

Education and Student Affairs Committee
Board of Regents, State of Iowa

Subject: University of Northern Iowa Proposed Program in Networking and System Administration

Prepared by: Anthony G. Girardi

Date Submitted: June 7, 2004

Recommended Action:

Approve the University of Northern Iowa's proposal to establish a new Bachelor of Science degree in Networking and System Administration.

Executive Summary:

The University of Northern Iowa has requested approval for a new Bachelor of Science degree in Networking and System Administration in the Department of Computer Science, College of Natural Sciences. UNI's program proposal was part of the University's curriculum changes submitted to the Board of Regents in March, 2004.

The Interinstitutional Committee on Educational Coordination (ICEC) and the Board Office have reviewed the program proposal and recommend it for approval. The program meets the Board of Regents criteria for new programs.

Analysis:

Review of New Program Criteria

The following is an analysis of the program proposal with respect to the Board's criteria for new program approval.

Centrality.

As an undergraduate degree program, the proposed program aligns with UNI's mission as a comprehensive college. Computer networking, system administration, and security issues are important in today's business and academic environments. The proposed program would prepare students equipped to address these issues. Addressing critical local and state needs is an explicit institutional goal.

Costs.

Resources for the proposed program will be reallocated by the Provost's Office. The estimated incremental costs during the first year will be \$110,000, primarily for one faculty position. A second faculty position will be needed in the third year of operation at a cost of \$100,000.

Need/Demand.

The proposed program will allow students to focus in networking and system administration and offer professional preparation for careers or graduate study in this area. According to the Bureau of Labor Statistics' Occupational Outlook Handbook, 2003-04, employment of computer support specialists is expected to increase faster than the average for all occupations through 2012, as organizations continue to adopt and integrate increasingly sophisticated technology. Employment of systems administrators is expected to increase much faster than average as firms will continue to invest heavily in securing computer networks.

Quality.

The proposed program is intended to combine theoretical and applications experiences. In addition, it would provide deeper study in networking, electronics, system security, and system administration than B.A. and B.S. degrees in computer science. The proposed program will offer comprehensive professional preparation for careers or graduate study in networking and system administration.

Duplication.

The University of Iowa, Iowa State University, and several four-year Iowa private colleges have B.A. and B.S. degrees in Computer Science, but there are no other institutions with majors in Networking and System Administration.

Link to Institutional Strategic Planning.

The proposed program addresses the goal stated in the University Strategic Plan of "addressing critical local, state, national and global needs that also enrich the educational experiences offered by the University."

The proposed program is also consistent with the following objectives of the Board's 2004-2009 Strategic Plan:

- Objective 1.1. Offer high-quality programs through ongoing program improvement for undergraduate, graduate, professional, and non-degree students and special school students.
- Objective 1.3. Provide educational experiences that enhance the knowledge, abilities, opportunities, and personal incomes of individual Iowans through educational attainment.

Post-Audit Review	As called for in the Board of Regents' <u>Policy Manual</u> , §6.07, the University is reminded that a post-audit report will be due on this program in June, 2009.
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New Program Review Questions	The University's responses to the Board of Regents New Program Review Questions are attached to this memorandum.
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REGENTS PROGRAM REVIEW QUESTIONS

UNI contact person for new programs: Susan Koch, Associate Provost

DEPT/SCHOOL: Computer Science

COLLEGE: Natural Sciences

Program Title: Networking and System Administration (B.S.)

1. Need

- a. How will this proposed program further the educational and curriculum needs of the students in this discipline?

This Computer Science major provides an applied option for students interested in networking and system administration. It strikes a balance between the theoretical and hands-on experience in networking and system administration.

- b. How does it further the educational and curriculum needs of other units in the college or university?

Networking and system administration has become a highly popular area of study for current students in existing majors in Computer Science, Management Information Systems and Electrical and Information Engineering Technology. The proposed program will allow students greater focus in networking and system administration and will offer more thorough professional preparation for careers or graduate study in these areas.

2. Relationship to other programs

- a. What programs in this field of study are available in other colleges and universities in Iowa?

The other two Regent universities in Iowa and several 4-year private colleges have B.A. and B.S. degrees in Computer Science but none have majors in Networking and System Administration.

- b. With what representatives of these programs have you consulted in developing this proposal? Provide a summary of the reactions of each institution consulted.

University of Iowa, Dept. of Computer Science - We have received a strong letter of support for this new major (see attached). Iowa State University, Dept. of Computer Science - We have sent information requesting a review of this proposed major and response is pending.

