

**New Program Proposal
Clemson Institute for Supply Chain Optimization & Logistics (CICSOL)
Clemson University**

Summary

Clemson University requests approval to establish the Clemson Institute for Supply Chain Optimization and Logistics (CISCOL), to be implemented immediately upon approval.

Successfully designing and managing the manufacturing supply chain is one of the key challenges facing companies in the global economy of the 21st Century. CISCOL is an interdisciplinary institute formed by Clemson faculty interested in optimization and logistics issues related to the manufacturing supply chain. It brings together faculty members from the Colleges of Engineering and Science, Business and Behavioral Science, and Agriculture and Life Sciences to develop theoretical and applied research solutions to the challenge of supply chain optimization.

The Institute was approved by the Clemson University Board of Trustees on February 2, 2005, and submitted for Commission review on May 15, 2005. The proposal was reviewed without substantive comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on July 14, 2005.

Under its *Guidelines for New Academic Program Approval* (1998), the Commission retains new program approval authority over proposed new centers, bureaus, and institutes that seek funding from the State. This proposal does not seek funding from the State, but Clemson representatives have indicated that they may seek below-the-line funding in the future.

The concept of “supply chain” dates back to the earliest days of mass production. Optimization and logistics form the basis for controlling the processes that convert raw materials into finished goods and deliver finished goods to customers. Better conversion processes lead to higher profits due to increased efficiency or greater market share through competitive advantage, or a combination of both of these factors. The goal in optimization and logistics research is to expand control of the conversion process from the limited perspective of individual factories to the entire set of interrelated activities responsible for delivering products and services to customers.

The Institute seeks to address the challenges faced by manufacturing companies through four specific institutional objectives:

1. Provide appropriate solutions to supply chain problems through basic and applied research.
2. Assist companies in implementing the CISCOL-developed solutions efficiently and effectively.
3. Offer targeted education and training opportunities to clients through a partnership with the South Carolina Technical College System.
4. Educate supply chain-savvy graduate students through coursework and access to supply chain arenas that can lead to thesis and dissertation research.

The proposal notes that the opportunity to impact supply chain optimization and logistics in South Carolina is particularly acute because of the relationship between the state's economic health and successful industries in the manufacturing and production sectors. According to the S.C. Chamber of Commerce, 24 percent of the state's work force is employed by the manufacturing sector. Further, according to the South Carolina Technology Alliance, the state's future prosperity is tied to five Priority Technology Areas that are impacted by successful supply chain management: manufacturing, materials, information technology, living systems, and the environment.

Nationally, there are several organizations that are similar to CISCOL in their focus on various aspects of logistics or production control: the Georgia Tech Research Institute, the New Jersey Transportation Information and Decision Engineering division within the New Jersey Institute of Technology, the Supply Chain Resource Consortium at North Carolina State, and the Center for Engineering Logistics and Distribution at the University of Arkansas. While each of these institutes fills a particular niche, their activities tend to be regional with a focus on assisting local industries. The absence of such an institute within South Carolina suggests a fertile environment for CISCOL to flourish.

The proposed Institute will offer no degrees. There is no curriculum associated with the Institute. There is no accreditation, licensing, or certification associated with the Institute.

The proposal identifies 17 faculty (17 FTE) who will be associated with the Institute. No changes in faculty member duties or assignments will result from participation in the Institute. There are no administrative or support staff associated with the Institute.

There are no new facility or equipment requirements associated with the Institute.

Ongoing costs projected for future years of the Institute are estimated at \$28,000 in 2005, \$31,500 in 2006, \$32,500 in 2007, \$34,500 in 2008, and \$35,500 in the 2009. Categories of projected costs over the next five years of the program's implementation include program administration in the form of one month of support for a summer director (\$49,500); graduate assistants (\$80,500); supplies and materials (\$15,000); and travel (\$17,000). Total estimated new costs for the program during the next five years will be \$187,000.

The proposal reports two sources of financing over the next five years: reallocation of existing funds totaling \$55,500 and other funding (endowment, auxiliary, etc.) totaling \$131,500. Thus, projected revenues over the next five years are equal to projected program costs. It should also be noted that in June 2005 the Research Centers of Economic Excellence pre-approved a \$2 million CISCOL Endowed Chair proposal from Clemson University. Official approval of the proposal is expected at the Review Board meeting scheduled for September 16, 2005. Although receipt of the \$2 million is contingent upon Clemson's raising \$2 million in matching funds, the availability of these revenues over the next several years is likely to impact positively the revenue stream for CISCOL.

In summary, the Clemson Institute for Supply Chain Optimization and Logistics is an interdisciplinary institute formed by Clemson faculty interested in optimization and logistics issues related to the manufacturing supply chain. The Institute seeks to address the challenges faced by manufacturing companies by providing appropriate solutions to supply chain problems through basic and applied research and assisting companies in implementing those solutions efficiently and effectively.

Recommendation

The staff recommends that the Committee on Academic Affairs and Licensing commend favorably to the Commission approval of Clemson University's CISCOL Institute for immediate implementation.