

CSCI ADVISOR

Spring 2004

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INTRODUCTION

This newsletter is published biannually by the Student Advisory Board (SAB) of the Department of Computer Science at Northern Illinois University. The newsletter is intended to help our students become more informed about the activities and projects in which our department is involved. It is also sent to prospective students and employers seeking information about NIU's Department of Computer Science along with other information about the department.

The Computer Science Student Advisory Board fulfills the university requirement that each department have a student advisory board to provide student input on department practices and policies.

Other activities sponsored by the SAB include hosting an annual reception at Homecoming for alumni and conducting the department's teacher evaluations each semester and summer.

SAB INTERNAL COMMITTEES

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NIU/ACM STUDENT CHAPTER
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SPRING 2004 AND SUMMER 2004 EVALUATIONS OF TEACHING

Wednesday, April 14 and Thursday, April 15 have been designated for evaluating the department's faculty. Students are encouraged to participate responsibly in this exercise so that our instructors can obtain feedback on their teaching practices and performances.

The department relies heavily on these evaluations in making personnel decisions. The results are also used in selecting the department's annual teaching excellence winner.

Summer 2004's teacher evaluation will be conducted on Tuesday, July 20, 2004, and Wednesday, July 21, 2004.

IMPORTANT CHANGES IN THE GRADUATE CURRICULUM

Curriculum changes are underway which will require all students graduating under the requirements of the 2003-2004 *Graduate Catalog* to complete the following in their 10-course programs:

CSCI 464: *Data Structures*
CSCI 466: *Database/Data Communications Software*
CSCI 468: *Systems Programming*

and at least three of the following:

CSCI 530: *Computer Networks*
CSCI 563: *Systems Design and Analysis*
CSCI 567: *Applied Systems Programming* or
CSCI 568: *Advanced Systems Programming*
CSCI 588: *Database Concepts*

Under the new requirements, students must complete six three-hour 500-level courses, rather than seven as previously required.

Students following the requirements of the 2003-2004 *Graduate Catalog* will also be required to know *C* and *C++* (NIU's CSCI 240 and CSCI 241), *UNIX* (NIU's CSCI 330), *Basic Assembler Language* (NIU's CSCI 360), and

IMPORTANT CHANGES IN THE GRADUATE CURRICULUM (cont.)

MVS/JCL (NIU's CSCI 465 that since Fall 2003 includes beginning instruction in COBOL). Students not having mastery of these subjects will be required to complete the appropriate course(s) on a deficiency basis.

To meet these requirements the department will offer the courses CSCI 530, CSCI 563, and CSCI 588 every fall and spring term. CSCI 567 will continue to be a fall only offering, and CSCI 568 will be available only during spring semesters. Beginning Fall 2004, CSCI 466 will be a prerequisite for CSCI 588. Following past departmental practices, CSCI 464 and CSCI 466 will be available every fall, spring, and summer, and CSCI 468 will be available in fall and spring terms only.

The courses CSCI 565: *Software for Teleprocessing* and CSCI 566: *Local Networks* have been eliminated from the department's offerings and are being replaced by the courses CSCI 530 and CSCI 531: *Network Application Programming*. CSCI 531 can be taken by students who have prior credit for CSCI 565, CSCI 566, or CSCI 530. The prerequisite for CSCI 530 is CSCI 440, CSCI 464, or consent of the department.

Current students whose programs of study call for CSCI 565 and/or CSCI 566 must schedule an appointment to redraw their plans of study if they have not completed either of these courses. CSCI 530 can be used as a replacement for either CSCI 565 or CSCI 566, and students who completed CSCI 565 or CSCI 566 prior to Fall 2002 can take either CSCI 530 or CSCI 531. CSCI 531 will be offered every spring semester.

