will be implementing at the same time, learning from each other and using as many common business practices as possible.

The partnership with regard to the SAP portion of the project has also resulted in overall cost avoidance from what otherwise would have been required in duplicating

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what the University already has in place with its SAP system. The effort to include the Nebraska state college system into SAP is on track and the anticipated go live date is 1 July 2009. Currently:

- Up to three SAP consultants are now on site, one for finance, one for human resource/payroll and one serving as a part-time Project leader. These consultants will only be on site periodically through June 2009
- Nebraska State College System core campus business leads are all working, with the University staff, either on site here in Lincoln or remotely as needed
- Overall project scope has been completed and is currently being documented

In early September 2008, The University of Nebraska (UN) Board of Regents and the Nebraska State College System (NSCS) Board of Trustees agreed jointly to contract with Oracle USA as the provider of a new \$29.8 million student information system that will serve students at the four campuses of the university and the three state colleges, Chadron, Peru and Wayne State.

The Oracle PeopleSoft Enterprise Campus Solutions application will serve as the backbone of the new student information system. CedarCrestone Consultants, as part of this effort, was selected to be our SIS system implementation partner.

The total three-year cost of the system has been estimated at \$29.8 million, including \$3 million in necessary hardware costs. The ongoing costs are currently estimated at \$2.5 million annually. In January 2008, a joint request was made to Gov. Heineman by NU President James B. Milliken and NSCS Chancellor Stan Carpenter for \$22,153,000 to cover the necessary first-year costs associated with the purchase of this common student information system and also the costs required to migrate the NSCS to the university's SAP financial management system. In the 2008 Legislative session, the Nebraska Legislature passed LB 959, which provided a deficit appropriation of \$20,000,000, with \$14,444,000 going to the university towards the university SIS system costs and \$5,556,000 to NSCS for their portion of the new SIS as well as the necessary migration to SAP.

In addition to the SIS component of the NU/NSCS SIS partnership it was further directed in December of 2006, by Nebraska Governor Heineman, in concert with the University of Nebraska President James B. Milliken and the Nebraska State College Chancellor Stan Carpenter that the NSCS also participate in using our existing SAP Financial and Human Resource system. The University was directed to provide overall operational, technical assistance and hosting services to the NSCS in implementing the SAP system for them. This part of the project actually began in September of 2008 and includes the implementation of all the financial, procurement, human resources, and payroll components of SAP for NSCS. The "Go Live" for this portion of the project is

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planned for July 2009. The NSCS will also “Go Live” with the new Budget system concurrently with the university on 1 July of 2009.

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)**1. Describe the project, including:**

- Specific goals and objectives;
 - The University of Nebraska Board of Regents reaffirms and restates its position that all University of Nebraska administrative computing systems, especially including but not limited to student information systems (SIS), will be standardized and made compatible, resulting in a virtually integrated enterprise.
 - Improved access to information – greater access to more data on a more timely basis
 - Improved services – i.e. web-based any time, any place access
 - Consistent service level across all campuses
 - Eliminate the need to develop and operate campus level applications to supplement base SIS system functionality
 - 24x7 system availability
 - More responsive and agile – ability to implement change on a more timely basis
 - More effective and efficient through ability to implement best business practices across both systems
 - Implement CRM and workflow
 - Improved reporting and decision-support capability
 - Improved integration capability to financials
- Expected beneficiaries of the project:
 - All students, faculty, staff, and administrators
 - Prospective students
 - Parents
 - High school advisors
 - Non-traditional students seeking professional development, career enrichment educational opportunities
 - State of Nebraska via a better educated work force
- Expected outcomes.
 - More efficient and effective operation
 - Provide better operational and administrative decision-support
 - Service improvements
 - Ability to implement best business practices

