



# Computer Science Newsletter

Indiana University South Bend

[www.cs.iusb.edu](http://www.cs.iusb.edu)

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## Spring 2002 - Fall 2002

### In this issue...

- State of the Department
- Graduate programs
- Upper level elective and graduate courses
- Internship
- Status of the computer science laboratories
- New computer science classroom
- New research platform
- Student chapter of the ACM
- New advising policy
- Online Course offering (Intro to Web Programming)
- Registration Information

### State of the Department:

The department of Computer and Information Science is off to a strong beginning. We were able to recruit a number of excellent colleagues last year. Furthermore, thanks to our dean, we were able to obtain the necessary funds to replace a significant number of our laboratory computers. Also, due to Jerry DeKeyser's (computer science lab manager) efforts, we were able to upgrade the remaining computers in our labs with 1.2 GHz processors. The construction and furnishing of a new computer science classroom is nearly complete and we hope to offer classes in the new room starting this Spring. Two new courses A340 and B424 have been approved and will be offered in the coming year. Two additional courses A150 and C151 are in the proposal stages. Preparation for the graduate program is underway and we hope to begin admitting students to this program in the Fall 2002. Department priorities have been evaluated by the faculty and work has already begun. Some of the issues the faculty will be working on this year are as follows:

- 1) Preparation for the new MS program in Applied Mathematics and Computer Science.
- 2) Undergraduate curriculum review in light of the new ACM recommendations
- 3) Developing an external departmental image.
- 4) Review of the CS Laboratories in light of the new graduate programs.
- 5) Developing a degree in Informatics.
- 6) Community outreach and external fund raising initiatives.
- 7) Developing a Strategic Five Year Plan for the department.

### Graduate Programs:

In the last four years, we have worked hard to develop two new graduate programs. These programs are the Master of Science in Management of Information Technology (MS-MIT) and Master of Science in Applied Mathematics and Computer Science (MS-AMCS). The MS-MIT is a joint program with the School of Business and Economics and the MS-AMCS will be a joint program with the Department of Mathematical Sciences. The department hopes to begin admitting students to the MS-AMCS program starting Fall 2002.

Given the interdisciplinary nature of both programs, two of our faculty will be serving as directors and liaisons for these programs. Please join me in welcoming Dr. William Knight as the graduate liaison for the MS-MIT program and Dr. James Wolfer as the graduate director for the MS-AMCS. Additional information about these graduate programs can be obtained online at [www.cs.iusb.edu/graduate\\_programs.html](http://www.cs.iusb.edu/graduate_programs.html).

### Upper Level Elective Courses:

The department has scheduled the following courses as upper level electives. Please consult the CS booklet or your advisor to make sure you have the proper prerequisites.

Spring Offering: *C463 Artificial Intelligence* will be taught by Dr. Scheessele.

Fall Offering: *B424/B524 Parallel and Distributed Programming* will be taught by Dr. Vrajitoru. *C442 Database Systems* will be taught by Dr. Hakimzadeh.

A short description of each course is given below:

**C463 - Artificial Intelligence (3 cr.)** P: C251. R: C311. Techniques and principles of artificial intelligence and implementations of some of these techniques. Various formalisms for representing knowledge, and relationships of this to such tasks as inference, game playing, and machine learning.

**B424/B524 - Parallel and Distributed Programming (3 cr.)** P: C243, M301. Overview of parallel computers, shared memory, message passing, MIMD and SIMD classifications. Understanding and use of message passing and synchronization facilities such as MPI. Study of parallel programming models such as master-slave, client-server, task-farming, divide-and-conquer and pipelining. Performance analysis of

parallel systems, execution time, time complexity, load balancing and scalability.

### C442 - Database Systems (3cr.).

P: C308. The fundamental concepts, theory, and practices in the design and implementation of database management systems: data independence; data modeling; entity relationship modeling; functional dependencies; normalization; relational, hierarchical, network, and object oriented data models; relational algebra; relational calculus; data definition and manipulation languages; recovery; concurrency; security; integrity of data.