The subject matters of CSCI 562: *Analysis of Data Processing Systems*, and CSCI 563 have been consolidated into the course CSCI 563, and CSCI 562 will no longer be offered. CSCI 563's prerequisite is CSCI 467. CSCI 563 can be taken by students with credit in CSCI 562 if that credit was earned prior to Fall 2002. Students whose programs of study call for the completion of CSCI 562, but who have not

yet completed this course, must make an appointment to replace CSCI 562.

Concerning the Master's Comprehensive Examination, students need to know the following:

- CSCI 530 will be included as a possible test area in future Master's Comprehensive Examinations. Questions from the deleted CSCI 565 and CSCI 566 will be included on the comprehensive examination for those students who have completed these courses and who select this test area.
- The Analysis and Design comprehensive test now includes questions from CSCI 467: *Introduction to Systems Design and Analysis*, and the revised CSCI 563. Questions from CSCI 562 and CSCI 563 as taught prior to Fall 2002 are also included.
- At some point in the future, the department will convert the Database comprehensive test to a test on the subject matters of CSCI 466 and CSCI 588. During the transition period, questions from both CSCI 564: *Database Systems* and CSCI 588 will be included.
- At this time there are no changes being planned for the System Programming comprehensive tests.
- As usual, the subject matter of CSCI 464 and CSCI 468 will also be tested.

GRADUATE STUDENTS

The department's Summer 2004 500-level graduate offerings are:

CSCI 551: *CICS*

Professor Margie Musich

CSCI 580G: *Data Warehousing*.

Dr. Eugene Sheng

CSCI 580M: *Server Side Web Development*

Dr. Kathi Davis

Pre-Requisite: CSCI 490M or CSCI 575

GRADUATE STUDENTS (cont.)

CSCI 589: *Object-Ori Des Prog*
Dr. Ibrahim Onyuksel
CSCI 595: *Risk Management*
Dr. H. Joel Jeffrey

Graduate students wanting to know more about the Summer 2004 courses listed above should contact the indicated instructors.

Fall 2004 graduate courses are CSCI 530: *Computer Networks*, CSCI 563: *System Design & Analysis*, CSCI 567: *Applied Systems Programming*, CSCI 570: *Simulation Methods*, and CSCI 588: *Database Concepts*.

In addition, the following graduate courses with their indicated topics and teachers will be offered in Fall 2004:

CSCI 580A: *Artificial Intelligence*
Dr. Reva Freedman
CSCI 580B: *Computer Graphics*
Dr. Kirk Duffin
CSCI 580E: *Java*
Dr. Jim Henry and
Dr. Jie Zhou
CSCI 580U: *Computer Security*
Dr. Neil Rickert
CSCI 595: *.Net Programming*
Dr. Robert Zerwekh

Graduate students wanting to complete reading courses must secure permission from both the department and the individual teacher with whom they wish to read. The names of faculty eligible to offer graduate reading courses can be obtained from the department's receptionist, Frances Wissmiller.

Additional graduate courses are offered at the Multi-University Center, Suite 200, 1010 Jorie Blvd., Oak Brook, IL; at NIU-Hoffman Estates, 555 West Trillium Blvd., Hoffman Estates, IL; and at Rock Valley College, Stenstrom Center, 4151 Samuelson Rd., Rockford, IL. Interested graduate students should refer to the article, "Regional Courses," which appears in this publication.

GRADUATE OPPORTUNITIES FOR UNDERGRADUATES

Undergraduates may be allowed to take a graduate course for undergraduate credit if they have:

- 1) a minimum of 90 credit hours
- 2) completed CSCI 440 or 464
- 3) at least a GPA of 3.0
- 4) departmental permission

Also, undergraduates who are scheduled to complete their graduation requirements in their final term without carrying a full load have the possibility for early admission into Graduate School. This option allows students to combine both undergraduate and graduate studies in their last semester of undergraduate work.

See the department's chair, Dr. RODNEY ANGOTTI, to investigate either of these possibilities if you are interested and believe that you are qualified.