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- Improved responsiveness to competitive pressure
 - Improved flexibility and the ability to adapt to change
 - Seamless student-centric service model
 - Ability to develop and deploy additional new services and instructional programs targeting the growing non-traditional student population
2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.
- This may be difficult to measure as changes will be dramatic. Many improvements will be reflected in the ability to provide new, additional services and options that would not have been possible previously.
 - Increased enrollment – we should be able to offer more educational opportunities to more students through more flexible course offerings (e.g. ability to offer non-term based courses/programs, more concurrent curriculum offerings, and more professional development/career enrichment and certification program offerings)
 - Increased revenues – more students and more credit hours
 - Increased retention – our ability to offer better services to include improved advising and progress monitoring capability should lead to improved student retention and higher graduation rates
 - Ability to monitor and assess progress based on longitudinal studies via improved reporting.
 - Before and after satisfaction surveys of faculty, staff, and students.
3. Describe the project's relationship to your agency comprehensive information technology plan.
- This project proposal is consistent with both the University of Nebraska Information Technology Plan and the Nebraska State College Plan and is included in the 2009- 2011 plans.
 - Implementing new SIS systems and integrating the state college system into our SAP environment will allow both the University and the Nebraska state college system to operate more efficiently.
 - We will be able to more easily implement best business practices with all campuses operating the same basic student information system.
 - Consistent platforms, languages, technical infrastructure, will lead to improvements in maintenance and reduce complexity and the cost of system administration.
 - A more unified SIS and SAP system solution will allow us to better leverage both of our limited technical resources.
 - Enhance decision-support through improved access to information/data.

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Section 4: Project Justification / Business Case (25 Points)

1. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).
 - Implementing new SIS systems will allow the University and the Nebraska State College System to operate more effectively and efficiently and better serve the post-secondary educational needs of the State of Nebraska.
 - The ability to deliver enhanced student services should lead to increased enrollments and retention levels.
 - We will both be able to more easily implement best business practices under a common student information system environment.
 - We will both be able to offer and administer additional course offerings to better meet the needs of today's students for more flexibility concerning degree programs, class scheduling, concurrent curriculum and inter-disciplinary programs.
 - We should both be able to implement new options for payment and billing that should allow more students access to a UN education.
 - Provide better, more consistent service throughout the UN/NSCS systems.
 - Improve overall administrative capability through enhanced decision-support.
 - Consistent platforms, languages, technical infrastructure, will lead to cost savings in hardware, software, and maintenance costs and reduce the complexity of both the SIS system and SAP administration and support.
 - A new SIS will eliminate the need to develop extensive additional new SIS services and functionality
 - Improve our ability to implement changes and enhancements
 - Better share and leverage existing technical resources and skills through the standardization of technology.
 - Benefit from economies of scale and through centralization/consolidation as appropriate.
2. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable.

Other options:

- Continue to operate current SIS systems
 - This option was deemed totally unacceptable since the SCT SIS PLUS system vendor is no longer enhancing this product and will discontinue any and all maintenance of the PLUS system on 31 December 2011.

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3. If the project is the result of a state or federal mandate, please specify the mandate being addressed.
 - This project is in compliance with:
 - Federal financial aid rules and regulations
 - Federal SEVIS requirements.
 - FERPA compliance.
 - ADA compliance.

Section 5: Technical Impact (20 Points)

1. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.
 - New and much more current hardware, software, operating systems, programming languages, data base management system, and other technical components will be provided as part of the new system.
 - Move us from rather dated and inefficient terminal based access systems, old batch processing, and untold limitations imposed by the dated technology reflected in our current SIS systems to much more modern web-based, real-time, more flexible and dynamic technologies.
2. Address the following issues with respect to the proposed technology:
 - Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.
 - The current SAP system as well as the new PeopleSoft SIS system we selected will offer significant improvements in accessibility, reliability, security, and scalability for some time to come.
 - Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.
 - The current SAP system as well as the new PeopleSoft SIS system we selected will conform to applicable NITC and generally accepted industry technical standards and guidelines.
 - Address the compatibility with existing institutional and/or statewide infrastructure.
 - The current SAP system as well as the new PeopleSoft SIS system we selected our compatible with existing institutional and statewide infrastructures.