**Scheduling Note:** B424/B490 *Parallel and Distributed Programming* has been moved from Spring 2002 to Fall 2002.

We plan to offer this course as B424/B524 to accommodate our new graduate students as well. In addition, the Spring offering of Artificial Intelligence will be moved to an evening time slot.

Students who plan to graduate this year and have scheduling conflict with the new offering of C463 should consult with their advisors ASAP.

## Internship:

Y398 Internship/Professional Practice is offered on a limited basis. Students who take this course earn both a salary and 3 credits toward their CS degree while working 15 to 20 hours/week. Prerequisites include C308, C335, and one more course above the level of C243. Interested students can contact Dr. Hakimzadeh (237-4517, [hhakimza@iusb.edu](mailto:hhakimza@iusb.edu)) or Dr. Russo (237-4297, Northside 319, [jrusso@iusb.edu](mailto:jrusso@iusb.edu)).

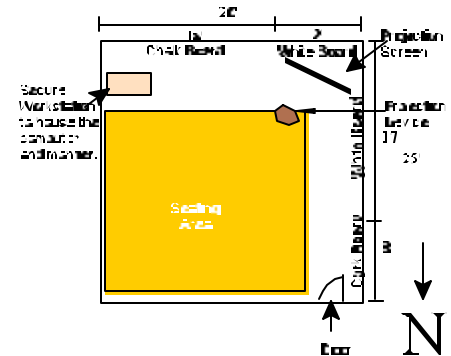
## Status of the CS Laboratories:

During the Spring and Summer of 2001, the department was able to significantly improve its computing resources. First and foremost, the College of Liberal Arts and Sciences funded our proposal to replace 15 of our oldest computers. In addition our lab manager Jerry DeKeyser has replaced the mother boards on 18 other computers. We hope that these improvements will create a better working and learning environment for our students.

We thank the college administrators, Dean Miriam Shillingsburg and Associate Dean Lynn Williams, for their continuing support of our program. We also thank the members of the laboratory committee, Mr. Jerry DeKeyser (lab manager), Dr. John Russo and Dr. William Knight for their work in planning and implementing the hardware upgrades. Further, we would like to thank our students, especially the ACM officers, for becoming involved in this process and providing much needed feedback to the department.

## New Computer Science Classroom:

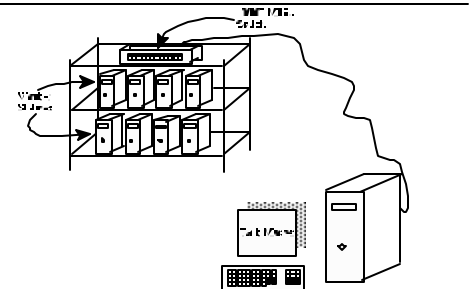
Thanks to Chancellor Perrin's efforts, funds were made available to begin the first phase of the renovation for the second floor of Northside Hall. Starting Spring 2002, computer science will have access to a new classroom on the second floor. This room is designed specially for computer science instruction. Among its features are a permanent overhead projection device, permanent and secured computer for presentations, network access, and significant amount of white boards for maintaining design diagrams and supporting project oriented courses.



## New Research Platform:

We are planning to develop an inexpensive multipurpose research laboratory at IUSB. Currently our plan calls for 16 Pentium or AMD based computers, which will be used to develop a *Beowulf* class "super cluster". This experimental platform will allow our faculty and students to conduct research in parallel processing and high speed networking. In addition, the new *Parallel and Distributed Programming* course (B424) will be taught using this platform. You may obtain more information about this platform at [www.cs.iusb.edu/beowulf.html](http://www.cs.iusb.edu/beowulf.html).