In addition, undergraduates interested in attending graduate school in the field of computer science either at Northern or elsewhere are encouraged to speak with Dr. Angotti about their plans.



REMINDERS

Pre-Majors

Summer 2004 applications for admission to the Department of Computer Science must be submitted between June 21, 2004, and July 9, 2004. Students attending school during the summer term at NIU who have not attended a pre-computer science declaration meeting should make arrangements to attend one of these meetings. Such arrangements can be made during the early weeks of the Summer 2004 term by contacting the department's receptionist, Frances Wissmiller, at PM460, Psychology/Computer Science Building.

REMINDERS (cont.)

Majors

Summer 2004 computer science undergraduate courses are as follows: CSCI 240: *Computer Programming in C++*, CSCI 241: *Intermediate Programming in C++*, CSCI 330: *UNIX*, CSCI 360: *Assembler*, CSCI 463: *Computer Systems Organization*, CSCI 464: *Data Structures*, CSCI 465: *External Data Structures*, CSCI 466: *Data Base/Data Communications Software*, and CSCI 467: *Systems Design and Analysis*.

In addition to the above departmental offerings, the following topic courses will be available Summer 2004:

CSCI 461-P1: *CICS*
Professor Margie Musich
CSCI 490G-P1: *Data Warehousing*
Dr. Eugene Sheng
CSCI 490G-P2: *Object-Ori Des Prog*
Dr. Ibrahim Onyuksel
CSCI 490K: *Server Side Web*

Development

Dr. Kathi Davis
Pre-Requisite: CSCI 490M

In Fall 2004 the department will offer CSCI 205: *Introduction to Computing*, CSCI 210: *Elementary Programming*, CSCI 240: *Computer Programming in C++*, CSCI 241: *Intermediate Programming in C++*, CSCI 330: *UNIX*, CSCI 360: *Assembler*, CSCI 440: *Data Structures and Algorithm Analysis*, CSCI 470: *Java*, and CSCI 480: *Theoretical Operating Systems*, in conjunction with CSCI courses numbered 463 through 468.

In addition to the above Fall 2004 offerings, the following topic courses will be available:

CSCI 461-P2: *Computer Security*
Dr. Neil Rickert
CSCI 461-P3: *.Net Programming*
Dr. Robert Zerwekh
CSCI 490B: *Artificial Intelligence*
Dr. Reva Freedman

CSCI 490G: *Database Concepts*
Dr. Eugene Sheng
CSCI 490J: *Computer Graphics*
Dr. Kirk Duffin

Juniors and seniors interested in adding any of the above topic courses or other elective courses to their programs of study can do so by submitting written requests to the departmental office, PM460.

SPECIAL OPPORTUNITIES FOR UNDERGRADUATES

Undergraduate Teaching Fellows

Applications for Fall 2004 Undergraduate Teaching Fellowships should be filed by April 26, 2004. The criteria for these awards include a GPA of 3.0 or above in computer science coursework. Interested computer science majors can obtain applications from the department's receptionist at PM460.

Internships

You will discover that numerous well paid and interesting job opportunities are available to declared computer science majors.

Academic credit can be earned for these jobs through the department's internship course CSCI 390: *Internship* and, in the case of graduate students, CSCI 590: *Internship*. Earning credit for CSCI 390 is a convenient way to meet the three-hour 300-400 level elective requirements that declared undergraduate computer science majors must complete successfully.

The reports filed to meet the requirements for internship credit are also useful documents to include in students' job portfolios.

This year's Spring Internship Fair was held on Wednesday, February 11, 2004, at the Convocation Center. There will be another Internship Fair on Wednesday, October 6, 2004. Information about internship opportunities can also be found at <http://www.coop.niu.edu>.

JOB FAIRS

The Office of Career Planning and Placement conducted a job fair on February 24, 2004. Future fairs are scheduled for October 20, 2004 and February 23, 2005. Please consult "Career Planning" under "Departments" at the web site www.stuaff.niu.edu for information about fairs and other important events. Employers visit Northern's campus to interview NIU students and alumni for full-time, permanent positions and internships.