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1. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.
 - This project is sponsored by the University Board of Regents and the Trustees of the Nebraska State College System as well as all seven of the NU and NSCS campuses. All entities are in agreement that the replacement of our existing SIS systems is absolutely critical to our ability to function as institutions of higher education.
 - The plan, as it pertains, to implementing a new SIS system is to begin the process of defining requirements, evaluating options, selection, and implementation as soon as possible. It is anticipated this process will take approximately 30 – 36 months.
 - There are a number of project teams already in place to include:
 - University and NSCS SIS Steering Committee made up of high-level administrative staff to provide overall project administration, direction and an institutional vision/strategy.
 - Combined NU and NSCS implementation team, consisting of high-level campus operational and technical staff is in place to define the necessary functional requirements, and provide tactical analysis, design, and implementation support.
 - A number of combined NU and NSCS work groups that will be required at the operational level to address detailed functional requirements and to implement best business practices wherever possible.
 - Campus level work groups will also be in place at the operational level to address various campus-specific processing, policy, and implementation requirements.
 - We have also selected two “Co-Directors”, one representing the University of Nebraska and one representing the Nebraska State College System to oversee the implementation of the new system. This is in addition to a full-time project manager assigned to the project.
2. List the major milestones and/or deliverables and provide a timeline for completing each.

Major milestones

- Phase I: Plan and Discover Phase I:

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- The purpose of Phase I is to review and confirm the project vision, scope, staffing, priorities and Preliminary Work Plan.
 - Project preparation
 - Project readiness assessment
 - Preliminary fit/gap analysis and business process overview
 - Scope confirmation
 - Project planning and management
 - Quality assurance
- Phase II: Analyze & Design
 - The purpose of Phase II is to prepare the initial technical environment, conduct a fit/gap analysis, document and configure the Prototype to meet the UN/NSCS business requirements, create functional design specifications to address software gaps, and develop preliminary technical plans. To achieve the objectives of Phase II, the implementer will facilitate Interactive Design and Prototyping (IDP) sessions, which begin with a detailed fit/gap analysis and culminate in the documentation and configuration of a process-centric Prototype and development of Functional Design Specifications.
 - Technical preparation
 - Interactive design and prototyping
 - Technical planning
 - Project planning and management
 - Quality assurance
- Phase III: Configure & Develop
 - The purpose of Phase III is to configure the system; prepare technical specifications; develop customizations, reports, interfaces and conversion programs; and prepare testing, training, and communication materials for upcoming phases. Given the dynamic interaction among the activities of Phases II, III and IV, the implementation strategy is to build upon and further refine the deliverables from Phase II and lay the foundation for Phase IV.
 - Prepare technical environments
 - Development
 - Data conversion
 - Security setup
 - Unit testing
 - Configuration
 - User documentation and communication

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- Quality assurance
 - Phase IV: Test & Train
 - The purpose of Phase IV is to ensure that both the system and the users are prepared to go live, including the preparation of a detailed End User Support Plan.
 - Infrastructure update and conversion validation
 - Testing
 - Knowledge transfer , documentation and training
 - Go-live planning
 - Quality assurance
 - Phase V: Deploy & Optimize
 - The purpose of Phase V is to go-live and deliver the system to the users, including the resolution of any issues that may limit optimal deployment and provide additional support as requested by UN/NSCS.
 - Production cutover preparation
 - Production support
 - Project assessment
3. Describe the training and staff development requirements.
- This new PeopleSoft system will include many new and different hardware and software components which will require expanded skills and expertise. These requirements will be filled through a combination of both new staff as well as training of our existing staff as appropriate and is included in the contract.
4. Describe the ongoing support requirements.
- Ongoing support will be accomplished by a combination of both centralized and campus level staff.

Section 7: Risk Assessment (10 Points)

1. Describe possible barriers and risks related to the project and the relative importance of each.
- Risk is primarily associated with the overall complexity of the project. The number of different and unique processes and procedures that are involved, user requirements and demands, providing for all the needed campus services, quantity of data converted, operational areas impacted will all play a part in the area of project risk.