- c. In what ways is this proposed program similar to those mentioned above? In what ways is it different or does it have a different emphasis?

B.A. and B.S. degrees in Computer Science do not require the depth of study in networking, electronics, system security, and system administration. Instead, their intent is provide a broader, but shallower education in many sub-disciplines of Computer Science. This major may provide a background for students wishing to pursue graduate degrees in relevant disciplines at the Regents' institutions.

- d. How does the proposed program supplement the current programs available?

This major provides an applied option for students interested in networking and system administration. It strikes a balance between the theoretical and hands-on experience in networking and system administration.

- e. Has the possibility of some kind of inter-institutional program or other cooperative effort been explored? What are the results of this study?

No

- f. Please list the Iowa institutions in which articulation agreements are being developed for the proposed program (NOTE: This applies only to community college degree programs which may transfer students to this program).

Many of the community college offer associate degrees in the area of computer networking. These program focus on setting up proprietary networks (Novell, Cisco, etc. The proposed program will provide graduates of these programs an opportunity to continue their education at a 4-year school. Articulation agreements which are already in effect for our Computer Science and Industrial Technology programs will also apply to this program.

- g. Please provide the Classification of Instructional Program (CIP) Code for the proposed program.

11.1099

3. Estimate the enrollment in this program for the next five years.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
a. Undergraduate:					
Majors:	5	10	15	20	25
Non-majors:	0	0	0	0	0

- c. On what basis were these estimates made?

Networking and system administration has become a highly popular area of study for current students in existing majors in Computer Science, Management Information Systems and Electrical and Information Engineering Technology. Our existing Networks (810:147g) course has been filled to capacity since it has been offered.

- d. What are the anticipated sources of these students?

We view this program as another option for UNI students who currently enroll in Computer Science and other technology related majors. We expect that the applied emphasis of this program will be particularly attractive to students that have previously completed degrees in the area of computer networking from the community colleges.

4. Provide any available data or information on employment opportunities available to graduates of this program in Iowa and nationally.

The US Department of Labor, Bureau of Labor Statistics classifies network and computer systems administrators under "computer support specialists and systems administrators." Their Occupational Outlook Handbook, 2002-03 Edition, reports:

"Computer support specialists and systems administrators are projected to be among the fastest growing occupations over the 2000-10 period. Employment is expected to increase much faster than the average for all occupations as organizations continue to adopt and integrate increasingly sophisticated technology. Job growth will continue to be driven by rapid gains in computer and data processing services, which is projected to be the fastest growing industry in the U.S. economy."

5. Are there accreditation standards for this program?

No

- a. What is the accreditation organization?

None

- b. What accreditation timetable is anticipated?

None

6. Does the proposed program meet minimal national standards for the program, e.g., Council of Graduate Schools or other such bodies?

Yes

7. Report any reactions of the Iowa Coordinating Council for Post-High School Education.

Pending

Additional Resource Needs

1. Will the program require new sources? No XXX
 2. Will the program require reallocated resources? Yes XXX

If yes, what is the university's reallocation plan to fund this program?

One new faculty position has been reallocated by the Provost to support this proposal, though the search has been delayed due to budgetary constraints. We anticipate reallocation for a second position within three years. Currently existing faculty will also contribute to teaching some courses in the program. We plan to use existing computing resources in the department and also work with the university's Information Technology Services staff to provide additional applied experiences for students with networking systems. Student computing fees will also support the program. The College is committed to the ongoing reallocation of resources for equipment and faculty within budgetary constraints.

3. At what level of enrollment will additional resources be required for the program?

See below

4. For programs planning to use external grants, what would be the effect of the grant termination?

NA

5. Estimate the total costs (or incremental increases in expenditures) that may be necessary as a result of the new program for the next three years.

	ESTIMATED INCREMENTAL COST		
	First Year	Second Year	Third Year
(1) Faculty	\$100,000.00	\$00.00	\$100,000.00
(2) Graduate Assistants	\$0.00	\$0.00	\$0.00
(3) General Expense	\$2,000.00	\$0.00	\$2,000.00
(4) Equipment	\$5,000.00	\$5,000.00	\$5,000.00
(5) Library Resources	\$0.00	\$0.00	\$0.00
(6) New Space Needs	\$0.00	\$0.00	\$0.00
(7) Computer Use	\$3,000.00	\$0.00	\$3,000.00
(8)	\$0.00	\$0.00	\$0.00
Total	\$110,000.00	\$5,000.00	\$110,000.00