Northern Illinois University's fairs are among the largest campus-based job fairs in the country. In addition to these opportunities, Northern's Career Planning and Placement Center posts announcements on job fairs held on other regional campuses. Interested students can obtain information about these fairs from the web site mentioned above.

REGIONAL COURSES

Editors' Note: Courses formerly referred to as "Off-Campus Courses" are now officially designated by the university as "Regional Courses." The information below concerns the department's Summer 2004 and Fall 2004 Regional Courses.

The Department's Regional Courses are conducted at the Multi-University Center (MUC), Suite 200, 1010 Jorie Blvd., Oak Brook, IL; at NIU-Hoffman Estates (HEEC), 555 West Trillium Blvd., Hoffman Estates, IL; and at the Stenstrom Center, RockValley College (RVC), 4151 Samuelson Rd., Rockford, IL. The graduate program is offered at the Oak Brook and Hoffman Estates sites; the undergraduate General Computer Science Emphasis is offered in Rockford.

The Summer 2004 Regional Courses are:

CSCI 461: *Advanced Assembler* (MUC)
CSCI 470: *Programming in Java* (RVC)
CSCI 580G: *Data Warehousing* (HEEC)
CSCI 580N: *Perl* (MUC)
CSCI 595: *Risk Management* (MUC)

The Fall 2004 Regional Courses are:

CSCI 330: *Unix* (RVC)
CSCI 360: *Assembler* (RVC)
CSCI 464: *Data Structures* (MUC)
CSCI 465: *External Data Structures* (MUC, RVC)
CSCI 466: *Database/Data Communications Software* (HEEC)
CSCI 468: *Systems Programming* (HEEC)
CSCI 530: *Computer Networks* (MUC)
CSCI 563: *System Design and Analysis* (HEEC)

Questions about the department's Regional Courses should be directed to the Department of Computer Science (815-753-0378); information about graduate or student-at-large status can be obtained from Northern Illinois University's Graduate School -- Tel. No. 815-753-0395 or <http://www.grad.niu.edu/apply.htm>.

Undergraduate students not admitted to Northern who wish to pursue the General Computer Science Emphasis at the Stenstrom Center, RVC, should contact the Northern Illinois University's Office of Admissions for details. (<http://www.admissions.niu.edu/applyniu.html> or Tel. No. 815-753-0446).

Commuting NIU undergraduates can enroll in classes at the Multi-University Center, at NIU- Hoffman Estates, or at Stenstrom Center, RVC, but they must receive permission to do so. In addition, graduate students can complete available courses at Stenstrom Center, RVC but also need permission to do so.

Additional information about Regional Courses can be found at the listing LAS-CSCI at <http://www.outreach.niu.edu/rcc/>.

ACM NEWS

The Student Chapter of the Association for Computing Machinery (ACM) serves as a focal point for information regarding the advantages of being associated with this organization of computer professionals. As in the past, the ACM will sponsor speakers from industry to talk on various computer related topics.

ACM NEWS (cont.)

Speakers from companies such as International Truck and Engine Corporation, IBM San Jose, Allstate Insurance, Caterpillar, Inc., Napersoft, and Software Architects not only have described their particular "real world" of IT, but also have emphasized the importance of knowledge gained from NIU course material in their actual computer operations.

Other activities sponsored by the ACM Student Chapter include Homecoming receptions for Computer Science alumni, job search preparation workshops, resume writing workshops, as well as workshops and seminars on other professional topics.

This year's officers for the ACM are as follows:

President: LEO PISMAN
Vice President: RICHARD POWERS
Secretary: CHUKA EZEIKE
Treasurer: J. STEVEN KIRTZIC

Look for the Student Chapter of the ACM's fliers posted around campus for announcements of additional activities, or on the department's home page, www.cs.niu.edu.