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- The University and the Nebraska state college system will do all they can to minimize eliminate risk wherever and whenever possible.
2. Identify strategies which have been developed to minimize risks.
- The project plan developed was done in an attempt to identify the obstacles, barriers, risks and strategies to mitigate each.
 - Data Migration Toolkits will be provided, in part, by our chosen vendor.
 - We recognize that migrating and or converting data between our older legacy systems and the newer PeopleSoft application remains one of the most complex and resource-consuming tasks facing this project. The necessary research, specifications development, and associated programming requirements demand significant time and understanding of the old and new application systems as well as a comparison and understanding of both data components and their intended uses.
 - Our vendor provided Data Migration toolkit along with our implementation partner knowledge, should allow us to convert and migrate legacy data to the new PeopleSoft system successfully. Additionally, the newer toolsets should reduce the time necessary for migration and help identify errors without requiring a high-level technical skill set or any additional third-party software. These much newer tools should provide significant time savings and resource reduction necessary for researching, defining, programming, and validating the converted data through predefined templates, extract programs, and testing procedures.
 - The Data Migration toolkit will include a combination of:
 - Baseline to new system data mapping definitions
 - COBOL data extraction tools
 - Customized SQL scripts
 - Customized SQL*Loader control file
 - Data translation tools (crosswalk structures)
 - PL/SQL conversion scripts, with accompanying database functions
 - Data migration artifacts
 - Error validation
 - The University and NSCS have engaged an experienced implementation partner, CedarCrestone. This company has a well-established record of providing proven models and methodologies delivered by experienced trainers, consultants, and project and account management professionals. Throughout a services engagement our implementation partner will be instructed to focus on maximizing the business value of our IT systems. With service standards centered on the principles of business process, our implementation partner will

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also be required to fully understand our business practices and determine how the new student information systems will best support our institutions in achieving our combined unique and strategic business goals.

- Quality milestone checkpoints will be implemented throughout the project to insure we deliver to the highest standards.

Section 8: Financial Analysis and Budget (20 Points)

1. Financial Information

Software	\$ 5,400,167
Consulting & Training	15,601,478
Hardware	2,495,154
Maintenance fees During Go-live	3,110,294
Logistics & Other Costs	<u>3,154,400</u>
Go-Live Costs	\$ 29,761,493
Existing Funding	
LB 959, sec. 38, program 840 (State Colleges)	(3,856,000) *
LB 959, sec. 40, program 740 (University)	<u>(14,444,000)</u>
	(18,300,000)
Deficit Request	<u>\$ 11,461,493</u>

* State Colleges' total allocation was \$5,556,000. \$1,700,000 of that funding will be used for the NSCS implementation of the University's SAP financial/HR ERP system.

2. Provide a detailed description of the budget items listed above. Include:

- An itemized list of hardware and software.

At this juncture it is not possible to provide an itemized list of hardware and software in light of our pending RFP to acquire the hardware. We can however provide the basic Server Architecture Requirements instead.

- Architecture to be a high availability n-tiered solution including database, application, web, and reporting data warehouse servers for institution application environments with appropriate fault tolerance to support 24x7x365 operations.
- Single points of failure should not exist within the architecture.

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- Proposed hardware platforms must provide isolation between each server environment (i.e., test, development, production, disaster recovery), and between institution application environments such that processing executing in one instance or environment may not negatively influence another, even if they share resources.
 - All systems should boot from SAN disks and should not include internal disks except for uses such as virtual memory and temporary files.
 - Test, development, and production are to have matching architectures to ensure that solutions developed and tested in the in pre-production environments perform as expected in the production environment, but do not need to be identically scaled. (e.g., Clustered tiers in test for clustered tiers in production, object code compatibility between environments, servers do not need to be of the same processing capacity, etc.)
 - Servers should automatically fail-over to remaining servers in the event of a server outage or failure. Any hardware component failure should not require immediate operator intervention at any tier and the system should remain functional. Ninety-nine percent of all fail-over events should take place in less than five minutes with minimal performance degradation for end-users.
 - Architecture must facilitate performing regular maintenance and software upgrades with minimal downtime (i.e. clustered or redundant nodes).
 - Architecture must be fully scalable to allow for incremental upgrades to meet demands caused by increased usage per each application instance, increased system usage including unequal growth across application instances, future growth of the ERP system including the purchase and implementation of additional modules, and increased redundancy and/or fault tolerance if required.
 - All levels of virtualization are acceptable.
- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.

Positions/Personnel	Annual Salary*	Annual Benefits*
Senior Database Administrator	\$100,000	\$20,000
Junior Database Administrator	\$66,700	\$13,300
Senior Operating System	\$70,800	\$14,200
Junior Operating System	\$70,800	\$14,200

* The above salary and benefit amounts represent the first year's cost. A 3% annual salary increase is assumed for subsequent years for all positions (not including backfill positions).

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- Provide any on-going operation and replacement costs not included above, including funding source if known.
 - Provide a breakdown of all non-state funding sources and funds provided per source.
3. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.