Typical Beowulf Cluster



## Student Chapter of the ACM:

I would like to thank Dr. Mike Scheessele for agreeing to serve as our new ACM faculty advisor. Dr. Scheessele and our ACM officers Jacob Ratkiewicz and Scott Moyer are working hard to plan the annual activities of the club. I would like to encourage all computer science students to join the Student Chapter of the ACM. The ACM is the premier computing organization in United States. Membership in the Student Chapter is free and has many benefits, including social events (pizza parties), lectures, tutorials and camaraderie with other CS students. Membership and

participation in the ACM can be a plus when you go for that first job interview as well. You can obtain more information about the ACM and its activities from their web site at [www.iusb.edu/~acm/](http://www.iusb.edu/~acm/).

The ACM has a number of activities and a lecture series scheduled for the Fall and Spring semesters. For more information, check their bulletin board on 2nd floor Northside or their website at <http://www.iusb.edu/~acm/>. Currently, the planned activities include talks on Artificial Intelligence, Computer Networks, Data Compression, as well as video game tournaments, movie nights, and evenings of food and fun at local restaurants. Join the club. Just send email to [acm@iusb.edu](mailto:acm@iusb.edu) and the officers will keep you up-to-date. In addition to the above activities, the ACM is now helping to coordinate private Computer Science tutoring as well. If you are interested in being a tutor, contact one of the officers via [acm@iusb.edu](mailto:acm@iusb.edu).

## New Advising Policy:

Starting Fall 2001, the University has switch to a *Direct Admit* policy. Direct Admit allows students to apply directly to a given college instead of starting in the Freshman Division. Our department welcomes this policy, since we expect that new students will benefit from being advised by faculty in specific departments rather than the Freshman Division. However, due to the popularity of our discipline, we expect a large increase in our advising load. Therefore, in anticipation of this event, the department has prepared a new *advising homepage*. Students should consult the advising homepage prior to making an appointment with their advisor. Consulting this new web site provides you with a wealth of information and ensures that you have the proper documentation prior to meeting with your advisor. The new advising homepage can be found at [www.cs.iusb.edu/advising.html](http://www.cs.iusb.edu/advising.html).

If you have questions or need advising for the Spring 2002, or Fall 2002 semesters, feel free to contact me. My office hours are listed on my home page given below, during which time I would be happy to provide academic advising. I also am available by appointment or drop-in.

Sincerely,

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## An On-line Course Offering:

This Spring, for the very first time the department will be experimenting with a new on-line offering. This course has been developed jointly by Dr. Paul Beam and Richard Cook. Dr. Cook will be teaching the course this Spring.

### **A340 Introduction to Web Programming (3 cr.)**

P: C101. An introduction to programming web documents, including HTML, JavaScript and Perl. Creation of a simple web site, including a home page with dynamic elements, using both client-side and server-side techniques. *This course is not intended for computer science majors however, we encourage our students to take the course as a general elective.*

## Registration Information:

Continuing Student Registration for the Spring 2002 semester is just a couple of weeks away. You are urged to advance register for spring classes to maximize your chances of getting into the section of your choice. Below is some information about registration that you may find useful. More details can be found in the *Schedule of Classes* and on the Liberal Arts and Sciences Web pages, <http://www.iusb.edu/~lasi/>.

**Touchtone and Web Registration** are available to all continuing students. To participate in Touchtone or Web Registration, pick up a **Registration Admission Ticket (RAT)** from the **Liberal Arts and Sciences Advising Center, DW3300B**, well in advance of registration. The RAT lists your appointment time, which is the earliest time that you can register.

### IMPORTANT DATES

#### **Continuing Student Registration (Web/Touchtone)**

November 5-9 (at your appointment time or after)

#### **Open Registration & Schedule Adjustment (Web/Touchtone)**

November 12 and ends January 3

#### **Final Registration**

January 3

#### **First Day of Class**

January 7

#### **Last Day to Withdraw**

March 18

### AUTHORIZATIONS

Authorizations are not required during Touchtone or Web Registration for Astronomy, Chemistry, Computer Science, English, Geology, Mathematics, or Physics courses. However, if you enroll in one of these courses without having the appropriate score on a placement examination or the appropriate grade in a prerequisite course, then your registration for that course will be canceled before the start of classes on January 7.