Dr. ROBERT RANNIE is the advisor to the Student Chapter of the ACM.

COMPUTER SCIENCE RESIDENCY PROGRAM

One of the more attractive housing options made available by Student Housing at Northern Illinois University is the opportunity for students with common interests to live together on an academic floor.

Currently, the following choices are available: a business floor, a computer science floor, an engineering and technology floor; a foreign language floor, a residential freshman interest group floor, a health professions floor, a hearing-impaired interest floor, an honors floor, a music interest floor, a pre-law/political science

floor, a teacher certification floor, and a women-in-science floor.

Dr. ROBERT RANNIE and Professor GEORGIA BROWN serve as the Department of Computer Science's floor faculty advisors.

COLLOQUIUM NEWS

Dr. CHRISTOPHER RIESBECK, Department of Computer Science, Northwestern University, was the department's featured colloquium speaker for Spring 2004. Dr. Riesbeck delivered an address on February 17, 2004, entitled "Mentoring for the Masses: Engines and Tools." His visit was funded by the Graduate Colloquium Committee.

LEARNING COMPUTER SCIENCE VIA ASSEMBLER LANGUAGE

Editors' Note: The officers of the SAB are often asked why the department continues to require an assembler language course. Dr. RODNEY ANGOTTI's response on behalf of the department's faculty is as follows:

Learning assembler teaches students how the computer itself operates, rather than just the language. Our experience has shown us that the key difference between mediocre and excellent programmers is whether or not they know assembler language. Those that do tend to understand the way computers work.

This is why "old-timers" are often viewed as "wizards." They **had** to learn an assembler programming language. High-level languages are great, but learning them will never teach you about the inner workings of computers.

Learning assembler language is a worthy investment in students' long term futures. With an assembler background, learning a new programming language is just syntactical, not conceptual. This fundamental knowledge provides our students with the mechanics to learn those not-yet invented programming languages that certainly will be in use when they are IT professionals.

LEARNING COMPUTER SCIENCE VIA ASSEMBLER LANGUAGE (cont.)

Our insistence that our students learn assembler gives them an edge in today's competitive job market and is a major contributor to the department's reputation for producing highly skilled IT professionals.

SELECTING AN EMPHASIS

Editors' Note: Intended Computer Science majors must ultimately select one of the department's three emphases. We asked Dr. RODNEY ANGOTTI and Professor PENNY MCINTIRE, Assistant to the Chair, how they advise students to make their decisions about this important matter. Their response follows:

After outlining the requirements of the three undergraduate emphases, we ask students to decide how seriously they want to develop their mathematical skills. For those who are not interested in doing so, we suggest that they initially plan their course work in accordance with the requirements in either the Applied Emphasis or the General Emphasis. We then point out that after completing courses such as CSCI 360 and CSCI 465, which will normally occur in their fourth or fifth term, students can elect to declare the General Emphasis if they like the technical aspects of computer science, or the Applied Emphasis if they find the more technical aspects of computing less appealing.

We further advise a student who initially chooses the General Emphasis to select ACCY 288 as one of her/his electives early in their program to ease the transition to the Applied Emphasis if this is the student's ultimate preference. Students who select the Applied Emphasis can easily switch to the General Emphasis by replacing the business courses required in the Applied Emphasis with one of the department's systems programming courses in their senior year.

We advise students who want to pursue their interest in mathematics to follow initially the requirements of the Theoretical Computer Science Emphasis or to follow the requirements of the General Computer Science Emphasis together with the requirements for a minor in mathematics. This allows students who find the advanced mathematics courses required in the Theoretical Emphasis not as attractive as they previously appeared to convert to the General Emphasis. Similarly, students following the General Emphasis and minoring in mathematics can convert to the Theoretical Emphasis by completing the advanced mathematics courses required in this emphasis and making minor adjustments in their computer science course selections.

We advise students who are unsure about developing their mathematics to select initially the General Emphasis and take the beginning courses required in a mathematics minor. This approach provides ready access to any one of the department's three emphases.

As suggested above, many students change their initial selection of an emphasis to one that better matches their interests and abilities. In addition, the department carefully monitors the progress of all of its majors by requiring students who earn Ds or Fs in required courses, or who withdraw from CSCI courses, to meet with a CSCI advisor. Such meetings often result in a student switching from one emphasis to another one.

The ratios of students completing the three emphases have been remarkably consistent throughout the department's history. Approximately six out of every ten computer science majors complete the Applied Emphasis; three out of every ten complete the general emphasis; and one out of every ten completes the Theoretical Emphasis. Between one hundred fifty and one hundred seventy undergraduates complete baccalaureate degrees each year.

NIU'S LINUX USER GROUP

The department's Linux User Group which has been meeting for several years is now a Student Association recognized organization. The user group's web page is <http://www.niulug.org> and features a forum page, news page, announcements, and links to other related sites. There is also a mailing list at niu/lug@cs.niu.edu that allows participants to seek technical debugging help.

The user group sponsors an Install-Fest at least once each semester. The Install-Fest offers members an opportunity to work with different computers and a variety of configurations.

Members present talks on advanced programming using the various tools in Linux. And thanks to one of the members, the user group has an agreement with O'Reilly for a 20% discount on any of this publishing company's Linux books. O'Reilly also provides free books for those willing to provide serious book reviews.

The group's membership includes NIU Computer Science majors and alumni of the department. Information about joining the Linux User Group is available at the group's web site.

JOHN BEREZINSKI, the department's Systems Administrator, acts as the user group's faculty advisor.

IT'S THE ECONOMY, STUPID, OR IS IT THE STUPID ECONOMY?

Editors' Note: The answer to the question "What is the economic outlook for IT?" is of paramount interest to graduates of computer science programs. Are there jobs for us or aren't there jobs for us? We decided to search the web to see if we could find some reliable information. Here is what we discovered:

Three of the ten fastest growing occupations through 2012 are IT occupations, and three of the ten industries with the fastest

wage and salary employment growth through 2012 are IT industries. *Source: Bureau of Labor Statistics, US Department of Labor*

College-grad hires will be up 12.7% from last year, which is the first hiring increase in two years. *Source: CNNMONEY*

Majors in computer engineering and chemical engineering top the list of the most lucrative college degrees. Average starting salaries for computer engineers reached \$53,117, up slightly from the level at the same time last year. The average offer for computer science majors rose 8.9% to \$48,656, and more than half the offers surveyed topped \$50,000. Information sciences grads had an average starting salary of \$42,108, up 2.6% from last year, while management information systems grads have seen starting salaries average \$41,103, up a modest 1.3%. *Source: CNNMONEY*

The technology industry is poised to create more than 1.5 million new positions worldwide over the next four years according to a survey of IT CEOs released Thursday, October 2, 2003, by the Business Software Alliance. *Source: Datamation*

People who know how to use technology to help their companies make better strategic business decisions are in demand. *Source: Ryan Gilmore, Robert Half Technology, Information Week*

The number of U.S. computer science majors is declining as overseas competition for jobs increases, but students are overreacting. Lucrative livelihoods still await computer science majors. *Source: Bill Gates, Microsoft*

IT unemployment through November 2003 stood at 5.65%, down one-tenth of a percentage point from October's annualized rate. *Source: Information Week*

Forty-two percent of the companies claiming they need additional IT personnel will not be hiring in '04. *Source: Cutter Consortium*

IT'S THE ECONOMY, STUPID, OR IS IT THE STUPID ECONOMY? (cont.)

New dogs better start learning old tricks because the old dogs are retiring. There are not enough new programmers being trained in mainframes. Mainframers with systems programming knowledge, coupled with the knowledge of new technologies such as Java and Linux, will be in great demand. Systems programming positions are the least likely to be outsourced. *Source: Search 390*

Outsourcing accounts for a loss of 70,000 computer programming jobs since 1999, but 115,000 more lucrative jobs have been added for computer software engineers. *Source: Steve Chapman, Chicago Tribune*

Offshore-outsourcing opponents have, for the most part, focused their criticism on the number of U.S. jobs lost to overseas workers. Now some people are urging limits on the practice because they claim it threatens consumer privacy. *Source: Information Week*

Forty-seven percent of the nation's IT companies predict increased spending in 2004. Thirty-two percent claim their 2004 spending will be at the same level as 2003. Only twenty-one percent predict a decrease. *Source: Information Week*

A GRADUATE'S VIEW

Editors' Note: How well does NIU's computer science curriculum prepare students for the IT profession? We asked Dr. RODNEY ANGOTTI. In responding to our inquiry, he shared the following e-mail message he recently received from Santosh Kandi, a 2002 graduate.

Dear Dr. A.,

I have been planning to send you some comments about NIU's computer science curriculum since I assumed my position as a systems programmer with Texas Instruments, and I apologize for not doing so sooner. But

believing that late is better than never, here are some of my thoughts.

CSCI 468: I cannot adequately express in a few words how valuable this course has been. And I owe it all to Dr. Rannie. The course is a beauty. System programming is a vast ocean of knowledge and can never be learned in a single course, but Dr. Rannie condensed the material exactly the way it should be. The knowledge I gained in the course has been a perfect launching pad for my job requirements. My only regret is that I did not take CSCI 568 and learn more about this very difficult subject.

CSCI 465: It is unbelievable how much JCL is used in the mainframe world and how important it is. The notes the department uses to teach this course are okay, but a good text book would have been extremely helpful. Perhaps one of your faculty members could write one to be used in conjunction with the course notes.

CSCI 464: I was fortunate to have Prof. Stack as my CSCI 464 teacher. He teaches a great course. My only regret is that there were not more assignments, but I understand that requiring additional assignments would make the course impossible to complete in a single term.

CSCI 580E: Java is of fundamental importance to the world of distributed computing, and Doctors Henry and Zerwekh have developed an excellent course. I realize that it might be expensive to do but requiring exposure to an integrated web service such as WebSphere would complement your mainframe offerings.

CSCI 467/562: Like so many of the other courses I completed at NIU, I continue to find my notes from CSCI 467 and CSCI 562 useful. The assignments from these courses are extremely useful when I am making a presentation or preparing a proposal.

A general observation: Mainframes are not dead, and the computer science students at NIU are fortunate that they are required to gain a basic understanding of these powerful computers.

Santosh



COMPUTER SCIENCE BENEFACTORS

Below is a list of recent donors whose contributions for the period October 24, 2003 - March 12, 2004 were received prior to March 17, 2004. The SAB thanks each of these contributors for their generous support and recognizes the important role donors play in the department's continued success.

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Below is a list of corporate donors whose contributions through their matching grant programs were received during the period October 24, 2003 - March 12, 2004 and were received prior to March 17, 2004.

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<i>Allstate Foundation</i>	<i>Match for Mr. Justin J. Reid</i>
<i>Match for Mr. Hua Chang</i>	<i>SAIC</i>
<i>Allstate Foundation</i>	<i>Match for Ms. Kristine E. Schrempf</i>
<i>Match for Mr. Joseph A. Nasiatka</i>	<i>Telcordia Technologies</i>
<i>Archer Daniels Midland Company</i>	<i>Match for Mr. Kenneth J. Brach</i>
<i>Match for Mr. Philip J. Heinisch</i>	<i>Texas Instruments Foundation</i>
<i>Baxter International Fdn.</i>	<i>Match for Mr. Nick John Plenger</i>
<i>Match for Mr. Thomas Jeffrey Wong</i>	<i>Wachovia Foundation, Inc.</i>
<i>Cingular Wireless</i>	<i>Match for Mr. Gary Dean Wyttenbach</i>